

9. Noise Element DRAFT

Noise is generally defined as unwanted sound. A sound that may be disturbing to one person, may go unnoticed by another. Residents of a small, rural mountain community such as Portola, can reasonably expect that the overall level of sound will be low compared to more urban settings. Traffic levels will be less, sirens and other sounds of urban life will be rare. The sounds of people, groups of children at play and of large gatherings will be relatively more localized and less frequent. The sounds of tourist activities and public events are welcome.

The relative lack of sound associated with human activity is valued in the community. The relative quiet of the neighborhoods in the forest and the opportunity to sit on the bank and listen to the river are among the attractions for many residents. Because many rural residential areas experience very low noise levels, residents may express concern about the loss of "peace and quiet" due to the introduction of even low noises. In very quiet environments, the introduction of virtually any change in local activities will cause increases in noise levels.

The purpose of the Noise Element is to define goals and policies for managing the effect of sound in the community. It is the overall goal of the Noise Element to protect the health and welfare of the community by promoting community development and activities that are compatible with noise level criteria.

Authority

The Noise Element is mandated by the California Government Code (65302 (f)). The statute requires:

"a Noise Element which identifies and appraises noise problems in the community. The Noise Element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services ..."

The statute also requires that the Noise Element analyze and quantify projected noise levels for highways, primary streets, railroads, and stationary noise sources.

In accordance with Government Code Section 65302(f), the Noise Element has been designed to analyze and quantify, to the extent practicable, current and project noise levels for the following sources: By using guidelines established by the Office of Noise Control, in the State Department of Health Services, the noise element must also analyze and quantify, to the extent practicable as determined by the legislative body, current and projected noise levels for all of the following sources:

- Highways and freeways;
- Primary arterials and major local streets;
- Passenger and freight on-line railroad operations and ground rapid transit systems;
- Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation;
- Local industrial plants, including, but not limited to, railroad classification yards; and,
- Other ground stationary noise sources identified by local agencies as contributing to the community noise environment;

Noise contours must be shown for all of the above sources and stated in terms of community noise equivalent level (CNEL). The noise contours have been used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise. In addition, the noise element includes implementation measures and possible solutions that address existing and foreseeable noise problems, if any, and serves as a guideline for compliance with the State's noise insulation standards.

The process used in developing this Noise Element was to:

- Determine the type, location and extent of noise incompatibility in the community
- Explore methods of noise attenuation to minimize exposure to excessive noise
- Research methods to protect residences and other sensitive receptors from excessive noise
- Draft implementation measures that offer solutions to existing and foreseeable noise problems

Relationship to Other Elements

- Land Use Element. Noise generated by the railroad and traffic along major roads is considered in establishing the pattern of planned land uses depicted on the General Plan Land Use Diagram. The intent is to minimize the exposure of community residents to excessive noise.
- Circulation Element. Traffic volumes are used to estimate the future noise levels along major streets.
- Community Design Element. The design of building elements that can generate or control noise, such as trash enclosures or sound walls are guided through standards in the Community Design Element.

- Conservation and Open Space Element. Noise exposure is considered to avoid excessive noise that would adversely affect enjoyment of recreational pursuits in designated open space. Open space also can be used to buffer sensitive land uses from noise sources.

Completeness Checklist & Required Contents

California Government Code Section	Brief Description of Requirement	Addressed in General Plan
	Identify and appraise noise problems in the community and quantify current and projected noise levels for all of the following sources:	
65302(f)(1)(A)	Highways and freeways	√
65302(f)(1)(B)	Primary arterials and major local streets	√
65302(f)(1)(C)	Passenger and freight online railroad operations and ground rapid transit systems	√
65302(f)(1)(D)	Commercial, general aviation, and heliport ground facilities and maintenance functions related to airport operations	√
65302(f)(1)(E)	Local industrial plants (railroad stations)	√
65302(f)(1)(F)	Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.	N/A
65302(f)(2)	Noise contour maps	√
65302(f)(3)	Noise contours as a guide for establishing a patten of land uses that minimizes the exposure of community residents to excessive noise.	√
65302(f)(4)	Implementation measures and possible solutions	√

