3.11 NOISE

This section describes the following within the existing City boundary:

- environmental setting (existing conditions and regulatory setting) for noise relating to the proposed project;
- the impacts associated with noise that would result from the proposed project; and
- mitigation measures that would reduce these impacts.

The setting, impacts, and mitigation measures for the future service areas are described in Chapter 4.0, "Future Service Areas." Chapter 5.0, "Alternatives to the Proposed Project," discusses the impacts of the alternatives to the proposed project.

3.11.1 Existing Conditions

3.11.1.1 Noise Sensitive Land Uses

The General Plan/Coastal Land Use Plan (GP/CLUP) defines *sensitive noise receptors* 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.

Noise sensitive land uses are located throughout the City of Goleta (City). Figure 3.10-1 in Chapter 3.10 Land Use indicates the current land uses in the City. Figure 3.11-1 indicates specific noise sensitive land uses in the City where ambient sound levels were measured. It should also be noted that development within the City of Goleta may affect sensitive receptors in adjacent and nearby unincorporated areas, particularly with regard to construction activity and vehicular traffic.

3.11.1.2 Noise Fundamentals and Terminology

Noise fundamentals and terminology are briefly described below.

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air or water. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure

can vary enormously within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called *A-weighting,* written dBA.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). Below are brief definitions of these measurements and other terminology used in this section.

- *Sound* is a vibratory 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* is sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- *Decibel (dB)* is a unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
- *A-weighted decibel (dBA)* is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- *Maximum sound level (L_{max})* is the maximum sound level measured during the measurement period.
- *Minimum sound level (L_{min})* is the minimum sound level measured during the measurement period.
- *Equivalent sound level (L_{eq})* is the equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy.
- *Percentile-exceeded sound level (L_{xx})* is the sound level exceeded *x* percent of a specific time period. L_{10} is the sound level exceeded 10 percent of the time.
- *Day-night level (L_{dn})* is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10 p.m. to 7 a.m.
- *Community noise equivalent level (CNEL)* is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7 p.m. and 10 p.m. and 10 dB added to the A-weighted sound levels occurring between 10 p.m. and 7 a.m.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

3.11.1.2 Existing Noise Levels

Mobile Noise Sources

Transportation systems are the dominant mobile noise source in Goleta. Noise related to vehicular and rail traffic, as well as activities at the Santa Barbara Municipal Airport, contributes most significantly to the local noise environment.

Vehicular Traffic

One of the most pervasive noise sources in the City are motor vehicles, including automobiles, trucks, buses, and motorcycles. The noise produced by these sources occurs primarily on roadways and may be of sufficient magnitude to expose various land uses to excessive noise levels. The speed of a vehicle is directly correlated to the noise level; an increase in speed causes an increase in noise level. Roadways generating significant noise levels in the project area include US-101, SR-217, Hollister Avenue, Storke Road, Glen Annie Road, Los Carneros Road, Fairview Avenue, and Patterson Avenue. Noise levels adjacent to US-101 range from 75 to 90 dBA, while noise levels adjacent to major arterials in the City can be as high as 85 dBA. Table 3.11-1 summarizes traffic noise levels for 2005 conditions. The traffic noise level at 100 feet from the roadway centerline and the distances to the 60, 65, and 70 CNEL contours are provided. Figure 3.11-1 depicts existing (2005) traffic noise contours in the City.

Rail

The Union Pacific Railroad Company (UPRR) provides service through the Goleta area, with tracks generally parallel to and south of US-101. The maximum sound level of passing trains ranges from 96 to 100 dBA at 100 feet from the tracks. At this location, the CNEL ranges from 70 to 75 dBA. The CNEL is less than 60 dBA at approximately 800 feet from the tracks. Amtrak also utilizes the tracks, operating four trips (northbound and southbound) daily. No sound levels are available for an Amtrak train, but the sound levels are expected to be similar to UPRR. Figure 3.11-2 illustrates these noise levels along the rail corridor. For the most part, the 60 CNEL contour illustrated on Figure 3.11-2 overlaps the 60 CNEL contours representing US-101 noise depicted in Figure 3.11-1.

Aircraft

The primary source of aircraft noise within the City of Goleta is the Santa Barbara Municipal Airport. The Santa Barbara Municipal Airport is the busiest commercial service airport on the California coast between San Jose and Los Angeles and has been owned and operated by the City of Santa Barbara for 60 years. The airport covers 950 acres, including 400 acres of wetlands (Goleta Slough Reserve) and 95 acres that have been established as the airport's commercial/industrial area. The airport is located approximately 10 miles west of downtown Santa Barbara and is surrounded by the City of Goleta. The airport has three runways: one east-west runway capable of serving large commercial and corporate jet aircraft, and two parallel north-south runways serving small general aviation aircraft.

America West Express, American Eagle, Delta Connection, Horizon Air, and United Express serve the airport (Santa Barbara Airport 2005). Three fixed-base operations provide services for private aircraft owners: Mercury Air Center, Signature Flight Support, and Stratman Aero Service. Flight schools include Red Baron Aviation and Spitfire Aviation (Santa Barbara Airport 2005). The airport is equipped with an instrument landing system, approach lighting system, and FAA control tower. Many companies headquarter their aircraft at the airport.

