NOISE ELEMENT

6.4 INTRODUCTION

The Noise Element is one of the seven required General Plan Elements that must be prepared by California cities and counties (Government Code Section 65302). The California General Plan Guidelines state that the Noise Element of the General Plan provides a basis for comprehensive local programs to control and abate environmental noise and to protect citizens from excessive exposure. The Noise Element is required to identify and appraise noise in the community and follow the guidelines adopted by the Office of Noise Control in the State Department of Health Services. Local governments must analyze and quantify noise levels, and the extent of noise exposure, through actual measurements or the use of noise modeling.

The air into which noise is emitted, and on which it travels, is a common resource of the community. It is a public good and as such its use, as well as the responsibility of maintaining it, belongs to everyone.

THE STATE OF CALIFORNIA GENERAL PLAN GUIDELINES* FOR THE FUNDAMENTAL GOALS OF THE NOISE ELEMENT ARE:

- To provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process. In so doing, the necessary groundwork will have been developed so that a community noise ordinance may be utilized to resolve noise complaints.
- To develop strategies for abating excessive noise exposure through cost-effective mitigating measures in combination with zoning, as appropriate, to avoid incompatible land uses.
- To protect those existing regions of the planning area whose noise environments are deemed acceptable and also those locations throughout the community deemed "noise sensitive."
- To utilize the definition of the community noise environment, in the form of CNEL or Ldn noise contours as provided in the Noise Element for local compliance with the State Noise Insulation Standards. These standards require specified levels of outdoor to indoor noise reduction for new multi-family residential constructions in areas where the outdoor noise exposure exceeds CNEL (or Ldn) 60 dBA.

(*Appendix A of the Guidelines)

Loud noise is a health issue. The human ear is not designed to accommodate loud noise for long durations. Exposure to sounds louder than 90 decibels (e.g., a power lawnmower) for more than one or two hours begins to damage the inner ear. Therefore, all people, businesses, industry, and organizations have an obligation to respect the health and comfort of others, and to acknowledge that the effects of broadcasted noise are not limited to their own private property. In sharing the community's common resources, everyone has an obligation to

respect the health of others in ways that are compatible with, and do not detract from, other uses. Noise levels from sources commonly found in the community are shown in Figure N-a.

Guiding Principles and Goals.

A. Reduce noise at the source.
B. Protect City residents from the harmful and disturbing effects of noise through controls on noise-producing activities.
C. Promote noise mitigation and attenuation techniques in the design of both noise receptors and noise generators.
D. Encourage state-of-the-art land use planning methodologies and acoustic control techniques to reduce existing and potential noise conflicts.
E. Encourage cooperative and voluntary action by businesses and industry, to reduce noise emissions from annoying noise sources.
F. Promote mediation as a means of reducing noise complaints which result from existing noise sources.
G. Educate community residents about good neighbor policies, the benefits of reduced noise levels, and living in a community with a high-quality soundscape.
H. Bring all noise sources into compliance with noise guidelines by strongly encouraging voluntary compliance, pursuing funding for noise attenuation measures to mitigate any financial hardships, and through enforcement of a Noise Ordinance.

Definitions of noise, potential effects on people, and existing ordinances.

Noise, commonly defined as unwanted sound, is an environmental phenomenon to which people are exposed throughout life. Noise is among the most pervasive pollutants, a waste product generated primarily by human activities.

As urbanization and development have intensified globally, regionally, and locally in Arcata, noise levels have also increased. Studies have shown that increased noise levels have a direct adverse impact on the quality of home, work, and recreational environments.

