

3.10 NOISE

This section describes the existing noise levels in the Isla Vista project area, evaluates the potential noise related impacts of the Draft IVMP and catalyst projects, and recommends mitigation measures to reduce impacts.

3.10.1 ENVIRONMENTAL SETTING

Noise Characteristics

Environmental noise is commonly measured in A-weighted decibels (dBA). A decibel (dB) is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called a “sound level”) measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response that duplicates the sensitivity of human ears. Decibels are measured on a logarithmic scale. Generally, a three-dBA increase in ambient noise levels represents the threshold at which most people can detect a change in the noise environment; an increase of 10 dBA is perceived as a doubling of loudness.

Since noise levels constantly fluctuate, different types of noise descriptors are often used to account for this variability. Typical noise descriptors include the energy-equivalent noise level (Leq) and the day-night average noise level (Ldn). The most common approach to describe varying noise levels is to define the Equivalent Noise Level (Leq), or average noise level, for a specified period of time. The Leq is a single value that represents the same acoustic energy as the time-varying sound level that actually occurs during the same period. Leq values are usually computed for one-hour periods, but longer or shorter time periods may be specified.

Ldn, the day-night average noise level, represents the weighted noise level during a 24-hour period by adding 10 dBA between 10:00 PM and 7:00 AM to take into account the greater annoyance of nighttime noise as compared to daytime noise. The Community Noise Equivalent Level (CNEL) includes the addition of 5 dBA during the evening hours (7:00 PM to 10:00 PM.) and 10 dBA during the nighttime hours (10:00 PM to 7:00 AM). The Ldn and CNEL are commonly used in establishing noise exposure guidelines for specific land uses. Results of CNEL and Ldn generally agree to within 1 dBA and the two are frequently used interchangeably.

Noise sources can be classified as stationary and mobile. Stationary noise sources are localized and include engine-powered facilities, i.e., wastewater pumping stations. The effect of a stationary noise source diminishes with distance. Mobile noise sources, i.e., automobiles, may affect a larger area and potentially more receptors due to their movement. Transportation vehicles such as automobiles, buses, and airplanes are a major contributor of noise in any urban setting. The level of roadway traffic noise can vary depending on the volume of the traffic, the speed of the traffic, and the number of trucks and buses in the flow of traffic.

Construction activities, also common in urban areas, can create loud, short-term noise impacts.

Sensitive Receptors

As with air quality, some land uses are generally regarded as being more sensitive to noise than others due to the types of population groups or activities involved. Sensitive population groups include children and the elderly. The County Environmental Thresholds and Guidelines Manual identifies sensitive land uses as residential (single-and multi-family, mobile homes, dormitories, and similar uses); guest lodging, hospitals, nursing homes and other long-term medical care facilities; and educational facilities, including schools, libraries, churches, and places of public assembly. Noise-sensitive receptors in the project area include, but are not limited to, residential uses, schools, churches, and medical facilities.

Existing Noise Sources

Significant noise problems in the County are primarily associated with transportation facilities. Noise in the vicinity of airports, railroads, and major roadways exceeds health and welfare criteria for noise exposure to residential uses. It is estimated that as many as 8,000 housing units and 21,000 persons in the County are potentially exposed to transportation noise at levels exceeding 60 dB Ldn.¹ The maximum outdoor noise level compatible with residential and other noise-sensitive land uses is 60-65 dBA.

The primary source of noise in the Isla Vista project area is community activity. Isla Vista is a high density area largely inhabited by students. Numerous students and visitors walk the streets on weekend evenings and holidays during the school year and many houses have parties that include live music played outdoors until midnight. The main concentration of this nighttime outside entertainment occurs on Del Playa Drive and Sabado Tarde Road in the student residential area east of Camino Corto Road, with some increased activity also in the downtown. A high-level of community activity also occurs during the weekdays due to the heavy concentration of college students in the project area.

Roadway noise is also a factor in the project area, particularly the areas adjacent to El Colegio Road. Vehicular traffic noise was analyzed in the Goleta Community Plan EIR.² According to the analysis, a road with 3,000 average daily traffic (ADT) volume or greater has the potential to generate sound levels of 60 CNEL at 50 feet. In general, a doubling of the ADT would result in a 3 decibel increase in the Ldn. Therefore, any road with an ADT greater than 8,000 vehicles has the potential to generate sound levels greater than 65 Ldn at 50 feet. Existing ADT volumes on select roads in the project area are shown in Table 3.13-1 in Section 3.13 Traffic and Circulation of this EIR. The table shows that the existing ADT volumes are above 8,000 on El Colegio, Camino Pescadero and Embarcadero Del Norte Roadways and 7,900 on Camino Del Sur Road. No traffic volumes are available for east-west streets in the project area, but volumes are generally lighter on these streets.

