
Chapter 9: Noise

Introduction and Setting

California State law requires that all Counties adopt a noise element which identifies and appraises noise problems and the solutions to these problems. Consistent with this mandate, this element has been divided into two parts. This chapter includes a brief summary of existing and projected noise problems, goals and objectives based on this analysis and implementing policies necessary to achieve the goals and objectives. The Noise Analysis, contained in Volume 2, Section 3 of the General Plan, provided that detailed discussion of noise problems summarized in this chapter.

Noise has been defined in many different ways. It has been described as discordant sound resulting from non-periodic vibrations in the air, disagreeable vibrations in atmospheric pressure caused by a vibrating source, or more simply, unwanted sound. Noise is normally defined in terms of its amplitude (loudness), frequency (pitch), and duration (time).

Noise can be evaluated in many different ways. More sophisticated testing normally records noise over a given period of time. Some noise standards simply determine the “average” amount of noise for this time period. Others “weight” this average with a built-in bias toward nighttime activity penalizing that noise generated at night. Many private and public bodies have developed noise standards for specific land uses to assist local government and private industry in determining what is an acceptable level of noise.

The Noise Analysis contained in Volume 2 of the General Plan includes data from the Nevada County Noise Monitoring Study. This study, through the use of several Sound Level Meters, has determined the existing level of noise for many areas within Nevada County. Both noise generators, such as highways, airports, railroads, and industrial land uses, as well as those residential and rural areas of the County sensitive to noise, have been monitored. This monitoring forms the foundation upon which the goals, objectives and implementing policies are based.

In general, most noise is created in Nevada County adjacent to transportation routes. Noise contours show that major highways in the County, as well as local streets and roads, impact nearby residences. The Southern Pacific Railroad also strongly impacts Eastern Nevada County, particularly downtown Truckee. Local airports impact nearby noise sensitive land use to only a limited degree.

Chapter 9: Noise Element

Because most industrial areas in the County are considered to be “light”, such areas do not appear to be major noise generators.

However, specific industrial land uses involved in resource development, primarily lumber mills and mining operations would appear to impact surrounding land uses depending upon their location, level of activity, and nature of affected areas.

Most noise sensitive land uses, including residences, schools, hospitals, nursing homes, churches, and libraries exist in relatively quiet areas of the County. Higher noise levels for such areas are normally caused by transportation routes and/or the noise sensitive land uses themselves.

Projected noise problems will likely continue to center around the above-mentioned sources. As transportation routes become more heavily used, it is likely they will provide for greater noise impacts on nearby land uses. The County will also have to deal with the noise-related issues of resource development and ways to minimize their impacts on residential and rural areas. Finally, as the County’s population growth continues, it can be expected that the overall ambient noise level for many residential and rural areas will slowly increase commensurate with the population growth.

Additional discussion of noise and the noise environment in the County is contained in Section 3: Noise Analysis, of Volume 2 of the General Plan, and in Section 10 of the Nevada County Master Environmental Inventory, which is part of Volume 3 of the General Plan.

Goals, Policies, and Programs

Significant noise sources in the County include traffic on major roadways, railroad operations, airports, and localized noise sources. However, the overall noise environment in the County is such that most activities do not exceed the background ambient noise levels. Guidance of land use patterns in relation to transportation facilities along with mitigation measures in new development are means to ensure that future problems can be minimized.

GOAL 9.1

Provide for the health, safety, and welfare of the people of Nevada County through a set of policies designed to encourage an environment free of unnecessary and annoying noise.

Policy 9.1.1 Determine the existing noise environment and continue to reassess this environment so that a realistic set of noise standards can be developed reflecting the varying nature of different land uses.

Policy 9.1.2 The following noise standards contained in Table 9.1 below, as performance standards and land use compatibility standards, shall apply to all discretionary and ministerial projects excluding permitted residential (including tentative maps) land uses.

TABLE 9.1
NOISE STANDARDS

<i>Exterior Noise Limits</i>				
Land Use Category	Zoning Districts	Time Period	Noise Level, dBA	
			L_{eq}	L_{max}
Rural	“A1” “TPZ”	7 am - 7 pm	55	75
	“AE” “OS”	7 pm - 10 pm	50	65
	“FR” “IDR”	10 pm - 7 am	40	55
Residential and Public	“RA” “R2”	7 am - 7 pm	55	75
	“R1” “R3”	7 pm - 10 pm	50	65
	“P”	10 pm - 7 am	45	60
Commercial and Recreation	“C1” “CH” “CS”	7 am - 7 pm	70	90
	“C2” “C3” “OP”	7 pm - 7 am	65	75
	“REC”			
Business Park	“BP”	7 am - 7 pm	65	85
		7 pm - 7 am	60	70
Industrial	“M1” “M2”	any time	80	90