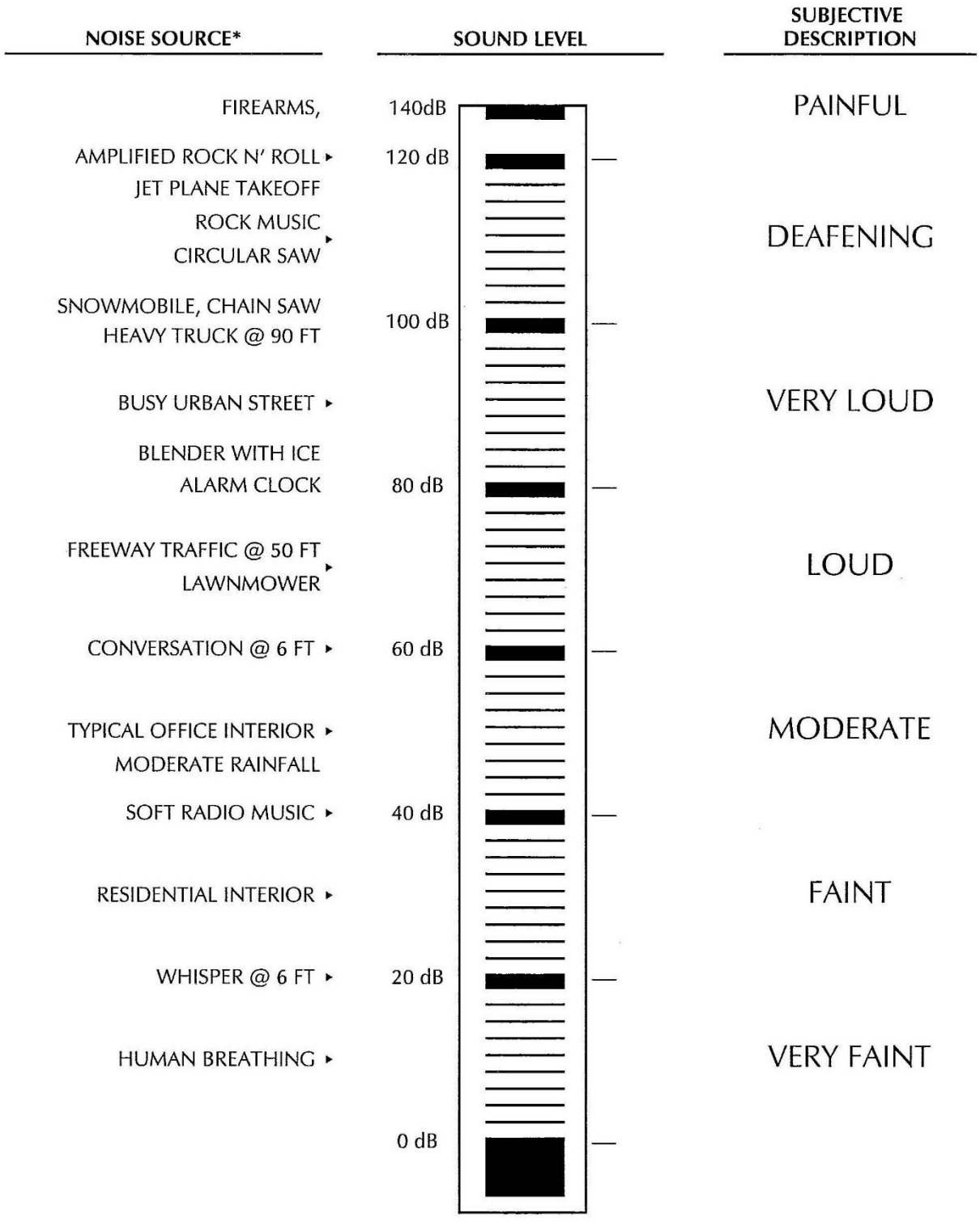
In recognition of these adverse impacts, the Arcata City Council passed a Plaza Area Noise Ordinance (City Ordinance #1249) prohibiting unnecessary, excessive, and annoying noise from all sources. The Noise Ordinance states that excessive noise levels, offensive noise, and unreasonably disturbing noise are detrimental to the public health, welfare and safety and are contrary to the public interest. Detrimental noises interfere with: sleep, communication, relaxation, and the full use of private property; use and enjoyment of the Arcata Plaza by the general public; noise-sensitive land uses, particularly residential apartments and lodging; and productive commerce. Detrimental noises contribute to hearing impairment and a range of adverse physiological stress conditions and adversely affect the value of real property.