¹ SB County, Planning and Development Department, 1992. *Environmental Thresholds and Guidelines Manual*.

² Santa Barbara County, *Goleta Community Plan Final EIR*, 1992.

El Colegio Road is a major thoroughfare with the only access out of Isla Vista and to the Goleta area, as well as the only main automobile access to UCSB from Isla Vista. Noise levels from traffic along El Colegio Road from Los Carneros Road to Camino Corto Road were measured in 2003 by Associated Transportation Engineers for the UCSB San Clemente Graduate Student Housing and El Colegio Road Improvements Project.³ Noise levels at Isla Vista residences closest to El Colegio Road were measured at 67.5 dBA CNEL, which exceeds the County threshold of 65 dBA CNEL for exterior noise levels.⁴ However, the San Clemente Graduate Student Housing and El Colegio Road Improvements project includes improvements that would shift the centerline of the street approximately 30 feet to the north and install roundabouts at the El Colegio Road intersections from Camino Del Sur Road to Stadium Road on the UCSB campus. According to the noise analysis in the EIR for the project, the road improvements would reduce noise levels at the closet Isla Vista residences to between 61.2 and 61.5 dBA CNEL.

Aircraft noise from the Santa Barbara Airport, located approximately one mile northeast of the project area, also contributes noise in the Isla Vista area. Commercial Aircraft departing the airport fly west, typically turning southward over the Devereux Slough area, within approximately one mile west of the project area at altitudes of approximately 2,000 feet. Aircraft CNEL contours were developed for the Santa Barbara Airport Aviation Facilities Plan EIR in 2001.⁵ The project area lies approximately ½ mile south of the 60 dBA CNEL aircraft noise contour.

3.10.2 REGULATORY FRAMEWORK

County Local Coastal Program

The LCP contains the principal land use policies for development within Santa Barbara County's Coastal Zone. The County has incorporated the goals and policies of the LCP in order to ensure conformance with the California Coastal Act policies. These policies require that noise impacts to biological resources be minimized and include:

- **Policy 2-11:** All development, including agriculture, adjacent to areas designated on the land use plan or resource maps as environmentally sensitive habitat area shall be regulated to avoid adverse impacts on habitat resources. Regulatory measures include, but are not limited to...noise restrictions.
- **Policy 9-4:** All permitted industrial and recreational uses shall be regulated both during construction and operation to protect critical bird habitats during breeding and nesting

³ Associated Transportation Engineers, 2003. *UCSB San Clemente Housing Project, University of California, Santa Barbara, Updated Traffic, Circulation and Parking Study.*

⁴ Measurements were taken at a distance of 40 feet from the centerline of the roadway with average vehicle speeds of 30 mph.

⁵ City of Santa Barbara, Community Development Department, 2001. *Santa Barbara Airport Draft Environmental Impact Statement/Environmental Impact Report for the Aviation Facilities Plan.*

seasons. Controls may include restriction of access, noise abatement, and restriction of hours of operations of public or private facilities.

- **Policy 9-14:** New development adjacent to or in close proximity to wetlands shall be compatible with the continuance of the habitat area and shall not result in a reduction in the biological productivity or water quality of the wetland due to runoff (carrying additional sediment or contaminants), noise, thermal pollution, or other disturbances.

County Comprehensive Plan/Goleta Community Plan

The Goleta Community Plan includes policies for the Isla Vista area.

- **Policy N-GV-1:** Interior noise-sensitive uses (e.g., residential and lodging facilities, educational facilities, public meeting places, and other specified in the Noise Element) shall be protected to minimize significant noise impacts.

County Noise Element

The County Noise Element provides a thorough background discussion of noise and its effects on human health and quality of life. The County requires that potential noise effects be evaluated in terms of either the CNEL or Ldn. Both of these noise descriptors are based on hourly average noise levels during different times of the day, and include an adjustment or penalty for noise during evening and/or nighttime hours.

