
IX. NOISE ELEMENT



~~2025~~20

NOISE

The Noise Element outlines policies and implementation measures to achieve the City's goals of protecting Roseville residents from the harmful and annoying effects of exposure to excessive noise. This element establishes separate acceptable noise level criteria for land uses affected by either fixed noise sources or transportation-related noise sources.

The objectives of the noise and land use compatibility criteria are to provide an acceptable community noise environment and to minimize noise-related complaints from residents. The compatibility criteria should be used in conjunction with future noise exposure levels to identify projects or activities that may require special treatment to minimize noise exposure.

The State Office of Planning and Research Noise Element Guidelines require that general plans identify and quantify major noise sources by preparing generalized noise contours for current and projected conditions. Significant noise sources include traffic on major roadways and highways, railroad operations, airports, and representative industrial activities and fixed noise sources. ~~A comprehensive analysis of existing noise sources has been prepared and is contained in a document entitled the Existing Noise Environment.~~ Future noise sources are discussed in the EIR for the [General Plan and more recent Specific Plan environmental impact reports \(EIRs\)](#) available through the City of Roseville [Development Services Planning Department](#) ~~Division~~ or found on the City's website at www.roseville.ca.us/planning.

It is the overall goal of the Noise Element to protect the health and welfare of the community by promoting community

development which is compatible with noise level criteria.

A. SETTING

The most significant noise sources throughout the Roseville area are the major highways and roadways and the Union Pacific Railroad operations. Noise modeling techniques and noise measurements were used to develop generalized day-night average sound level (L_{dn}) noise contours for these major sources as well as other secondary fixed noise sources in the City of Roseville General Plan area. The L_{dn} contours reflect the average equivalent sound level during a 24-hour day, with additional weight (10 dB) added to sound levels in the night (10:00 p.m. to 7:00 a.m.) when such sounds can be the most annoying.

Noise modeling techniques use source-specific data including average levels of activity, hours of operation, seasonal fluctuations, and average levels of noise from source operations. Modeling methods have been developed for a number of environmental noise sources, including roadways, railroad line operations, railroad yard operations, and industrial plants. Such methods produce reliable results as long as data inputs and assumptions are valid.

The modeling methods used for the General Plan closely follow recommendations made by the State Office of Noise Control and were supplemented, where appropriate, by field-measured noise level data to account for local conditions. The noise exposure contours are based on annual average conditions. Because local topography, vegetation, or intervening structures may significantly affect noise exposure

at a particular location, the noise contours should not be considered site-specific.

Noise sources within the City of Roseville can be characterized as "transportation-related" and "fixed" (non-transportation-related). Transportation-related noise sources consist of roadway traffic noise and railroad noise. The fixed noise sources include, but are not limited to, industrial facility noise, operations associated with commercial land uses, racetrack operations, and special events such as softball and soccer games.

COMMUNITY NOISE

A noise survey was conducted to document noise exposure in areas of the community containing noise sensitive land uses. For that purpose, noise sensitive land uses in the City of Roseville General Plan area were considered to include residential areas, schools, and hospitals. Noise monitoring sites were selected to be representative of typical conditions in the City.

The community noise survey results indicate that typical noise levels in noise-sensitive areas of Roseville are in the range of 45 dB to 68 dB L_{dn}. Noise from traffic on local roadways, railroad line operations, railroad yard operations, and neighborhood activities are the controlling factors for background noise levels in the majority of the survey area. Noise from industrial uses was audible during the evening and nighttime hours at residential uses adjacent to some industrial areas.

In general, the most recently-developed areas of the City that contain noise-sensitive uses are relatively quiet. However, older residential areas located adjacent to I-80 and the railroad yard are exposed to noise levels that would be considered "normally unacceptable."

ROADWAY NOISE

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop L_{dn} contours for all highways and major roadways in the City of Roseville General Plan Area. The FHWA Model is the analytical method presently favored for traffic noise prediction by most state and local agencies, including Caltrans. Existing road noise contours are generally reflected on Figure IX-1

and future road noise contours on Figure IX-2. ~~Precise mapping of contours are kept on file at the City of Roseville Planning Department Division.~~ The traffic noise model was updated by ~~Jim JC Brennan~~, Noise Consultant, in ~~2009-2015~~ as part of the ~~Sierra Vista Amoruso Ranch~~ Specific Plan. The updated model identified Interstate 80, Highway 65, ~~future Placer Parkway~~, and the City's transportation arterials as the major roadway noise sources in the City. The major transportation corridors were found to exceed 60 dB L_{dn}.

RAILROAD NOISE

Railroad activity in the City of Roseville includes freight and Amtrak operations on the Union Pacific Railroad Company (UPRR) tracks and activity within the UPRR ~~hump~~ J.R. Davis maintenance yard. The J.R. Davis yard is the largest rail facility on the west coast Noise contours associated with railroad operations were developed using noise level measurements and accepted modeling techniques.