TABLE 3.11-1.
TRAFFIC NOISE MODELING RESULTS

		CNEL at 100 feet from Centerline			Comparisons		
Roadway	**Location**	**2005**	**2030 No Action**	**2030 GP/ CLUP**	**2030 No Action vs 2005**	**2030 GP/ CLUP vs 2005**	**2030 GP/ CLUP vs 2030 No Action**
Aero Camino	north of Hollister	59	57	59	-2	0	2
Alameda Avenue	south of Cathedral Oaks Road	55	56	57	1	2	1
Berkeley	east of Fairview Avenue	53	53	54	0	1	1
Brandon Drive	south of Cathedral Oaks Road	55	56	56	1	1	0
Calle Real	east of Cathedral Oaks Road	53	54	55	1	2	1
	east of US-101 Northbound Off-Ramp	56	56	57	0	1	1
	east of Brandon Drive	59	59	60	0	1	1
	east of Ellwood Station Road	61	61	64	0	3	3
	east of Calaveras Avenue	62	63	64	1	2	1
	east of Los Carneros Road	60	62	63	2	3	1
	east of La Patera Lane	61	61	63	0	2	2
	east of Carlo Drive	60	60	62	0	2	2
	east of Encina Lane	63	64	64	1	1	0
	east of Kellogg Avenue	63	63	63	0	0	0
	west of San Marcos Road*	50	50	50	0	0	0
	east of San Marcos Road*	56	57	57	1	1	0
Cambridge Drive	north of Cathedral Oaks Road	58	54	54	-4	-4	0
Cannon Green Drive	south of Hollister Avenue	55	57	57	2	2	0
Castilian Drive	west of Los Carneros Road	59	59	59	0	0	0
Cathedral Oaks Road	east of Winchester Canyon Road	57	57	57	0	0	0
	east of Brandon Drive	61	60	61	-1	0	1
	east of Alameda Avenue	62	63	63	1	1	0
	east of Glen Annie Road	62	64	65	2	3	1
	east of Los Carneros Road	63	64	65	1	2	1
	east of Carlo Drive	60	60	61	0	1	1
	east of Fairview Avenue	62	63	64	1	2	1
	east of Arundel Road	61	62	62	1	1	0
	east of Cambridge Drive	60	64	64	4	4	0
Cathedral Oaks Road	east of Kellogg Avenue	61	65	65	4	4	0
	east of Patterson Avenue	64	66	67	2	3	1
	east of Ribera Road	63	65	67	2	4	2
Dearborn Place	north of Hollister Avenue	55	55	55	0	0	0
Encina Road	east of Fairview Avenue	54	57	57	3	3	0
Entrance Road	south of Hollister Avenue	55	55	56	0	1	1
Fairview Avenue	north of Cathedral Oaks Road	53	58	58	5	5	0
	north of Stow Canyon Road	60	63	63	3	3	0
	north of Berkeley Road	63	65	65	2	2	0
	north of Shirrell Way	64	64	64	0	0	0
	north of Calle Real	66	66	66	0	0	0

(continued on next page)

TABLE 3.11-1 CONTINUED

		CNEL at 100 feet from Centerline			Comparisons		
Roadway	Location	2005	2030 No Action	2030 GP/ CLUP	2030 No Action vs 2005	2030 GP/ CLUP vs 2005	2030 GP/ CLUP vs 2030 No Action
Fairview Avenue	north of Hollister Avenue	66	66	67	0	1	1
	north of Carson Street	61	62	63	1	2	1
	north of Fowler Road	57	59	59	2	2	0
Fowler Road	north of Fairview Avenue	55	57	58	2	3	1
Glenn Annie Road	north of Cathedral Oaks Road	54	55	55	1	1	0
	north of Del Norte Drive	61	61	61	0	0	0
	north of Calle Real	60	60	60	0	0	0
	north of Hollister Avenue	66	66	66	0	0	0
Hollister Avenue	east of US-101 Southbound Ramps	60	61	61	1	1	0
	west of Entrance Road	65	65	65	0	0	0
	west of Cannon Green Drive	65	65	65	0	0	0
	west of Pacific Oaks Drive	66	66	67	0	1	1
	west of Marketplace Drive	66	66	66	0	0	0
	west of Storke Drive	67	67	68	0	1	1
	west of Los Carneros Road	66	66	67	0	1	1
	west of Cremona Drive	65	65	66	0	1	1
	west of Los Carneros Way	65	65	66	0	1	1
	west of La Patera Lane	66	66	67	0	1	1
	west of Fairview Avenue	67	67	67	0	0	0
	west of Pine Avenue	66	67	67	1	1	0
	west of Kinman Avenue	66	67	67	1	1	0
	west of Kellog Avenue	66	67	67	1	1	0
	west of Dearborn Place	67	67	68	0	1	1
	west of Patterson Avenue	66	66	66	0	0	0
	west of Lassen Drive	66	67	68	1	2	1
	west of Walnut Lane	68	70	70	2	2	0
	west of San Marcos Road	65	67	67	2	2	0
	east of San Marcos Road	65	67	67	2	2	0
Kellog Avenue	north of Cathedral Oaks Road	53	53	53	0	0	0
	south of Cathedral Oaks Road	53	54	54	1	1	0
	north of Marbury Drive	54	56	56	2	2	0
	north of Calle Real	57	57	57	0	0	0
	north of Hollister Avenue	57	57	58	0	1	1
	south of Hollister	59	58	60	-1	1	2
Kingston Avenue	north of Calle Real	54	54	54	0	0	0
La Patera Lane	north of Covington Way	55	55	56	0	1	1
	north of Calle Real	56	56	58	0	2	2
	north of Hollister Avenue	58	58	59	0	1	1
La Ramada Drive	west of San Marcos Road	48	48	48	0	0	0
Lassen Drive	north of Hollister Avenue	53	53	53	0	0	0
Los Carneros Road	north of Covington Way	61	61	60	0	-1	-1
	north of Calle Real	62	61	61	-1	-1	0

(continued on next page)