3.10.3 THRESHOLDS OF SIGNIFICANCE

The County Environmental Thresholds and Guidelines Manual identify 65 dBA Ldn as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project design. Noise-sensitive uses proposed in areas where this level is exceeded should be designed so that interior noise levels attributable to exterior sources do not exceed 45 dBA Ldn when doors and windows are closed.

According to the criteria in the County Environmental Thresholds and Guidelines Manual, a project would generally result in a potentially significant noise impact if it would:

- Generate noise levels in excess of 65 dBA CNEL and could affect sensitive receptors.
- Expose noise sensitive uses to 65 dBA CNEL or greater in outdoor living areas or if indoor noise levels cannot be reduced to at least 45 dBA CNEL.
- Substantially increase ambient noise levels at noise sensitive receptors. This is generally presumed when ambient noise levels exceed 65 dBA CNEL. However, a significant impact 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 basis.

- Result in the operation of construction and grading equipment within 1,600 feet of noise sensitive receptors. This number is based on the assumption that average construction noise is 95 dBA at 50 feet from the source and a distance of 1,600 feet is necessary to attenuate this level to 65 dBA. Construction equipment generating noise levels above 95 dBA may require additional mitigation.

There are no quantitative recommendations for noise levels in recreation and open space areas in the CEQA Guidelines, the County Environmental Thresholds and Guidelines Manual, or the County Noise Element. However, the County Noise Element indicates that neighborhood parks are compatible with Ldn values up to 70 dBA.⁶

3.10.4 IMPACTS AND MITIGATION MEASURES

IMPACT NSE-1: Temporary construction-related noise could impact surrounding noise sensitive land uses.

Build-out under the Draft IVMP could produce an additional 1,447 new residential units and 51,485 sf of commercial space. Construction activities would result in short-term noise impacts on sensitive receptors (primarily residential) located within 1,600 feet of the construction area and along truck haul routes. Noise in excess of the 65 dBA CNEL threshold would be generated during demolition, excavation, grading, material hauling and delivery, and building/remodeling activities. The use of heavy equipment such as jackhammers, backhoes, graders, heavy trucks and pile drivers typically produce short-term, high noise levels in excess of 75 dBA and peaking as high as 105 dBA. Table 4.10-1 shows the noise levels that are typically produced by different types of construction equipment at a distance of 50 feet.

Depending on the project, these impacts can last anywhere from a few months to more than a year for each specific project, mainly over the course of a 10 year period.⁷ Construction noise levels will fluctuate throughout the workday and will vary depending on the type of equipment that is used. However, peak exterior construction noise levels would potentially be in excess of 65 dBA CNEL with interior noise levels likely exceeding 45 dBA CNEL, assuming 20 dB of noise attenuation for typical residential building materials.

Construction noise impacts associated with the Draft IVMP are considered *potentially significant*.

The following measures mitigate noise impacts by limiting construction activities to daytime weekday hours and providing a minimum distance which loud equipment can operate from sensitive noise receptors.

⁶ Santa Barbara County, Planning and Development Department, 1986. Noise Element.

⁷ Assumes that most construction projects would be completed within 10 years as shown in Table 3.1-3 Project Phasing in Chapter 3.0, Project Description.

**Table 3.10-1
Noise Levels for Typical Construction Equipment Referenced to 50 Feet**

		Noise Level (dBA) at 50 feet					
		60	70	80	90	100	110
Equipment Powered by Internal Combustion Engine	Earth Moving	Compactors (Rollers)		■			
		Pavers				■	
		Front Loaders		■	■		
		Backhoes		■	■	■	
		Tractors		■	■	■	
		Scrapers, Graders			■	■	
		Trucks			■	■	
	Materials Handling	Concrete Mixers		■	■		
		Concrete Pumps			■		
		Cranes (Movable)		■	■		
		Cranes (Derrick)				■	
	Stationary	Pumps		■			
		Generators		■	■		
		Compressors		■	■		
	Impact Equipment	Pneumatic Wrenches			■		
Jack Hammers / Rock Drills				■	■		
Pile Drivers (Peaks)						■	
Other	Vibrator		■	■			
	Saws		■	■			

Source: EPA, 1971, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, NTID 300-1, as cited in Santa Barbara County Environmental Thresholds and Guidelines Manual, 1992.

Mitigation Measure NSE-1: Construction activity and equipment maintenance within 1,600 feet of sensitive receptors shall be limited to non-holiday weekdays between the hours of 8 AM and 5 PM only. Non-noise generating construction activities, such as interior painting, are not subject to these restrictions.