- a. Compliance with the above standards shall be determined by measuring the noise level based on the mean average of not less than three (3) 20 minute measurements for any given time period. Additional noise measurements may be necessary to ensure that the ambient noise level is adequately determined.
- b. Where two different zoning districts abut, the standard applicable to the lower, or more restrictive, district plus 5 dBA shall apply.
- c. The above standards shall be measured only on property containing a noise sensitive land use as defined in Policy 9.8 and may be measured anywhere on the property containing said land use. However, this measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement or as determined in a recorded letter of agreement between all affected property owners and approved by the County.
- d. If the measured ambient level exceeds that permitted, then the allowable noise exposure standard shall be set at 5 dBA above the ambient.
- e. Because of the unique nature of sound, the County reserves the right to provide for a more restrictive standard than shown in the Exterior Noise Limits table contained in this

policy. The maximum adjustment shall be limited to be not less than the current ambient noise levels and shall not exceed the standards of this policy or as they may be further adjusted by Policy 9.1.2.b. Imposition of a noise level adjustment shall only be considered if one or more of the following conditions are found to exist:

1. Unique characteristics of the noise source:
 - (a) The noise contains a very high or low frequency, is of a pure tone (a steady, audible tone such as a whine, screech, or hum), or contains a wide divergence in frequency spectra between the noise source and ambient level.
 - (b) The noise is impulsive in nature (such as hammering, riveting, or explosions), or contains music or speech.
 - (c) The noise source is of a long duration.
 2. Unique characteristics of the noise receptor when the ambient noise level is determined to be 5 dBA or more below the Policy 9.1.2 standard for those projects requiring a General Plan amendment, rezoning, and/or conditional use permit. In such instances, the new standard shall not exceed 10 dBA above the ambient or the Policy 9.1.2 standard, whichever is more restrictive.
- f. The above standards shall not apply to those activities associated with the actual construction of a project or to those projects associated with the provision of emergency services or functions.
 - g. The standards of this policy shall be enforced through compliance inspections and/or complaints.
 - h. Recognizing that this chapter must work toward the solution to existing noise problems, those land uses that are inconsistent with the above standards and are therefore non-conforming in nature, shall comply with said standards as these land uses are upgraded or intensified or after abandonment through the use permit or site plan process. Said standards shall apply only to that portion of the land

use requiring approval. In any event, the use or portion subject to a land use permit must meet the standards in the Exterior Noise Limits table in this policy and cumulatively the noise generated from the entire site must be equal to or less than the pre-land use permit ambient noise level. All such projects will require a comprehensive noise analysis per Policy 9.1.13 and the Nevada County Noise Element Manual.

Policy 9.1.3 The Nevada County Planning Department shall be the lead agency responsible for coordination of all local noise control activities and intergovernmental group activities and subsequent enforcement efforts.

Policy 9.1.4 The County will continue an ongoing County-wide noise monitoring program. The purpose of this program is to assess the changing noise environment in the County in terms of the existing ambient noise level for typical rural, residential, commercial and industrial areas and to ensure that the Policy 9.1.1 standards realistically reflect the current needs of the County.

Policy 9.1.5 This chapter of the General Plan shall be implemented, in part, through the incorporation of the Policy 9.1.1 noise standards within the Land Use and Development Code and the adoption of the Noise Element Manual providing detailed direction and implementation measures. This Manual is adopted as a part of the Plan and can be found in Volume 2, Section 3-Noise Analysis, Appendix A.

Policy 9.1.6 Encourage public awareness of noise and its hazards and means to minimize its existing and future impacts.

Policy 9.1.7 Encourage heavy truck traffic to those routes outside residential areas.

Policy 9.1.8 Encourage cities within Nevada County to adopt noise control programs compatible with County efforts.

Policy 9.1.9 Develop a realistic policy framework designed to function as a guide to planning for appropriate land uses in relation to hazardous and annoying noise.

Policy 9.1.10 Strongly discourage those General Plan amendments and zone changes that would likely create land use conflicts relative to noise.