TABLE 3.11-1 CONTINUED

		CNEL at 100 feet from Centerline			Comparisons		
Roadway	Location	2005	2030 No Action	2030 GP/ CLUP	2030 No Action vs 2005	2030 GP/ CLUP vs 2005	2030 GP/ CLUP vs 2030 No Action
Los Carneros Road	north of US-101 Northbound Ramps	63	63	63	0	0	0
	north of Calle Koral	64	64	64	0	0	0
	north of Cremona Drive	64	65	65	1	1	0
	north of Hollister Avenue	64	65	65	1	1	0
	south of Hollister Avenue	66	66	66	0	0	0
	south of Mesa Road	65	65	65	0	0	0
Los Carneros Way	north of Hollister Avenue	63	63	64	0	1	1
Mesa Road	east of Los Carneros Road	57	59	59	2	2	0
Moffet Place	south of Fowler Road	56	59	59	3	3	0
Patterson Avenue	east of Cambridge Drive	54	54	54	0	0	0
	north of Cathedral Oaks Road	58	60	60	2	2	0
	north of University Drive	65	66	66	1	1	0
	north of Calle Real	65	65	65	0	0	0
	north of US-101 NB Off-Ramp	66	67	67	1	1	0
	north of Overpass Road	65	66	66	1	1	0
	north of Hollister Avenue	64	65	65	1	1	0
	south of Hollister Avenue	65	65	65	0	0	0
	north of More Ranch Road	62	62	62	0	0	0
Phelps Road	west of Pacific Oaks Drive	56	56	56	0	0	0
	west of Storke Road	60	60	61	0	1	1
	east of Storke Road	52	52	57	0	5	5
Nectarine Avenue	north of Hollister Avenue	53	53	55	0	2	2
Pine Avenue	north of Gaviota Street	61	61	60	0	-1	-1
Orange Avenue	north of Hollister Avenue	56	56	57	0	1	1
Ribera Road	north of La Ramada Drive	48	48	49	0	1	1
Rutherford Street	north of Dawson Avenue	56	56	57	0	1	1
University Drive	west of Patterson Avenue	54	55	55	1	1	0
	west of Ribera Road	54	57	57	3	3	0
San Marcos Road	north of Cathedral Oaks Road	58	60	60	2	2	0
	north of La Ramada Drive	50	52	52	2	2	0
	north of Calle Real	51	57	57	6	6	0
	south of Hollister Avenue	56	55	55	-1	-1	0
San Simeon Drive	west of Walnut Lane	41	41	41	0	0	0
Shirrell Way	west of Fairview Avenue	56	57	57	1	1	0
SR-217 WB Off-Ramp	east of Moffet Place	52	55	54	3	2	-1
SR-217 EB On-Ramp	east of Sandspit Road	52	53	52	1	0	-1
Storke Road	north of Marketplace Drive	68	67	68	-1	0	1
	north of Phelps Road	66	66	67	0	1	1

(continued on next page)

TABLE 3.11-1 CONTINUED

		CNEL at 100 feet from Centerline			Comparisons		
Roadway	**Location**	**2005**	**2030 No Action**	**2030 GP/ CLUP**	**2030 No Action vs 2005**	**2030 GP/ CLUP vs 2005**	**2030 GP/ CLUP vs 2030 No Action**
Storke Road	south of Phelps Road	66	66	66	0	0	0
	north of El Colegio Road	62	63	63	1	1	0
Stow Canyon Road	west of Carlo Road	45	45	42	0	-3	-3
	west of Fairview Avenue	54	56	56	2	2	0
Sylvan Drive	north of Encina Road	52	52	52	0	0	0
Tecolote Avenue	north of Hollister Avenue	55	55	55	0	0	0
Thornwood Drive	west of Kellog Avenue	54	55	52	1	-2	-3
Valdez Avenue	north of Calle Real	55	55	56	0	1	1
Walnut Lane	south of Hollister	58	60	60	2	2	0
US-101	Turnpike—SR-217	79	80	81	1	2	1
US-101	SR-217—Fairview Avenue	78	79	79	1	1	0
US-101	Fairview Ave—Los Carneros Road	78	79	79	1	1	0
US-101	Los Carneros Road—Glen Annie/Storke	77	78	78	1	1	0
US-101	Glen Annie/Storke—Hollister	74	76	76	2	2	0
SR-217	UCSB Entrance—Sandspit Road	65	66	66	1	1	0
SR-217	Sandspit Road—Hollister Avenue	71	72	72	1	1	0
SR-217	Hollister Avenue—Jct 101	73	74	74	1	1	0

Notes:

1. Results based on traffic volumes provided by Dowling Associates, April 2006.
2. Traffic noise levels calculated using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108).

According to the Santa Barbara Airport Final Federal Aviation Regulation (FAR) Part 150 Noise Compatibility Study (City of Santa Barbara 2005), air transportation for the Santa Barbara Airport is expected to increase in the future. Table 3.11-2, Activity Forecast Summary Santa Barbara Airport, summarizes the activity forecasts for Santa Barbara Airport. General aviation operations are classified by the airport traffic control tower (ATCT) as either local or itinerant. A local operation is a take-off or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Generally, local operations are characterized by training operations. Itinerant operations are those performed by aircraft with a specific origin or destination away form the airport.

Passenger enplanements 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.

A noise measurement program was conducted over a five-day period from March 19, 2001 through March 24, 2001. Noise measurement sites were selected on the basis of background information, local observations during the field effort, and suggestions from airport management based on noise complaint history. The monitoring program documents existing noise exposure within areas around the airport where noise sensitive land uses are located and provides a means for validating the accuracy of the computer model for preparing noise exposure contours.

TABLE 3.11-2
ACTIVITY FORECAST SUMMARY FOR SANTA BARBARA AIRPORT

	2002	2008	2015	2025
Annual Operations*				
General Aviation				
Itinerant	71,007	75,200	82,400	92,700
Local	49,890	54,000	59,000	66,000
Total General Aviation	*120,967*	*129,200*	*141,400*	*158,700*
Airline	26,880	30,400	32,800	38,000
Air Cargo	2,692	3,200	3,600	4,100
Air Taxi	10,643	11,400	12,600	14,100
Military	1,136	1,100	1,100	1,100
Total Operations	**162,319**	**175,300**	**191,500**	**216,000**
Enplanements	367,172	465,000	575,000	780,000
Based Aircraft	188	198	215	241
Air Cargo (tons)	2,832	4,410	5,850	8,250

* Includes estimated operations not counted by tower.
Source: City of Santa Barbara 2005.