Sensitive Land Uses

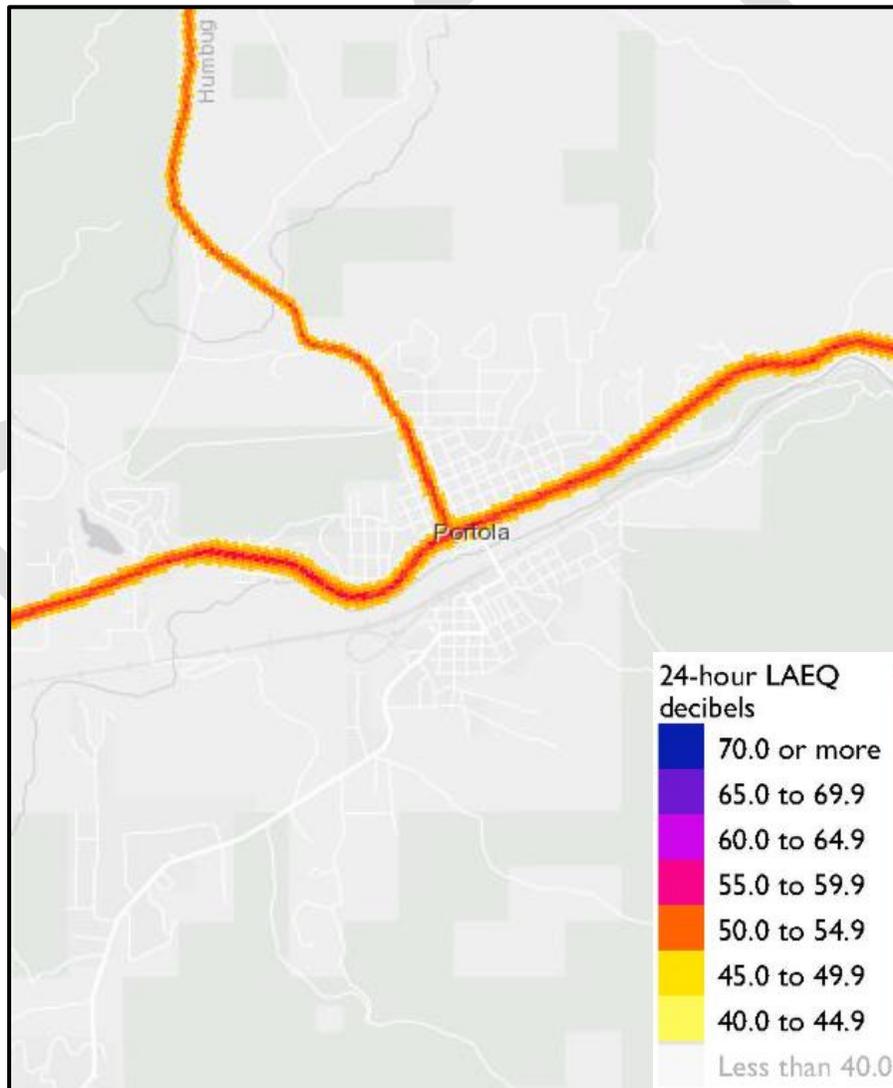
Noise sensitive land uses include residences of all types, nursing homes, day care centers, the Eastern Plumas Hospital, schools, parks, and open space near the City. In general, most portions of the Planning Area which contain noise-sensitive uses are relatively quiet.

The Uniform Building Code states that: "Interior community noise levels (CNEL) with windows closed, attributable to exterior sources, shall not exceed an annual CNEL or L_{dn} of 45 dB in any habitable room." This standard is to apply to all new hotels, motels, apartment houses, and dwellings other than single-family detached dwellings. State law also requires noise insulation of new multi-family dwellings constructed within the 60 dB CNEL noise exposure contours.

Discussion

Based on a review of OPR's Completeness Checklist as well as Required Contents and Statutory Requirements of the Noise Element, the City's analysis of noise environment, stationary sources of noise, predicted levels of noise, and the impacts of noise on local residents is adequate. OPR's Guidance states that the Noise Element must show contours for noise sources, to the extent practicable, in either Community Noise Equivalent Levels (CNEL) or Day-Night Average Level (Ldn). The National Transportation Noise Map depicts road and aviation noise in Portola. Based on a weighted 24-hour equivalent sound level average of sound energy over a 24-hour period. Information will be updated on an annual basis, and future versions of the National Transportation Noise Map are envisioned to include additional transportation noise sources, such as rail.