Noise levels associated with the ~~hump~~ maintenance yard include master and group retarder "squeal," recurring impulsive noises, and train pass-bys. The "squeal" occurs primarily at the south end of the yard and is a result of cars passing through retarders on their path to the classification yard after being pushed over the hump. The recurring impulsive noise generally occurs at the north end of the yard and is a result of freight train cars hitting together. Noise levels associated with railroad line operations are a result of warning horns, at-grade crossing bells, locomotive engine and rail car noise.

Noise contours for the railroad activities are generally reflected on Figure IX-3. According to UPRR, railroad operations within the Roseville area are not anticipated to change substantially in the future. Therefore, significant modifications to the reflected noise contours are not anticipated.

OVERFLIGHT NOISE

Aviation noise is addressed through a combination of short-term and continuous site noise measurements of aircraft operations and review of adopted airport land use compatibility policies and noise contours. Several airports operate regionally that may affect the City of

Roseville. These include McClellan Airfield, Sacramento International Airport and the Lincoln Airport. Occasional overflights from all three airports can be expected. According to Sacramento County Airport staff, the area in the vicinity of McClellan Airfield is subject to frequent large aircraft (over 75,000 pounds) operating under 3,000 feet above ground level. Based on current and historical experience, single event noise occurrences can cause annoyance to residential or other sensitive uses. However, no noise standards are exceeded by the aircraft overflight.

Insert Figure IX-1
(Existing Roadway Noise Contours)

Insert Figure IX-2
(Future Roadway Noise Contours
2020 Scenario)

Insert Figure IX-3
(Railroad Line Operations Noise Contours)

FIXED NOISE SOURCES

Industrial processes are often recognized as a primary fixed noise source. Significant noise generation can occur even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA). Exterior noise levels may, however, exceed locally-acceptable standards.

Commercial, recreational, and public service facility activities can also produce noise that affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components that may be annoying to individuals who live in the nearby vicinity. In addition, noise generation from fixed noise sources may vary based on climatic conditions, time of day, and existing ambient noise levels.

There are numerous fixed noise sources that are dispersed throughout the City. General noise contours for the primary identified existing fixed noise source locations in Roseville are reflected on Figure IX-4.

B. OUTLOOK

As development increases within the City of Roseville and the adjacent communities, additional noise sources are expected to follow and overall noise levels are expected to increase.

To protect residents from excessive noise exposure, noise level standards for transportation-related noise sources are identified in this element. For most noise-sensitive land uses, a 60 dB L_{dn} exterior noise level standard is established. In the case of residential uses, the intent of this standard is to provide an acceptable noise environment for outdoor activities. Interior noise level standards for most noise-sensitive land uses are established at 45 dB L_{dn} . In the case of residential uses, the intent of this standard is to provide a suitable environment for indoor communication and sleep. Table IX-1 cites the noise level criteria for transportation-related noise sources.

Hourly average noise level (L_{eq}) and maximum noise level standards have also been established and are included in the General Plan for new

noise-sensitive projects affected by fixed (non-transportation) noise sources. The standards include a penalty for simple tone noises, noise consisting primarily of speech or music, or for recurring impulsive noises. Table IX-3 cites the noise level criteria for fixed noise sources.

Based upon the comprehensive noise survey completed within the City, traffic noise along highways and major arterials and railroad noise from UPRR activities are, and will continue to be, the primary sources of noise in the community. The City will need to closely review land use and development proposals that are in close proximity to major roadways and railroad facilities for potential impacts associated with noise.

Recognizing that in increasingly urban areas it is difficult to maintain rural/suburban noise standards, and in order to facilitate the City's goals to encourage reinvestment and economic development in the Riverside and Downtown Specific Plan areas, the City may elect to allow new noise-sensitive land uses on a case by case basis in a mixed-use environment or in proximity to transportation sources. Noise levels would require mitigation to the extent feasible using building orientation, construction and design features; however ultimately, noise levels may exceed the noise standards identified in Table IX-1.

Fixed/industrial noise sources will also contribute to the City's noise environment. Future development of industrial and other significant fixed noise sources in close proximity to noise-sensitive uses, or encroachment of noise-sensitive uses upon existing or planned future fixed noise sources, can cause noise conflicts. Future land use decisions will need to evaluate the potential for noise impacts when noise-sensitive uses and fixed noise sources, such as industrial uses, are located within close proximity. In addition to residential areas, other noise-sensitive receptors include schools, religious institutions, hospitals and convalescent hospitals, which are indicated on Figure IX-5.

Note: For an explanation of terms used in this element, see the General Plan Glossary.