Two methods were used to attempt to minimize the potential for nonaircraft noise sources in the measurements. For single-event analysis, minimum noise thresholds of 5 to 10 dB greater than ambient levels were programmed. Therefore, a single noise event had to exceed a threshold of 65 dB at each site before being recorded. For ambient single events, a noise event had to exceed the prescribed threshold, generally for five seconds for it to be included in the calculation for aircraft noise exposure.

The noise data collected during the measurement period is presented in Table 3.11-3.

TABLE 3.11-3
MEASUREMENT RESULTS SUMMARY FOR SANTA BARBARA AIRPORT

Measurement Date	Site 1 4/24/03	Site 2 2/19/03	Site 2 2/20/03	Site 3 2/27/03	Site 4 2/22/03	Site 5 5/7/03	Site 6 4/30/03
Cumulative Data							
Total LEQ (24)	56.7	59.5	58.2	57.1	56.8	53.0	51.4
Event LEQ (24)	55.6	57.7	56.4	54.1	53.4	46.9	47.0
Total CNEL (24)	58.9	63.4	61.6	61.0	62.1	56.4	55.2
Event CNEL (24)	57.3	60.6	58.6	57.9	55.9	50.6	50.9
L(50)	45.2	53.1	51.7	51.5	52.5	45.8	44.8
Single Events Data							
Number of Single Events	117	460	392	285	94	49	21

Source: City of Santa Barbara 2005

The FAA Integrated Noise Model (INM) is used to predict aircraft noise levels in the vicinity of an airport. The INM accounts for such variables as airfield elevation, temperature, headwinds, and local topography in predicting noise levels at a given location. The INM was used to prepare an existing conditions noise exposure map for the Santa Barbara Airport. Figure 3.11-2 shows the noise contours calculated by the INM for the base year 2003.

Stationary Noise Sources

Industrial Noise

Industrial land uses have the potential to exert a relatively high level of noise impact within their immediate operating environments. The scope and degree of noise impacts generated by industrial uses is dependent upon various critical factors, including the type of industrial activity, hours of operation, and the sites' location relative to other land uses.

Industrial uses within Goleta consist primarily of high-tech light-industrial manufacturing firms in the computer, electronic, and/or defense industries with many local facilities devoted to office and research use. Industrial uses are located south of US-101 in Old Town, along Aero Camino, large industrial/research parks along Hollister Avenue, and around the Santa Barbara Airport. Although industrial uses are distributed throughout the area, several large industrial parks are located in west Goleta. These include the Delco complex, Raytheon complex, ACE-ABLE Industrial, Airport Plaza Industrial, and Thornwood Industrial Park.

Additionally, other industrial uses in Goleta include auto body, welding and machine shops, concrete mixing operations, and lumberyards. Delivery trucks, air compressors, generators, outdoor loudspeakers, and gas venting are common noise sources associated with industrial land uses.

Commercial and Residential Related Noise

The daytime population of the City results in medium level background noise generated by commercial and office uses. Commercial noise sources may include mechanical equipment and engines in nonmoving motors such as power tools. Stationary noise sources associated with residential areas are primarily due to air conditioners and pool/spa equipment. Additional stationary noise sources include animals, stereos, musical instruments, sporting events, and car horns. These noise sources have the potential to temporarily disrupt the quietness of an area.

The Old Town area is quiet during evening hours due to a relatively undeveloped commercial nightlife component. Evening activity is limited to restaurants and bars, with little pedestrian activity along Hollister. However, the general area is affected by mobile noise, such as the airport, highway, and rail line.

Ambient Noise

In order to describe the ambient or background noise levels throughout the City, noise measurement samples were taken. The locations included a mix of public schools, private schools, preschools (childcare centers), churches, hospitals, and parks. The measurement locations indicated in Figures 3.11-1 and 3.11-2 are distributed throughout the City in order to provide an overall understanding of the noise environment. Noise monitoring equipment used for the ambient noise survey consisted of a Larson Davis Laboratories Model LDL 820 sound level analyzer equipped with a Bruel & Kjaer (B&K) Type 4176 ½-inch microphone. The instrumentation was calibrated prior to use with a B&K Type 4230 acoustical calibrator to ensure the accuracy of the measurements and compliance with applicable requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters. The noise measurement locations also functioned as noise sensitive indicators. These noise sensitive indicators are uses such as schools and hospitals, which have a lower tolerance for noise than do industrial and commercial activities or normal residential uses. Noise levels measured at lease locations are reported in Table 3.11-4.

TABLE 3.11-4
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

Source: RBF Baseline Report, RBF 2004.

3.11.2 Regulatory Framework

3.11.2.1 Federal and State

Noise Control Act of 1972
The Federal Noise Control Act (NCA) of 1972 (Public Law 92-574) established a requirement that all federal agencies administer their programs to promote an environment free of noise that jeopardizes public health or welfare. As Congress has the authority to regulate interstate and foreign commerce, regulation of noise generated by such commerce also falls under congressional authority. The federal government specifically preempts local control of noise emissions from aircraft, railroad, and interstate highways.

Under the NCA, the United States Environmental Protection Agency (USEPA) was given the responsibility for the following:

- providing information to the public regarding identifiable effects of noise on public health or welfare;
- publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety;
- coordinating federal research and activities related to noise control; and
- establishing federal noise emission standards for selected products distributed in interstate commerce.

The NCA also directed that all federal agencies comply with applicable federal, state, interstate, and local noise control regulations.

Although the USEPA was given major public information and federal agency coordination roles, each federal agency retains authority to adopt noise regulations pertaining to agency programs. The USEPA can require other federal agencies to justify their noise regulations in terms of NCA policy requirements. The following is a summary of key federal agencies and the jurisdiction that they have related to noise:

- *U.S. Department of Housing and Urban Development (HUD):* noise standards for federally funded housing projects;
- *Federal Aviation Administration (FAA):* noise standards for aircraft noise;
- *Federal Highway Administration (FHWA):* noise standards for federally funded highway projects; and
- *Federal Transit Authority (FTA):* noise standards for federally funded transit projects.