Mitigation Measure NSE-2: Construction equipment that generates noise exceeding 65 dBA at the nearest sensitive receptors shall be located the maximum feasible distance from nearby sensitive uses and shall be shielded with noise attenuation barriers or muffling devices to reduce to 65 dBA.

Mitigation Measure NSE-3: The project applicant shall provide a construction schedule to adjacent property owners at least seven days in advance of construction activities.

Residual Impacts: Implementation of Mitigation Measures NSE-1 through NSE-3 would reduce the effects of short-term construction noise on nearby sensitive uses. Noise impacts would be *feasibly mitigated to less than significant levels (Class II)*.

IMPACT NSE-2: IVMP build-out and policies/programs/projects could increase ambient noise levels in the project area and surrounding community.

Full build-out under the Draft IVMP could potentially generate an increase of 1,447 housing units, 51,485 sf of retail space, and 4,355 new residents in the planning area. An increase in general activity would likely accompany this new development resulting in an increase in ambient noise levels. Since the planning area is already urbanized and there already exists a substantial amount of ambient noise, the increase in noise associated with plan build-out is difficult to quantify. Further, there are no specific noise generation models for residential development. However, with an increase in population, general community noise will likely increase.

The goals of the Draft IVMP include reducing automobile dependency, installing traffic calming devices and improving public transportation. Nevertheless, build-out under the Draft IVMP would increase the average number of vehicle trips per day and would result in increased operational noise associated with new residential units and commercial uses.

Vehicular traffic noise was analyzed in the Goleta Community Plan EIR.⁸ According to the analysis, a road with 3,000 ADT volume or greater has the potential to generate sound levels of 60 CNEL at 50 feet. In general, a doubling of the ADT would result in a 3 decibel increase in the Ldn. Therefore, any road with an ADT greater than 8,000 vehicles has the potential to generate sound levels greater than 65 Ldn at 50 feet. Existing ADT volumes on select roads in the project area are shown in Table 4 in Section 4.15 Traffic and Circulation of this EIR. The table shows that the existing ADT volumes are above 8,000 on El Colegio, Camino Pescadero and Embarcadero Del Norte and 7,900 on Camino Del Sur. No traffic volumes are available for east-west streets in the project area, but volumes are generally lighter on these streets.

Traffic noise varies depending on three things: 1) the volume of traffic, 2) the speed of traffic, and 3) the number of trucks or heavy vehicles in the traffic flow. Except for El Colegio Road, the roads in the project area are residential streets with posted speed limits of 25 mph and little or no truck traffic. Therefore, even with ADT volumes above 8,000, these roads would not exceed 65 dBA at 50 feet due to the speed and composition of traffic flow. Due to the existing volumes on these roadways, increases in traffic flow would not substantially increase ambient noise along these roads.

The existing noise levels along El Colegio Road presently exceed County noise thresholds. The 2004 EIR for the UCSB San Clemente Graduate Student Housing and El Colegio Road Improvements Project estimated future traffic noise levels on area roadways in the project area and surrounding community. Roadway improvements to El Colegio Road, described above in the setting, are expected to reduce noise levels to less than 62 dBA at the nearest receptors. The EIR also estimated cumulative traffic noise levels which included UCSB projects, City of Goleta projects, and County of Santa Barbara projects, including build out of

⁸ Santa Barbara County, *Goleta Community Plan Final EIR*, 1992.

the Draft IVMP.⁹ As shown in Table 4.11-2 below, *projected* noise levels along these roadways would not exceed County noise thresholds with development of the San Clemente Graduate Student Housing and El Colegio Road Improvements Project; build out of the Draft IVMP, and development of all cumulative projects. At this time, the San Clemente Graduate Student Housing and El Colegio Road Improvements Project have been planned by UCSB and are awaiting approval by the Coastal Commission. The County is currently processing permits for the El Colegio Roadway Improvement Project.

It is anticipated that these projects will be completed. However, it should be noted that if they are not constructed and the roadway improvements are not made, exterior noise levels along El Colegio Road could be a potentially significant impact for new housing units and other sensitive uses along El Colegio Road. In this case, implementation of mitigation measures may not reduce impacts to less than significant levels. However, even with mitigation measures, it may not be feasible to reduce exterior noise levels from increased traffic to less than 65 dBA at the nearest sensitive receptors, which would be a *potentially significant* impact.