It is the intent of the Noise Ordinance to protect the public health, comfort,

convenience, safety, welfare, prosperity, peace, and quiet by reducing excessive noise levels and by prohibiting the generation of offensive, or unreasonably disturbing, noise.

Noise environment overview. Arcata has experienced change from its small, rural town beginnings to a growing, urban community with more intensive and diverse uses. These uses are anticipated to continue to intensify as the community grows Preservation of surrounding open spaces, and General Plan policies for more efficient land uses, have promoted in-fill urban development which intersperses residential uses (noise receptors) with commercial and industrial land uses (noise generators). The proximity of noise generators to noise receptors such as higher volume vehicle travel on local roadways has resulted in increased noise levels at receptor sites. Future development of commercial and industrial uses will increase the potential for future noise conflicts, which is considered an acceptable tradeoff when prioritizing compact infill development over greenfield expansion.

FIGURE N-a A WORLD OF NOISE



* Unless otherwise noted, noise levels are measured at the source

A September 1997 community noise survey conducted as part of General Plan 2020 background studies showed that typical noise levels in noise-sensitive areas of the City range from 46 dBA to 63 dBA L_{dn}. Traffic, local roadways, major roadways (including State Routes 101, 299 and 255), railroad operations, industrial activities, and neighborhood activities are the primary sources of background noise levels. Some residences have outdoor activity areas directly exposed to major noise sources (such as the railroad tracks, major roadways, and industrial areas) that exceed generally acceptable noise exposure criteria.

Noise complaints received by the City also measure noise levels. The Arcata Police Department has received increasing numbers of noise complaints over the last several years. Police activity reports show 1,043 noise complaints in 1997. In 2022, there were 2,588 complaints.. The 2022 complaints were reported for yelling/arguments (393), music (274), parties (93), dogs (59), and 1,361 uncategorized noise complaints. Some of these noises are considered infractions, and are covered in the penal code. Others are referred to other agencies, or determined to be unenforceable, and are not included in the complaint records.

Future noise environment overview. Community noise levels can increase with development. This is especially true for noise along major roadways, such as State Routes 101 and 299. The projected future noise controls are shown in Figure N-b. As development continues, there is a growing potential for noise increases due to commercial or industrial operations. It is now recognized that noise pollution can often be reduced through attenuation measures such as barriers, mufflers, and insulation, with little or no penalty to progress.

Figure N-b Projected Future Noise Contours (11 x 17)

Figure N-b Projected Future Noise Contours part 2

Responsibilities of a Noise Element. The Noise Element advances the ethic that a low-noise-level environment is a common resource that can be enjoyed by all, and that noise generated by some has the potential to negatively affect others. The Noise Element provides a mechanism for evaluating and mitigating the potential effects of noise on the community. It identifies potential noise sources that exceed acceptable standards and noise sources that may be considered annoying. It also provides criteria for determining acceptable noise exposure. The California General Plan Guidelines state that the Noise Element will be as detailed as necessary to describe the local situation and mitigate local noise problems. This means that the City is not limited to applying noise controls and noise reduction techniques to projects and other activities requiring City review and permits but can address other noise generating activities in the community.

The Noise Element sets policy direction for evaluating the potential effects of noise due to new industrial processes or commercial noise sources. (Projected future noise contours are shown on Figure N-b.) Many times, however, noise sources are overlooked during the review process, or are added on-site at a later date. Once the project is approved, the administrative actions for responding to complaints of these noise sources generally fall outside of the City's review process. In these cases a noise ordinance is required in order to determine compliance with local standards or the potential for annoyance.