Insert Figure IX-4
(Major Fixed Noise Source Locations)

C. GOALS AND POLICIES

GOALS: NOISE ELEMENT

- Goal 1* **Protect City residents from the harmful and annoying effects of exposure to excessive noise.**
- Goal 2* **Protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.**

Policies: Noise - Transportation Noise Sources *Implementation Measures*

1. **Allow the development of new noise-sensitive land uses (which include but are not limited to residential, schools, and hospitals) only in areas exposed to existing or projected levels of noise from transportation noise sources which satisfy the levels specified in Table IX-1. Noise mitigation measures may be required to reduce noise in outdoor activity areas and interior spaces to the levels specified in Table IX-1.**
- Recognizing that in increasingly urban areas it is difficult to maintain suburban noise standards, and in order to facilitate the City's goals to encourage reinvestment and economic development in the Riverside and Downtown Specific Plan areas, the City may elect to allow new noise-sensitive land uses on a case by case basis in proximity to transportation sources. Noise mitigation, including an acoustical analysis, would be required to reduce interior space noise levels to the standards specified in Table IX-1. Exterior noise levels would require mitigation to the extent feasible using building orientation, construction and design features; however ultimately, noise levels may exceed the noise standards identified in Table IX-1.**
- *Maximum Allowable Noise Exposure for Transportation Sources*
 - *Development Review Process*
 - *Noise Level Contour Maps*
 - *Noise Ordinance*
 - *California Vehicle Code*
 - *Riverside Gateway Specific Plan*
 - *Downtown Specific Plan*
2. **Require new roadway improvement projects to be mitigated so as not to exceed the noise levels specified in Table IX-1 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.**
- *Maximum Allowable Noise Exposure for Transportation Sources*
 - *Development Review Process*
 - *Noise Level Contour Maps*
 - *Noise Ordinance*
 - *California Vehicle Code*

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| 3. | Evaluate new transportation projects, such as light and heavy rail, using the standards contained in Table IX-1. However, noise from these projects may be allowed to exceed the standards contained in Table IX-1 if the City Council finds that there are special overriding circumstances. | <ul style="list-style-type: none"> - <i>Maximum Allowable Noise Exposure for Transportation Sources</i> - <i>Development Review Process</i> - <i>Noise Level Contour Maps</i> - <i>Noise Ordinance</i> |
| 4. | <p>Require an acoustical analysis where:</p> <p>a. Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table IX-1;</p> <p>b. Proposed transportation noise source projects are likely to produce noise levels exceeding the levels specified in Table IX-1 at existing or planned noise-sensitive uses.</p> <p>An acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be considered in the project design.</p> | <ul style="list-style-type: none"> - <i>Maximum Allowable Noise Exposure for Transportation Sources</i> - <i>Development Review Process</i> - <i>Requirements for an Acoustical Analysis</i> |
| 5. | Work in cooperation with Caltrans and the Union Pacific Transportation Company to maintain noise level standards for both new and existing projects in compliance with Table IX-1. | <ul style="list-style-type: none"> - <i>Development Review Process</i> - <i>Interagency Cooperation</i> |

Policies:	Noise - Fixed Noise Sources	<i>Implementation Measures</i>
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| 6. | <p>Allow the development of new noise-sensitive uses (which include, but are not limited to, residential, school, and hospitals) only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table IX-3. Noise mitigation may be required to meet Table IX-3 performance standards.</p> <p>Recognizing that in increasingly urban areas it is difficult to maintain suburban noise standards, and in order to facilitate the City's goals to encourage reinvestment and economic development in the Riverside and Downtown Specific Plan areas, the City may elect to allow new noise-sensitive land uses on a case by case basis in a mixed-use environment. Noise levels would require mitigation to the extent feasible using building orientation, construction</p> | <ul style="list-style-type: none"> - <i>Development Review Process</i> - <i>Noise Level Contour Maps</i> - <i>Noise Ordinance</i> - <i>Noise Level Performance Standards</i> - <i>Riverside Gateway Specific Plan</i> - <i>Downtown Specific Plan</i> |
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and design features; however ultimately, noise levels may exceed noise standards identified in Table IX-1.