USEPA
In 1974, in response to the requirements of the federal NCA, the USEPA identified indoor and outdoor noise limits to protect public health and welfare (communication disruption, sleep disturbance, and hearing damage). Outdoor L_{dn} limits of 55 dBA and indoor L_{dn} limits of 45 dBA are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and healthcare areas. Sound-level criteria to protect against hearing damage in commercial and industrial areas are identified as 24-hour L_{eq} values of 70 dBA (both outdoors and indoors).

HUD

HUD has established guidelines for evaluating noise impacts on residential projects seeking financial support under various grant programs (44 FR 135:40860-40866, January 23, 1979). Sites are generally considered acceptable for residential use if they are exposed to outdoor L_{dn} values of 65 dBA or less. Sites are considered normally unacceptable if they are exposed to outdoor L_{dn} values of 65 to 75 dBA. Sites are considered unacceptable if they are exposed to outdoor L_{dn} values above 75 dBA. The HUD goal for the interior noise level in residences is that noise not exceed an L_{dn} value of 45 dBA.

FAA

14 Code of Federal Regulations (CFR) Part 150, "Airport Noise Compatibility Planning," prescribes the procedures, standards, and methodology to be applied airport noise compatibility planning activities. Noise levels below 65 L_{dn} are normally considered to be acceptable for noise sensitive land uses.

FHWA

FHWA regulations (23 CFR 772) specify procedures for evaluating noise impacts associated with federally funded highway projects and for determining whether these impacts are sufficient to justify funding noise abatement actions. The FHWA noise abatement criteria are based on worst hourly L_{eq} sound levels, not L_{dn} or CNEL values. The worst-hour 1-hour L_{eq} criteria for residential, educational, and healthcare facilities are 67 dBA outdoors and 52 dBA indoors. The worst-hour 1-hour L_{eq} criterion for commercial and industrial areas is 72 dBA (outdoors).

FTA

FTA procedures for the evaluation noise from transit projects are specified in the document titled "Transit Noise and Vibration Impact Assessment" (FTA 1995). The FTA Noise Impact Criteria group noise-sensitive land uses into the following three categories:

- Category 1: Buildings or parks where quiet is an essential element of their purpose.
- Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
- Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches, and active parks.

L_{dn} is used to characterize noise exposure for residential areas (Category 2). For other noise sensitive land uses, such as outdoor amphitheaters and school buildings (Categories 1 and 3), the maximum 1-hour L_{eq} during the facility's operating period is used.

The noise impacts are identified based on absolute predicted noise levels and increases in noise associated with the project.

State of California General Plan Guidelines

The State of California General Plan Guidelines (OPR 2003) identifies guidelines for the noise elements of local general plans. These guidelines include a sound level/land use compatibility chart that categorizes various outdoor L_{dn} ranges into up to four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly

unacceptable) by land use. For many land uses, the chart shows overlapping L_{dn} ranges for two or more compatibility categories.

The noise element guidelines chart identifies the normally acceptable range for low-density residential uses as L_{dn} values less than 60 dBA and the conditionally acceptable range as L_{dn} values in the range of 55 to 70 dBA. The normally acceptable range for high-density residential uses is identified as L_{dn} values below 65 dBA, and the conditionally acceptable range is identified as L_{dn} values in the range 60 to 70 dBA. For educational and medical facilities, L_{dn} values below 70 dBA are considered normally acceptable with L_{dn} values in the range of 60 to 70 dBA considered to be conditionally acceptable. For office and commercial land uses, L_{dn} values below 70 dBA are considered normally acceptable and L_{dn} values in the range of 67.5 to 77.5 dBA are categorized as conditionally acceptable. These overlapping L_{dn} ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations.

California Noise Insulation Standards

Part 2 Title 24 of the California Code of Regulations, "California Noise Insulation Standards," establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single family residences. Under this regulation, interior noise levels attributable to exterior noise sources cannot exceed 45 L_{dn} in any habitable room. Where such residences are located in an environment where exterior noise is 60 L_{dn} or greater, an acoustical analysis is required to ensure that interior levels do not exceed the 45 L_{dn} interior standard.

Division of Aeronautics Noise Standards

Title 21 Chapter 5000 of the California Code of Regulations identifies noise compatibility standards for airport operations. Section 5014 of the code states that the standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is established to be a community noise equivalent level of 65 dB. Land uses such a residences, schools, hospitals, or places of worship exposed to aircraft noise exceeding 65 dB CNEL are deemed to be in a noise impact area. This standard forms the basis for the limitation that no proprietor of an airport shall operate an airport with a noise impact area based on the standard of 65 dB CNEL unless the operator has applied for or received a variance.

CEQA, Public Resources Code Section 21000 et seq.

The basic goal of CEQA is to develop and maintain a high-quality environment now and in the future. The CEQA Guidelines provide a framework for the analysis of noise impacts and are implemented at the local level, as described in Section 3.11.2.2

Other State Laws and Regulations

State laws and regulation provide the authority to various state and local agencies to control the exposure of people to noise. These regulatory provisions are summarized in Table 3.11-5.

TABLE 3.11-5
SUMMARY OF CALIFORNIA NOISE LAWS AND REGULATIONS

Code	Summary of Standards
Public Utilities Code Section 21670 et seq.	Establishes and defines planning and review procedures for Airport Land Use Commissions.
Health and Safety Code Sections 17922.6 and 46000 et seq.	Section 17922.6 requires the establishment of minimum noise insulation requirements for hotels, motels, apartment houses, and dwellings other than detached single-family dwellings. Part 2 Title 24 of the California Code of Regulations (described above) is the result of this requirement. Section 46000 is the California Noise Control Act of 1973 and establishes the Office of Noise Control and the duties and responsibilities of the office. The Office of Noise Control is no longer active.
Title 18 (Industrial Relations) CCR 5095	Establishes standards and procedures for occupational exposures to noise.
Motor Vehicle Section 27200 et seq.	Establishes maximum allowable noise levels for motorcycle (27202), heavy vehicles (27204), and other vehicles (27206). Maximum of 80 dBA at 50 feet for most vehicles.