In the event of an individual being annoyed due to a neighbor's barking dog or an existing commercial activity, a noise ordinance would provide a complaint and enforcement mechanism. These types of noises, however, are most effectively addressed through educating community members about "good neighbor policies," since dog ownership, or existing commercial activities, are not subject to City review, and enforcement is usually considered as a last resort. Complaint and enforcement mechanisms include:

- Ordinance 1249, for the Plaza Area only.
- Penal code 415 – Disturbing the Peace.
- Land Use Code regulations.

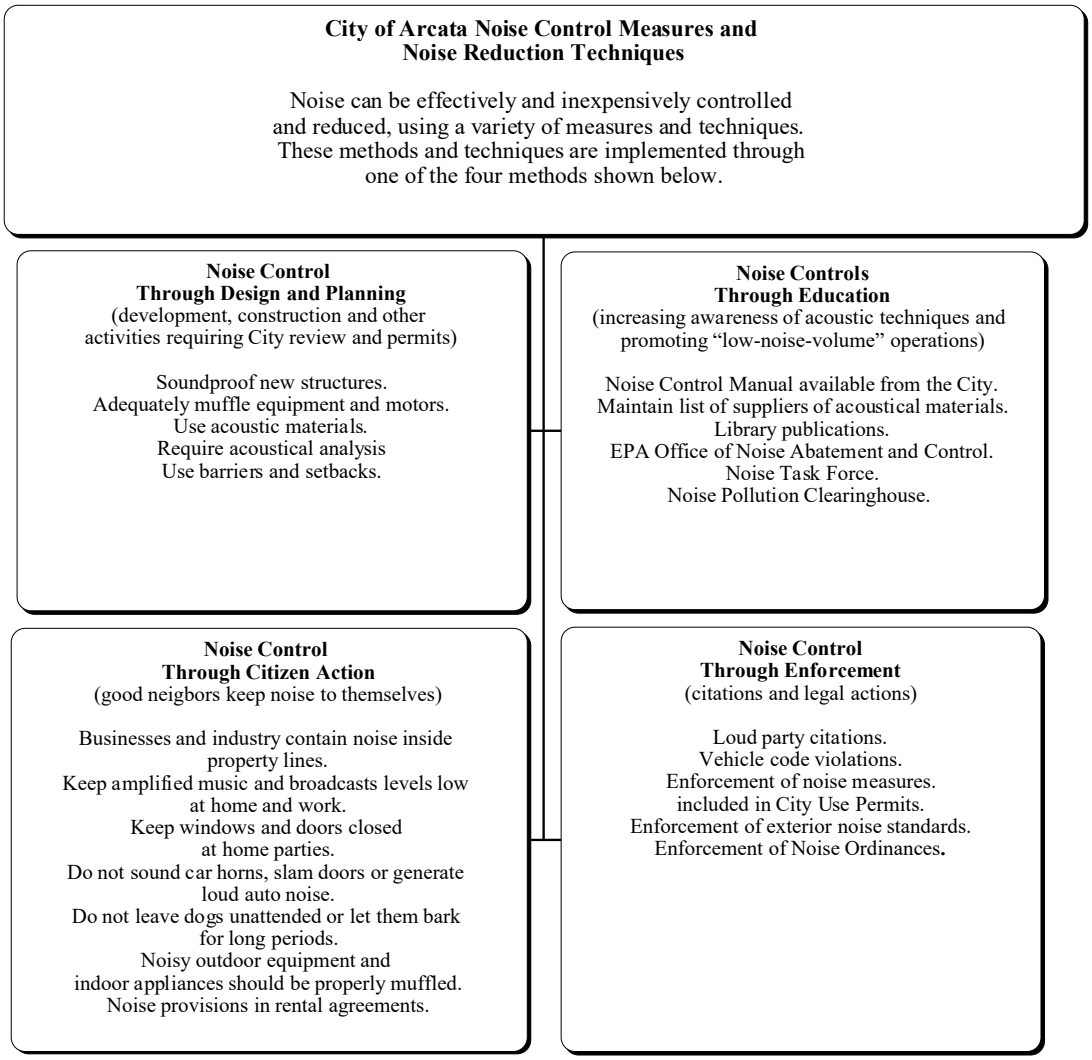
City responsibilities. The City of Arcata can set an example for business and industry by considering the acoustic concerns and future noise impacts of City operations and business. The City can lead the way by demonstrating that ongoing operations and new noise-producing uses and products can meet specified noise criteria by making effective noise attenuation information available, and by providing a procedure for mediating noise disputes. The City can accomplish this by preferential purchasing of quieter equipment; reducing use of noisy equipment (as demonstrated by City Council action to eliminate the use of leaf blowers in certain public areas); limiting hours of operation for public works projects (except for emergencies) in residential areas; and incorporating acoustic materials and barriers in all new City facilities.