Figure 9-1
Noise Map



<https://maps.bts.dot.gov/arcgis/apps/webappviewer/index.html?id=a303ff5924c9474790464cc0e9d5c9fb>

Table 9-1
Common Comparable Sounds

A- Weighted 24-hour LAEQ (dBA)	Common comparable sounds	Aviation	Road (Interstate)
Less than 50	Refrigerator Humming (~40dBA)	97.12	98.00
50 to 59	Quiet Office (~50dBA)	2.65	1.30
60 to 69	Conversational Speech (~60dBA)	0.21	0.44
70 to 79	Vacuum Cleaner (~70dBA)	0.01	0.25
80 or more	Garbage Disposal (~80dBA)	<0.01	0.06

Table 9-2
Maximum Allowable Noise Exposure; Transportation Noise Sources

Land Use	Outdoor Activity Areas	Interior Spaces Ldn/CNEL, dB	Interior Spaces Leq, dB2
Residential	60	45	
Transient Lodging	60	45	
Hospitals, Nursing Homes	60	45	
Theaters, Auditoriums, Music Halls			35
Churches, Meeting Halls	60		40
Office Buildings	65		45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	70		

- Outdoor activity areas for residential development are considered to be backyard patios or decks of single family dwellings, and the patios or common areas where people generally congregate for multi-family developments.
- Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities.
- 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.
- Determined for a typical worst-case hour during periods of use.
- Where a proposed use is not specifically listed on this table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the City.

Table 9-3
Performance Standards for Non-Transportation Noise Sources or Projects Affected by Non-Transportation Noise Sources

Noise Level Descriptor	Daytime (7am – 10p,	Nighttime (10pm – 7am)
Hourly Leq, dB	60	45
Maximum Level, dB	60	45

- Each of the noise levels specified above should be lowered by five dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and area primary source of noise complaints.

- No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

Noise Goals

The existing City is a relatively quiet mountain community with the notable exception of the railroad operations and the Highway 70 traffic noise. These sources are endemic to the community and cannot be easily avoided. The fundamental objective is to avoid creating new noise generating conditions that would degrade the existing community environment, or to place a sensitive land use where it would be adversely affected by an existing noise source.

Goal N-1.	Protect City residents from the harmful and annoying effects of exposure to excessive noise.
Goal N-2.	Protect the quality of life in the community and the tourism economy from noise generated by incompatible land uses.
Goal N-3.	Accommodate additional tourism and visitors without creating new noise sources.
Goal N-4.	Ensure that places of quiet remain near the urban areas of the City.
Goal N-5.	Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.
Goal N-6.	Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

Mobile Noise Sources

The primary noise sources in the Plan Area are traffic along Highway 70 and railroad operations. The noise contours are linear bands that depict noise levels at 60 dB L_{dn}. The 60 dB L_{dn} contour represents the level for which any new residential development that is not shielded generally will require mitigation to comply with noise standards. These contours are generalized depictions of the conditions found in the community and should be used only as an indication of the need for additional study as described in the policies in the Noise Element.

Contours along roadways represent the predicted noise level and do not reflect the mitigating effects of noise barriers, structures, topography, or vegetation. Because intervening structures and topography may significantly affect noise exposure at a particular location, the noise contours should not be considered site specific, but rather are guides to determine when detailed acoustic analysis should be undertaken.

Noise from the railroad operations is generally buffered by distance from much of the community. The rail lines are separated from homes on the north side of the river by a distance of approximately 550 feet and from homes to the south by approximately 250 feet.

Other mobile noise sources include the train whistles and the occasional emergency helicopter flights to the Eastern Plumas Hospital. Each of these noise sources cannot be easily mitigated and cannot be eliminated.