3.11.2.2 Local

City of Goleta Ordinances
Development in the City is subject to the City's Inland Zoning Ordinance for those portions of the City outside of the Coastal Zone and the Coastal Zoning Ordinance for those portions of the City within the Coastal Zone. Following the adoption of the GP/CLUP, the existing Inland and Coastal Zoning Ordinances will be replaced by a single, unified zoning code that includes zoning regulations applicable to inland areas and the coastal zone. Existing City ordinances are not applicable in the context of this EIR because they will be replaced upon the adoption of the GP/CLUP.

SBCAG Airport Land Use Commission
The Santa Barbara County Association of Governments (SBCAG) Airport Land Use Commission (ALUC) has review authority over lands within the defined area of influence of the Santa Barbara Airport.

3.11.3 Project Impacts and Mitigation

3.11.3.1 Thresholds of Significance

City of Goleta Environmental Thresholds and Guidelines Manual
Appendix G of the State CEQA guidelines described above provide guidance that lead agencies can use to develop specific CEQA significance thresholds. The City's adopted Environmental Thresholds and Guidelines Manual (Thresholds Manual) (City of Goleta 2003) provides specific thresholds for conducting CEQA analysis. Section 12 of the Thresholds Manual, Noise Thresholds, provides guidance for assessing the significance of noise impacts associated with a proposed project.

The following are thresholds of significance for assisting in the determination of significant noise impacts. The thresholds are intended to be used with flexibility, as each project must be viewed in its specific circumstances.

a. A proposed development that would generate noise levels in excess of 65 dBA CNEL and could affect sensitive receptors would generally be presumed to have a significant impact.

b. Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dBA CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dBA CNEL or less.

c. A project would generally have a significant effect on the environment if it would increase substantially the ambient noise levels for noise sensitive receptors adjoining areas. Per item a., this may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dBA CNEL or more. However, a significant effect may also occur when ambient noise levels affecting sensitive receptors increase substantially but remain less than 65 dBA CNEL, as determined on a case-by-case level.

d. Noise from grading and construction activity proposed within 1600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. According to the USEPA guidelines, the average construction noise is 95 dBA at a 50-foot distance from the source. A 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. Construction within 1,600 feet of sensitive receptors on weekdays outside of the hours of 8 a.m. to 5 p.m. and on weekends would generally be presumed to have a significant effect. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dBA may require additional mitigation.

CEQA Thresholds

Appendix G of the State CEQA Guidelines provides guidelines for assessing the significance of noise impacts under CEQA. The Guidelines indicate that a significant noise impact can occur if a project would result in:

1. exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
3. a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5. for a project is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would expose people residing or working in the project area to excessive noise levels.
6. for a project within the vicinity of a private airstrip, would expose people residing or working in the project area to excessive noise levels.

All noise studies evaluating ambient noise levels and changes resulting from project development should be prepared by licensed acoustical engineers.

3.11.3.2 Discussion of Relevant GP/CLUP Policies

The Noise Element of the GP/CLUP contains policies that relate to environmental noise. The following GP/CLUP policies and implementation actions are relevant to environmental noise.

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

3.11.3.3 Project Impacts

Class I Impacts

Short-Term Impacts

Impact 3.11-1. Exposure of Noise Sensitive Land Uses to Noise from Single-Event and Nuisance Noise Sources

Noise sensitive land uses in the City may be exposed to single-event and nuisance noise sources. These noise sources may include construction and maintenance activities, delivery and pickup activities, playgrounds, athletic fields, schools, resorts, and special events. Temporary nuisance noise would be expected as a result of construction associated with GP/CLUP buildout. Noise from these types of sources is by its very nature, short term.

Table 3.11-6 summarizes maximum noise levels produced by typical construction equipment.

With future development in the City, noise sensitive land uses could be located within 1,600 feet of construction activities outside the hours of 8:00 a.m. to 5:00 p.m. on weekdays. Other single-event activities as described above could result in significant adverse noise effects.

Policies That Would Reduce Impact 3.11-1, but Not to a Level of Insignificance. Implementation of the following GP/CLUP policies will place specific limits on when single-event and nuisance noise sources can occur and how loud they can be. These policies also place specific limits on noise from construction activity. Implementation of these policies is therefore expected to reduce noise impacts from these sources to a less-than-significant level for most situations. It is, however, likely that there will be occasional instances where practical limitations will preclude reducing noise to a less-than-significant level. This impact is therefore considered to be significant and unavoidable.

- Policy NE 1: Noise and Land Use Compatibility Standards
- Policy NE 6: Single-Event and Nuisance Noise
- Policy NE 7: Design Criteria to Attenuate Noise

TABLE 3.11-6
CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Equipment	Typical Noise Level 50 feet from Source (dBA)
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Jack Hammer	88
Impact Wrench	85
Loader	85
Paver	89
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rock Drill	98
Roller	74
Saw	76
Scraper	89
Shovel	82
Truck	88
Source: FTA 1995.	

Long-Term

Impact 3.11-2. Exposure of Existing or Planned Noise Sensitive Receptors Uses to Increased Noise

With adoption of the GP/CLUP, traffic volumes on some streets would increase relative to volumes that would occur under the No Action Alternative. Adoption of the GP/CLUP is not anticipated to increase aircraft, train, commercial, or industrial operations in the City. Figure 3.11-3 indicates the predicted traffic noise contours in 2030. Table 3.11-1 summarizes predicted traffic noise levels in the City under existing conditions and 2030 conditions under the No Project Alternative and the GP/CLUP. The comparison between the 2030 GP/CLUP conditions and the 2030 No Action condition indicates the direct effect that adoption of the GP/CLUP would have on traffic noise. There are a number of roadways where traffic noise on adjacent parcels is predicted to increase under the GP/CLUP to a level that exceeds 65 dBA CNEL. This is includes the following roadway segments:

- Cathedral Oaks Road east of Patterson Avenue
- Cathedral Oaks Road east of Ribera Avenue
- Fairview Avenue north of Hollister Avenue

- Hollister Avenue west of Pacific Oaks Drive
- Hollister Avenue west of Storke Drive
- Hollister Avenue west of Los Carneros Road
- Hollister Avenue west of Cremona Drive
- Hollister Avenue west of Los Carneros Way
- Hollister Avenue west of La Patera Lane
- Hollister Avenue west of Dearborn Place
- Hollister Avenue west of Lasson Drive
- Storke Road north of Marketplace Drive
- Storke Road north of Phelps Road

Assuming nominal exterior-to-interior noise reduction of 20 dB, interior noise levels could also increase to exceed 45 dBA CNEL. This impact is therefore considered to be significant.