Public surveys on noise show that many people do not know how to effectively address noise issues. Community members in general appear to lack knowledge of how to reduce noise conflicts. There also seems to be a pattern of governmental agencies responding to noise complaints with little or no enforcement or action against noise violations. This pattern may be as typical of Arcata as other urban settings. To address this issue, procedures and educational materials are being developed, including a noise control manual.

Community responsibilities. The quality of the soundscape is a growing environmental concern and is an important aspect of the City's livability. To increase pubic awareness of achieving and maintaining a high quality soundscape, the community can draw on noise attenuation techniques, such as those in the Noise Control Manual.

One of the most effective ways to contribute to the solution is to be a good neighbor. Most importantly, this means taking responsibility for reducing noise at the source. Businesses and industry can contain noise generating uses and activities within buildings, or construct barriers so that noise does not reach adjacent areas. Residents should also consider how the noise they generate could affect others and reduce the level accordingly. Motorists and other vehicle operators should be conscientious of the potential for vehicle noise to disturb others. Figure N-c shows noise control measures for all neighbors and neighborhoods.

FIGURE N-c NOISE CONTROL MEASURES



6.5 NOISE POLICIES

The Noise Element contains the following policies:

N-1 Noise Attenuation
N-2 Stationary Noise Sources and Levels
N-3 Transportation Noise Sources and Levels
N-4 Requirements for Acoustical Analysis
N-5 Intrusive and Intermittent Noise Sources

POLICY N-1 NOISE ATTENUATION

Objective. Reduce, or eliminate, noise impacts at their source by providing enclosures, barriers, and other on-site noise attenuation measures for noise generating activities. Monitor noise levels to ensure that acceptable noise levels are maintained on adjacent sites.

N-1a **Noise attenuation measures.** Noise attenuation measures, and stationary noise source controls shall include the use of barriers, setbacks, site design, baffles, enclosures, silencers, and improved facade construction techniques.

N-1bc **Noise attenuation.** Where noise attenuation measures are required, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise attenuation measures have been integrated into the project.

N-1c **Noise level reduction.** To reduce existing, objectionable, industrial, and stationary noise levels at the source, the City shall work with local industries to incorporate noise control technology through building and site design and engineering solutions. The City shall make available current acoustical attenuation techniques (Noise Control Manual) for new and retrofitted industrial development.

N-1d **Noise standards enforcement.** Enforcement of noise standards shall be accomplished through development and implementation of a noise control ordinance, post-project compliance testing, and through the use of mediation.

N-1e **Mediation of noise conflicts.** Where noise conflicts may occur, all affected parties shall strive to use innovative and positive solutions to solve those disputes, including the use of trained mediators. The City recognizes that many noise issues can be resolved before they get to the complaint stage if there is a procedure for airing the issue with an impartial third party.

N-1f **Resolution of noise disputes.** The City shall establish positive ways to discuss and

resolve noise issues and disputes, including the use of trained mediators.

POLICY N-2 STATIONARY NOISE SOURCES AND LEVELS

Objective. Establish acceptable noise levels for land uses and activities that will protect community residents from the harmful effects of excessive noise exposure from stationary noise generators. Maintain interior and exterior noise standards that will achieve land use compatibility with respect to community noise.