**Table 3.10-2
Projected Traffic Noise**

Roadway Segment	Nearest Receptor	Existing Noise Level (dBA CNEL)	Projected Noise Level (dBA CNEL)
El Colegio Rd – West (Camino Corto to Los Carneros Rd)	Isla Vista residences	67.5	61.6
El Colegio Rd – East (Los Carneros Rd to Main Campus West Gate)	Isla Vista residences	65.8	62.4
Los Carneros Rd (South of Mesa Rd)	Santa Ynez Apartments	60.5	61.3
Storke Rd	Various residences	64.2	64.3

Source: UCSB, *San Clemente Graduate Student Housing and El Colegio Road Improvements Project Draft EIR*, 2004.

Increased public transportation, i.e., buses, would generate additional noise in the community. In comparison to automobiles, buses are generally noisier to operate and adding additional bus service in the community could result in higher CNELs along the bus routes. The areas where new development would occur and where new bus routes would be added are urbanized areas with either existing residential or commercial uses, which are served by existing bus service in the community. Some of this new bus service may consist of electric shuttles, which would be quieter than conventional diesel or natural gas vehicles. Therefore, although new development could create a small increase in ambient noise levels and intermittent peaks when buses pass by, it would generally not be considered a significant increase when compared to existing noise levels. Impacts would not be significant.

⁹ UCSB, *San Clemente Graduate Student Housing and El Colegio Road Improvements Project Draft EIR*, 2004. Table 5.5-7 Cumulative Traffic Noise, One- and Two-Lane Roundabout Design.

The following mitigations have been identified for noise sensitive uses such as residential, schools, churches, and places of public assembly:

Mitigation Measure NSE-4: Noise sensitive uses proposed in areas exceeding 65 dBA CNEL shall be designed so that noise levels in exterior living spaces will be less than 65 dBA CNEL. An acoustical analysis shall be required and documented during permit review indicating the feasibility of site design, building orientation, etc., to meet the prescribed standard.

Mitigation Measure NSE-5: Noise sensitive uses proposed in areas exceeding 65 dBA CNEL shall be designed so that interior noise levels attributable to exterior sources do not exceed 45 dBA CNEL when doors and windows are closed. An acoustical analysis of the noise insulation effectiveness of proposed construction shall be required and documented during permit review, showing that the building materials and construction specifications are adequate to meet the interior noise standard.

Residual Impacts: Implementation of Mitigation Measures NSE-4 and NSE-5 could reduce potential noise impacts at noise-sensitive receptors to less than significant levels. However, it may not be feasible to use barriers, site design, and building materials to reduce noise levels at each site to meet County standards. In these cases, residual impacts would be *significant and unavoidable* (Class I).

Cumulative Impacts

Build-out of the Draft IVMP, together with the pending and approved projects identified in Chapter 3, will result in impacts to sensitive noise receptors in the planning area. Together, these cumulative projects will ultimately generate 3,352,973 sf of commercial and industrial development and 3,313 new residential units throughout the Goleta Valley, UCSB and Isla Vista area. This will result in a cumulatively significant increase in short term construction related noise and long term ambient noise levels.

The project area is located in an urban setting where typical noise sources consist of community noise and transportation noise. Construction noise is generally a part of the urban noise environment and cannot be avoided. There are numerous construction projects that are proposed in the community surrounding the project area. Construction noise impacts are short-term impacts that vary over the course of the construction phase and implementation of mitigation measures can lessen its effects on surrounding land uses so that impacts are minimized.

Build-out under the Draft IVMP would increase the number of residents in the project area and thereby increase the average number of vehicle trips per day in the project area and surrounding community. Transportation related noise would be the greatest contribution to cumulative noise impacts. Although the goals of the Draft IVMP include reducing automobile dependency, installing traffic calming devices and improving public transportation, it is inevitable that there would be some increase in transportation related noise, particularly along major roads that access the project area. As described above in

Impact NSE-2 and shown in Table 4.10-1, it is not expected that build out of the Draft IVMP and other cumulative projects would exceed County thresholds along roadways in the vicinity of the project area. However, increased urbanization over the long-term could create significant cumulative noise impacts by increasing ambient noise levels along other roadways that may exceed County thresholds. Therefore, impacts to noise levels due to implementation of the Draft IVMP program would be *significant and unavoidable* (Class I).

The Draft IVMP will contribute a significant amount of this cumulative growth to the area (1,447 housing units and 51,485 sf of commercial development). As a result, the project's cumulative ambient noise impacts are significant and unavoidable (Class I).