Policies That Would Reduce Impact 3.11-2, but Not to a Level of Insignificance. Implementation of the following GP/CLUP policies will help to limit increases in traffic noise along existing roadways. Synchronization of lights will improve traffic flow and reduce the number of vehicle stops and starts along roadway segments. Use of alternative paving materials will reduce tire noise. Programs to promote public transit and high-occupancy vehicles will reduce traffic volumes and thus traffic noise. Implementation of these policies is therefore expected to reduce increases in traffic noise that will result from implementation of the GP/CLUP to a less-than-significant level for many situations. It is, however, likely that projected increases in noise will remain in some cases that will preclude reducing noise increases to a less-than-significant level. This impact is therefore considered to be significant and unavoidable.

- Policy NE 2: Traffic Noise Sources
- Policy NE 7: Design Criteria to Attenuate Noise

Impact 3.11-3. Exposure of Proposed Noise Sensitive Land Uses to Traffic Noise
Table 3.11-1 summarizes predicted traffic noise levels in the City under existing conditions, 2030 conditions under the No Project Alternative, and with buildout of the GP/CLUP. Figure 3.11-3 depicts traffic noise contours under 2030 that are predicted to occur with implementation of the GP/CLUP. A comparison of the traffic noise contours in Figure 3.11-3 to locations of proposed residential projects shown in GP/CLUP Figure 10A-2 and sites suitable for residential development shown in GP/CLUP Figure 10A-3 indicates that under the GP/CLUP, a number of areas planned for development of noise sensitive land uses could be exposed to traffic noise exceeding 65 dBA CNEL. This includes Areas 2 and 9 depicted in GP/CLUP Figure 10A-2 and all of the potential residential areas depicted in GP/CLUP Figure 10A-3. Assuming nominal exterior-to-interior noise reduction of 20 dB, these noise sensitive land uses could also be exposed to interior noise exceeding 45 dBA CNEL. This impact is therefore considered to be significant.

Policies That Would Reduce Impact 3.11-3, but Not to a Level of Insignificance. Implementation of the following GP/CLUP policies will require mitigation where feasible, and may, in some cases, extensively limit development in order to limit the exposure of noise sensitive uses to traffic noise that exceeds the City's noise compatibility standards for noise sensitive uses. Implementation of these policies is therefore expected to reduce noise impacts to a less-than-

significant level for most situations. It is, however, likely that there will be occasional instances where practical limitations will preclude reducing noise impacts to a less-than-significant level. This impact is therefore considered to be significant and unavoidable.

- Policy NE 1: Noise and Land Use Compatibility Standards
- Policy NE 2: Traffic Noise Sources
- Policy NE 7: Design Criteria to Attenuate Noise

Impact 3.11-4. Exposure of Proposed Noise Sensitive Land Uses to Railway Noise
Figure 3.11-4 depicts railway noise contours under 2030 conditions. A comparison of the railroad noise contours in Figure 3.11-4 to locations of pending residential projects shown in GP/CLUP Figure 10A-2 and sites suitable for residential development shown in GP/CLUP Figure 10A-3 indicates that under the GP/CLUP, a number of areas planned for residential development could be to be exposed to railroad noise exceeding 65 dBA CNEL. This includes Areas 2 and 9 depicted in GP/CLUP Figure 10A-2 and Areas 7, 9, 20, 21, 22, 23, 25, 28, 32, 34, and 37 depicted in GP/CLUP Figure 10A-3. Assuming nominal exterior-to-interior noise reduction of 20 dB, these residential land uses could also be exposed to interior noise exceeding 45 dBA CNEL. This impact is therefore considered to be significant.

Policies That Would Reduce Impact 3.11-4, but Not to a Level of Insignificance. Implementation of the following GP/CLUP policies requires mitigation where feasible, and may, in some cases, prohibit development in order to limit the exposure of noise sensitive uses to railroad noise that would exceed the City's noise compatibility standards. Implementation of these policies is therefore expected to reduce this impact to a less-than-significant level for most situations. It is, however, likely that there will be occasional instances where practical limitations will preclude reducing noise impacts to a less-than-significant level. This impact is therefore considered to be significant and unavoidable.

- Policy NE 1: Noise and Land Use Compatibility Standards
- Policy NE 4: Railway Noise
- Policy NE 7: Design Criteria to Attenuate Noise

Impact 3.11.5. Exposure of Noise Sensitive Land Uses to Industrial and Other Point Sources
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, air conditioning units, and refrigeration equipment are a common source of industrial- or commercial-related noise, as is noise from delivery trucks. Figure 3.10-1 indicates where commercial and industrial uses are located throughout the City. The Venoco Ellwood Onshore Oil and Gas Processing Facility is a large industrial facility that generates noise that comes primarily from compressors and heater-treater units. Noise from the facility exceeds 65 dBA CNEL at 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. However, Site 37 is the only site listed that has potential to be exposed to noise from the Venoco facility. Equipment and activities at the Venoco Ellwood facility and other commercial and industrial properties in the City may result in noise that exceeds 65 dBA CNEL at existing or planned noise sensitive land uses. A comparison of the commercial and industrial locations in Figure 3.10-1 to locations of proposed residential projects shown in GP/CLUP Figure 10A-2 and sites suitable for residential development shown in GP/CLUP

Figure 10A-3 indicates that under the GP/CLUP, a number of areas planned for residential development could be exposed to commercial or industrial noise exceeding 65 dBA CNEL. This includes Areas 9 and 14 depicted in GP/CLUP Figure 10A-2 and Areas 7, 16, 18, 22, 23, 24, 26, 27, 28, 31, 32, 34, and 35 depicted in GP/CLUP Figure 10A-3. This impact is therefore considered to be significant.