N-2a **Noise contour maps.** The noise contour map (Figure N-b) and other estimates of noise source levels shall be used in conjunction with the noise source criteria to evaluate the impacts to and from a proposed project, as well as the attenuation measures that may be necessary.

N-2b **New development of noise-sensitive uses.** New noise receptors shall not be allowed where the noise level from non-transportation noise generators will exceed noise level standards (Table N-1), unless effective noise attenuation measures that meet City standards are incorporated.

N-2c **Noise created by new or proposed stationary noise sources.** Noise created by new or proposed stationary noise sources, or the expansion or alteration of an existing use, shall be attenuated so as not to exceed noise level standards (Table N-1) at noise-sensitive land uses. All noise generators not in compliance with these standards will be encouraged to attenuate impacts.

N-2d **Acceptable noise levels.** New construction and retrofits at existing buildings shall include appropriate insulation, glazing, and other sound attenuation measures so that they comply with standards contained in Table N-1. These standards are intended to set levels for external noise sources that could potentially impact a new dwelling or other noise-sensitive use.

TABLE N-1 – NOISE STANDARDS FOR NEW STATIONARY SOURCE PROJECTS AND REDEVELOPMENT BY RECEIVING LAND USE

LAND USE	EXTERIOR			INTERIOR		
Noise Level Descriptor	7am-7pm	7-10 pm	10pm-7am	7am-7pm	7pm-10pm	10 pm-7am
Residences, Transient Lodging, Hospitals, Nursing Homes						
Hourly L_{eq}	55 dBA	50 dBA	45 dBA	45 dBA	40 dBA	35 dBA
Maximum	75 dBA	75 dBA	70 dBA	65 dBA	65 dBA	60 DbA
Auditoriums, Theaters, Libraries, Schools, Churches						
Hourly L_{eq}	55 dBA	55 dBA	n/a	40 dBA	40 dBA	n/a

Maximum	75 dBA	75 dBA	n/a	60 dBA	60 dBA	n/a

1. The City can impose noise level standards which are up to 5 dBA less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.
2. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).
3. The standards will be applied at the outdoor activity areas of the receiving land use, and at the building facade for upper floor receivers which do not have an outdoor activity area facing the noise source. Where no outdoor activity area is identified, the City has the option to apply only the interior noise level performance standards.

POLICY N-3 TRANSPORTATION NOISE SOURCES AND LEVELS

Objective. Establish acceptable noise levels for land uses and activities that will protect community residents from the harmful effects of excessive noise exposure due to transportation noise sources. Maintain interior and exterior noise standards that will achieve land use compatibility with respect to community noise.

N-3a **New development of noise-sensitive land uses.** New development of noise receptors will not be permitted in areas exposed to existing or projected levels of transportation noise exceeding levels specified in Table N-2 unless exterior noise or noise levels in interior spaces can be reduced to meet City Standards (Table N-2).

TABLE N-2 - MAXIMUM ALLOWABLE TRANSPORTATION NOISE SOURCES EXPOSURE

LAND USE	OUTDOOR ACTIVITY AREAS[1] L_{dn}/CNEL, dBA	INTERIOR SPACES	
		L_{dn}/CNEL,dBA	L_{eq}, dBA[2]
Residential	60[3]	45	--
Transient Lodging	60[4]	45	--
Hospitals, Nursing Homes	60[3]	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. As determined for a typical worst-case hour during periods of use.
3. Where it is not possible to reduce noise in outdoor activity areas to 60 dBA L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dBA L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

4. In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

N-3b **Roadway projects.** To minimize noise impacts, the following criteria may be used as a test of significance for roadway projects:

1. Where existing traffic noise levels are less than 60 dBA L_{dn} at the outdoor activity areas of noise receptors, a +5 dBA L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.
2. Where existing traffic noise levels range between 60 and 65 dBA L_{dn} at the outdoor activity areas of noise receptors, a +3 dBA L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.
3. Where existing traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of noise receptors, a + 1.5 dBA L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.