- Policy 9.1.11*** Strongly encourage future noise sensitive land uses, including residences, schools, hospitals, nursing homes, churches, and libraries, to those location of the County where the impact of noise generators is limited so that compliance with standards found in Policy 9.1.2 will be maintained. This policy shall apply to the approval of all tentative maps for residentially zoned parcels. As an additional guide in evaluating land use compatibility, those standards as found in Figure 1 shall be used.
- Policy 9.1.12*** Limit future noise generating land use to those location of the County where their impacts on noise sensitive land uses will be minimized, consistent with the standards found in Program 9.1.
- Policy 9.1.13*** Require the preparation of a comprehensive noise study for all land use projects determined to have a potential to create noise levels inconsistent with those standards found in Program 9.1, and in accordance with the methodology identified in the Noise Element Manual contained in General Plan Volume 2, Section 3 - Noise Analysis Appendix A.
- Policy 9.1.14*** Provide for adequate design controls to assist in mitigating on-site the significant adverse impacts of future noise generating land uses through increased setbacks, landscaping, earthen berms, and solid fencing.
- Policy 9.1.15*** Strictly enforce the noise insulation standards for new construction as required by Title 24 of the California Administrative Code.
- Policy 9.1.16*** Minimize the noise impact from automobiles, trucks, motorcycles, and off-road vehicles by continuing to request enforcement of those sections of the California Vehicle Code relative to vehicle exhaust system maintenance by the County Sheriff and State Highway Patrol.
- Policy 9.1.17*** Where realistically possible, encourage noise sensitive land uses away from railroad operations.
- Policy 9.1.18*** The routing and design of new or expanded transportation facilities by the County shall incorporate feasible measures necessary to mitigate increases in noise levels.
- Policy 9.1.19*** Encourage the minimization of noise emission from all County-controlled activities consistent with Policy 9.1.1 standards.

Policy 9.1.20 Protect the safety and general welfare of people in the vicinity of the Nevada County Airport and the Truckee Tahoe Airport port by implementing the appropriate noise compatibility policies to avoid the establishment of noise-sensitive land uses in the portion of the airport environs that are exposed to significant levels of aircraft noise.

Policy 9.1.21 Ensure the development of compatible land uses adjacent to the Nevada County Airport by enforcing the noise criteria as found in the Nevada County Airport Land Use Compatibility Plan as adopted by the Nevada County Airport Land Use Commission on September 21, 2011, as those standards are in effect and may be hereafter amended. (See Figure 9.1)

Policy 9.1.22 Ensure the development of compatible land uses adjacent to the Truckee Tahoe Airport by implementing the noise criteria as found in the Truckee Tahoe Airport Land Use Compatibility Plan as adopted by the Truckee Tahoe Airport Land Use Commission on October 19, 2010, as those standards are in effect and may be hereafter amended.

Policy 9.1.23 The County shall continue to enforce noise criteria standards consistent with the airport noise policies adopted by the Nevada County Airport Land Use Commission and the Truckee Tahoe Airport Land use Commission based on the considerations of the following factors:

- a. Established federal and state regulations and guidelines.
- b. The ambient noise levels in the community. Ambient noise levels influence the potential intrusiveness of aircraft noise upon a particular land use and vary greatly between *Community Regions* and *Rural Regions*.
- c. The extent to which noise would intrude upon and interrupt the activity associated with a particular use.
- d. The extent to which the activity itself generates noise.
- e. The extent which the activity itself generates itself generates noise.
- f. The extent of outdoor activity associated with a particular land use.
- e. The extent to which indoor uses associated with a particular land use may be made compatible with application of sound attenuation in accordance with the policies set forth for maximum acceptable interior noise levels.

FIGURE 9.1. COMMUNITY NOISE EXPOSURE*

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE					
	L _{dn} or CNEL, dBA					
	50	55	60	65	70	75
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES						
RESIDENTIAL - MULTI-FAMILY						
TRANSIENT LODGING - MOTELS, HOTELS						
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS						
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS						
PLAYGROUNDS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETARIES						
OFFICE BUILDINGS, COMMERCIAL RETAIL						
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE						

*Legend Provided on Following Page

INTERPRETATION		<p>CLEARLY UNACCEPTABLE</p> <p>The activities associated with the specified land use may be carried out with essentially no interference from the noise exposure.</p>
		<p>NORMALLY ACCEPTABLE</p> <p>Noise should be considered in proposed land use plans, but under most circumstances conventional construction, without any special noise insulation requirements, is satisfactory.</p>
		<p>CONDITIONALLY ACCEPTABLE</p> <p>New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditionin will normally suffice.</p>
		<p>NORMALLY UNACCEPTABLE</p> <p>New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design</p>
		<p>CLEARLY UNACCEPTABLE</p> <p>New construction or development should generally not be undertaken.</p>