Policies That Would Reduce Impact 3.11-5, but Not to a Level of Insignificance. Implementation of the following GP/CLUP policies requires mitigation where feasible or prohibits development, to limit the exposure of noise sensitive uses to commercial and industrial noise that would exceed the City's noise compatibility standards. Implementation of these policies is therefore expected to reduce noise impacts to a less-than-significant level for most situations. It is, however, likely that there will be occasional instances where practical limitations will preclude reducing noise impacts to a less-than-significant level. This impact is therefore considered to be significant and unavoidable.

- Policy NE 1: Noise and Land Use Compatibility Standards
- Policy NE 5: Industrial and Other Point Sources
- Policy NE 7: Design Criteria to Attenuate Noise

Class II Impacts
There are no short- or long-term Class II noise impacts.

Class III Impacts

Short- Term
There are no short-term Class III noise impacts.

Long Term
Impact 3.11-6. Exposure of Proposed Noise Sensitive Land Uses to Airport Noise
Periodic aircraft overflights are a source of existing nuisance noise in parts of the City, most notably west Goleta and Storke Ranch. Figure 3.11-4 depicts aircraft noise contours under 2030 conditions. A comparison of the traffic noise contours in Figure 3.11-4 to locations of proposed residential projects shown in GP/CLUP Figure 10A-2 and sites suitable for residential development shown in GP/CLUP Figure 10A-3 indicates that under the GP/CLUP, none of theses areas planned for development of noise sensitive land uses would be exposed to aircraft noise exceeding 65 dBA CNEL. This impact is therefore considered to be less than significant.

Policies That Would Reduce Impact 3.11-6. Although this impact is less than significant, implementation of the following GP/CLUP policies will further reduce the likelihood that any proposed noise sensitive land use would be exposed to aircraft noise exceeding 65 CNEL.

- Policy NE 1: Noise and Land Use Compatibility Standards
- Policy NE 3: Airport Noise
- Policy NE 7: Design Criteria to Attenuate Noise

Class IV Impacts
There are no short- or long-term Class IV noise impacts.

3.11.3.4 Cumulative Impacts

Impact 3.11-7. Cumulative Traffic Noise
The traffic noise modeling results for 2030 presented in Table 3.11-1 include the effects of cumulative development in and around the City. As discussed above, adoption of the GP/CLUP is predicted to increase traffic volumes on some streets relative to volumes that would otherwise occur under the No Action Alternative. Adoption of the GP/CLUP is not anticipated to increase aircraft, train, commercial, or industrial operations in the City. Accordingly, cumulative noise effects related to the adoption of the GP/CLUP are expected to be limited to noise effects from associated traffic.

Significant cumulative traffic noise is considered to occur along roadways with adjacent residential uses where traffic noise is predicted to exceed 65 CNEL. Implementation of the GP/CLUP is considered to contribute to significant cumulative traffic noise if it would cause an increase in noise along one of these roadways. Implementation of the GP/CLUP is predicted to increase noise along the following roadway segments where there are adjacent residential uses and where noise is predicted to exceed 65 CNEL:

- Cathedral Oaks Road east of Patterson Avenue
- Cathedral Oaks Road east of Ribera Avenue
- Fairview Avenue north of Hollister Avenue
- Hollister Avenue west of Pacific Oaks Drive
- Storke Road north of Marketplace Drive
- Storke Road north of Phelps Road

Policies that Would Reduce Impact 3.11-7, but Not to a Level of Insignificance. Implementation of the following GP/CLUP policies will help to limit increases in traffic noise along existing roadways. As discussed above synchronization of lights will improve traffic flow and reduce the number of vehicle stops and starts along roadway segments. Use of alternative paving materials will reduce tire noise. Programs to promote public transit and high-occupancy vehicles will reduce traffic volumes and thus traffic noise. Implementation of these policies and actions are therefore expected to reduce increases in traffic noise that will result from implementation of the GP/CLUP. However, it is not anticipated the predicted increases in traffic noise will be eliminated. Implementation of the GP/CLUP is therefore considered to contribute to a significant and unavoidable cumulative traffic noise effect.

- Policy NE 2: Traffic Noise Sources
- Policy NE 7: Design Criteria to Attenuate Noise

3.11.3.5 Mitigation

Modifications to Proposed GP/CLUP Policies
No modifications are required.

Other Mitigation
No mitigation is identified.

3.11.3.6 Residual Impacts

Implementation of the GP/CLUP noise policies and implementation actions would reduce significant Class I noise impacts but not to a less-than-significant level. They will similarly reduce contributions to significant cumulative traffic noise effects but not to point of eliminating contributions to significant cumulative traffic noise effects. Accordingly, significant and unavoidable noise impacts related to the following noise sources are anticipated to occur:

- single events and nuisance noise sources;
- traffic;
- trains; and
- aircraft.

The project is also considered to contribute to significant and unavoidable cumulative traffic noise effects.

3.11.4 References

City of Santa Barbara. 2005. *Santa Barbara Airport F.A.R. Part 150 Noise Compatibility Study.* November.

Federal Transit Administration. 1995. Transit noise and vibration impact assessment. Washington, D.C.

Office of Planning and Research. 2003. General plan guidelines. Sacramento, CA.

RBF Consulting. 2004. *Background Report #20. May 7.*

Santa Barbara Airport. 2005. FlySBA.com Home. Last revised August 2, 2005. Available: <http://www.flysba.com>. Accessed: August 3, 2005.

Acronyms

Citations

Tables

Figures

Miscellaneous

Error! No table of figures entries found.

Glossary

Error! No table of figures entries found.