Policies: Mobile Noise Sources

- N-P-1** Allow the development of new noise-sensitive land uses only in areas where the existing or projected transportation generated noise level does not exceed the levels specified in Table 9-1. Noise sensitive uses include, but are not limited to residential, schools and hospitals. Noise mitigation measures may be required to reduce noise in outdoor activity areas and interior spaces to the levels specified in Table 9-1.
- N-P-2.** Require new roadway improvement projects to be mitigated so as to not exceed the noise levels specified in Table 9-1 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.
- N-P-3.** An acoustical analysis may be required as part of the environmental review process so that noise mitigation may be considered in the project design.
- N-P-4.** An acoustical analysis prepared pursuant to the Noise Element shall:
- a. Be the responsibility of the applicant.
 - b. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
 - c. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
 - d. Estimate existing and projected (20 years) noise levels in terms of Ldn or CNEL and/or the standards of Table 9-1 and/or 9-2, and compare those levels to the adopted policies of the Noise Element.

- e. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
- f. Estimate noise exposure after the prescribed mitigation measures have been implemented.
- g. Describe a post-project assessment program which could be used to monitor the effectiveness of the proposed mitigation measures.

Implementation: Mobile Noise Sources

- N-I-1.** Use the “normally acceptable” noise levels for new land uses as established in Table 9-1 (Noise and Land Use Compatibility) as review criteria.
- N-I-2.** New development in residential areas with an actual or projected exterior noise level of greater than 60 dB CNEL will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB CNEL. Site-specific measures could include the incorporation of building materials, building location, building orientation, setbacks, and/or walls or barriers.
- N-I-3.** Assist in enforcing compliance with noise emissions standards for all types of vehicles, established by the California Vehicle Code and by federal regulations, through coordination with the Plumas County Sheriff's Department, and the California Highway Patrol.
- N-I-5.** Conduct site-specific railroad noise studies for noise sensitive projects anticipated to be affected by railroad noise.
- N-I-6.** Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.
- N-I-7.** Evaluate new transportation projects, such a rail or public transit routes, using the standards contained in Table 9-1. However, noise from these projects may be allowed to exceed the standards contained in Table 9-1, if the City Council finds that there are special overriding circumstances.
- N-I-8.** Require an acoustical analysis where:
- Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table 9-1.

- Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table 9-1 at existing or planned noise-sensitive uses.

N- N-I-10. Work in cooperation with Caltrans and the Union Pacific Railroad to maintain noise level standards for both new and existing projects in compliance with Table 9-1.

N-I-11. Work with the Railroad Museum Association to establish guidelines for use of whistles and horns in the daily activities of the museum.



Stationary Noise Sources

The rural, mountain character of the City does not include many industrial, commercial or other activities that generate substantial noise. The primary current sources of noise include the City landfill, the Recycling facility on Taylor Street and the electric generators at the Sierra Pacific substation on Fourth Avenue. None of these is a major, consistent noise source.

Implementation of the General Plan will create new noise sources that may be significant. Among these are the new business park planned on the extension of Gulling Street, additional commercial and business-professional land use along First Avenue and Taylor Street, and the addition of public event spaces and increase tourist events and activities. In addition, the planned use of the River Park area, the existing community park, and Commercial Street for public events, such as craft fairs and music fairs has the potential to increase traffic and crowd noise during short periods.

Policies: Stationary Noise Sources

- N-P-5.** Allow the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2. Noise mitigation may be required to meet Table 9-2 performance standards.
- N-P-6.** Require proposed fixed noise sources adjacent to noise sensitive uses to be mitigated so as to not exceed the noise level performance standards in Table 9-2.
- N-P-7.** Where noise mitigation measures are required to achieve the standards of Tables 9-1 and 9-2, the emphasis of such measures should be placed upon site planning and project design. These measures may include, but are not limited to, building orientation, setbacks, landscaping and building construction practices. The use of noise barriers, such as sound walls, should be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.
- N-P-8.** Regulate construction related noise to reduce impacts on adjacent uses.
- N-P-9.** Public events, such as carnivals, music festivals and other gatherings will be designed and managed to avoid creating a noise nuisance.



Implementation: Stationary Noise Sources

- N-I-12.** An acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be considered during project design.
- N-I-13.** The City shall use the noise Level Performance Standards contained in Table 9-2 for reviewing new development of noise-sensitive uses exposed to fixed noise sources.
- N-I-14.** The Municipal Code will be amended to add noise management standards for all public events.

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