POLICY N-4 ACOUSTICAL ANALYSIS REQUIREMENTS

Objective. Establish a consistent procedure and framework for conducting and reviewing acoustical analyses.

N-4a **Noise-sensitive land uses.** Where receptor land uses are potentially exposed to existing or projected exterior noise levels exceeding the levels specified in Table N-2 or the performance standards of Table N-1, an acoustical analysis shall be required as part of the environmental review process, so that noise mitigation may be included in the project design. An acoustical analysis prepared pursuant to the Noise Element shall:

1. Be the financial responsibility of the applicant.
2. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements, with sufficient sampling periods and locations, to adequately describe local conditions and the predominant noise sources.
4. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses.
5. Estimate noise exposure after prescribed mitigation measures are implemented.

POLICY N-5 INTRUSIVE AND INTERMITTENT NOISE SOURCES

Objective. Protect community residents from the effects of excessive, intrusive, and intermittent noise. Set standards for intrusive and intermittent noise sources for both daytime

and nighttime periods. Intrusive noise sources have a qualitative aspect that can be annoying. These sources may contain a tonal component which is absent from the existing general background noise. They may also be rhythmic, reoccurring or impulsive in nature, or comprised mainly of music or speech. Intrusive noise can result in annoyance or interference with sleep. These types of noise sources can include, but are not limited to, industrial processes, warning horns, backup alarms, and pressure release devices.

N-5a **Intrusive noise.** When intrusive noise sources have been identified, the detrimental effects (sleep interference or the potential for annoyance) shall be disclosed to neighboring receptor properties.

N-5b **Noise levels due to non-transportation sources.** Noise levels due to non-transportation sources which may be intermittent or recurring, impulsive noises, pure tones, or noises consisting primarily of speech or music, shall be subject to the criteria contained within Table N-1, with a -5 dBA penalty applied to the criteria.

N-5c **Rhythmic, reoccurring, or impulsive noise sources.** When noise sources have been identified to be rhythmic, reoccurring, or impulsive in nature or comprised mainly of music or speech, they may comply with applicable noise level criteria and still be annoying to individuals. When these types of noise sources have been identified, they may be subject to additional attenuation or mediation.

N-5d **Construction site tool or equipment noise.** Construction The following shall apply to construction noise from tools and equipment:

1. The operation of tools or equipment used in construction, drilling, repair, alteration or demolition shall be limited to between the hours of 8 a.m. and 7 p.m. Monday through Friday, and between 9 a.m. and 7 p.m. on Saturdays and Sundays.
2. Heavy equipment shall not operate on Sundays and City recognized holidays.

This shall apply to construction noise from tools and equipment that are subject to the review of the City and that may affect receptor uses. This policy shall not apply to emergency work of public service utilities, City sponsored and/or grant funded projects, or by variance under a noise ordinance or authorization by the appropriate City review authority.

N-5e **Stationary and construction equipment noise.** All stationary and construction equipment shall be maintained in good working order, and fitted with factory approved muffler systems.

N-5f **Noise Ordinance.** The City of Arcata shall enforce its City-wide noise ordinance. The City shall periodically review and update its noise ordinance.

6.6 IMPLEMENTATION MEASURES

#	IMPLEMENTATION MEASURE	RESPONSIBLE PARTY	TIME FRAME
N -1	**Education programs** The City shall maintain current information about noise monitoring and attenuation techniques effective in identifying and reducing noise.	Community Development Dept.	Ongoing
N -2	**Noise complaints and enforcement** The Arcata Police Department shall maintain a record of noise complaints for which they receive and to which they respond. The Community Development Department and Code Enforcement Division shall cooperate to address noise complaints related to land use matters as determined necessary by the Community Development Director and Chief of Police, using progressive enforcement starting with mediation.	Arcata Police Dept, Community Development Department, Engineering Department	Ongoing