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| 7. | Require proposed fixed noise sources adjacent to noise-sensitive uses to be mitigated so as not to exceed the noise level performance standards of Table IX-3. | <ul style="list-style-type: none"> - <i>Development Review Process</i> - <i>Noise Level Contour Maps</i> - <i>Noise Ordinance</i> - <i>Noise Level Performance Standards</i> |
| 8. | <p>Require an acoustical analysis where:</p> <p>Noise-sensitive land uses are proposed in areas where existing or anticipated future fixed noise sources may</p> <p>a. Proposed non-residential or other fixed noise sources are likely to produce noise levels exceeding the performance standards of Table IX-3 at existing or planned noise-sensitive uses.</p> <p>An acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be considered during project design.</p> | <ul style="list-style-type: none"> - <i>Development Review Process</i> - <i>Requirements for an Acoustical Analysis</i> - <i>Noise Level Performance Standards</i> |

Policies	Noise – General	<i>Implementation Measures</i>
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| 9. | Where noise mitigation measures are required to achieve the standards of Tables IX-1 and IX-3, the emphasis of such measures should be placed on 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 soundwalls, 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. | <ul style="list-style-type: none"> - <i>Development Review Process</i> |
| 10. | Regulate construction-related noise to reduce impacts on adjacent uses consistent with the City's Noise Ordinance. | <ul style="list-style-type: none"> - <i>Development Review Process</i> - <i>Noise Ordinance</i> - <i>California Vehicle Code</i> |

D. IMPLEMENTATION MEASURES

1. Maximum Allowable Noise Exposure For Transportation Sources

(Ongoing)

The City shall use the noise level standards contained in Table IX-1 for reviewing new development of noise-sensitive uses exposed to transportation noise sources.

These standards are also to be used for evaluating new proposed transportation noise sources and the impacts from the noise sources upon nearby noise-sensitive uses.

Where a noise-sensitive land use is proposed near an existing or future transportation noise source, such as a highway, arterial, airport, or railway line, noise measurements will be performed to determine whether existing and/or future noise levels due to that source will exceed the standards of Table IX-1 at the outdoor activity areas of the proposed use. Similarly, where a highway, airport, railroad line or other transportation noise source is proposed near existing or future noise-sensitive uses, a noise analysis will be prepared to ensure that the noise produced by that source will not exceed the standards of Table IX-1 at the outdoor activity areas of noise-sensitive uses. *(Policies 1, 2, 3 and 4)*

2. Development Review Process

(Ongoing)

Continue the City's existing development review process in accordance with the requirements contained in such documents as the Noise Ordinance, Zoning Ordinance, Uniform Building Code (including Chapter 35), State Noise Insulation Standards (Title 24), Community Design Guidelines, the specific plans and their design guidelines, the California Environmental Quality Act, and other statutes.

Acoustical analysis, where required, shall be included in the environmental review for projects. Such analysis shall include identification of noise impacts and potential mitigation measures. Where feasible, mitigation should focus on site planning and project design solutions rather than

the creation of noise barriers. All analyses shall include an assessment of potential construction noise impacts.

Develop and employ procedures to ensure that the adopted noise mitigation measures identified pursuant to acoustical analyses are implemented in the project and building permit processes. Develop and employ procedures to monitor compliance with the standards of the Noise Element after completion of projects where noise mitigation measures have been required. *(Policies 1 through 10)*

3. Noise Level Contour Maps

(Ongoing)

To generally evaluate the potential for noise conflicts associated with new development and projects, refer to the official Roseville Noise Level Contour Maps maintained by the Planning [Department](#)[Division](#). Noise level contours have been prepared for existing and future fixed noise sources and for existing and future transportation-related noise sources within the City of Roseville. Reduced versions of these maps have been included as Figures IX-1 through IX-4 of this element.

The contour maps show generalized locations of the noise contours associated with the various noise sources. The contour maps can be used as a tool for evaluating the potential for a proposed noise-sensitive land use to be exposed to noise levels that may exceed the City of Roseville Noise Element standards. Because local topography, vegetation, or intervening structures may significantly affect noise exposures at a particular location, the noise contours should be considered generalized and not site-specific. *(Policies 1, 2, 3, 6 and 7)*

4. Noise Ordinance

(Ongoing)

Continue to implement the City's Noise Ordinance to ensure compliance with the goals, policies, and standards contained in this element. *(Policies 1, 2, 3, 6, 7 and 10)*

5. California Vehicle Code

(Existing)

Continue to enforce the California Vehicle Code sections relating to adequate mufflers and modified exhaust systems. *(Policies 1, 2 and 10)*

6. Requirements for an Acoustical Analysis

(Proposed)

Require that all acoustical analyses utilize a consistent format and be prepared in accordance with Table IX-2. *(Policies 4 and 8)*

7. Interagency Cooperation

(Ongoing)

Work in cooperation with Caltrans and the Union Pacific Railroad to explore mitigation solutions for noise impacts resulting from existing and proposed highway and railroad facilities. Efforts should focus not only on impacts to new development projects, but also on pursuing solutions to reduce impacts on existing development exposed to "unacceptable" noise levels. *(Policy 5)*

8. Noise Level Performance Standards

(Proposed Ongoing)

The City shall use the Noise Level Performance Standards contained in Table IX-3 for reviewing new development of noise-sensitive uses exposed to fixed noise sources. These standards are also to be used for evaluating potential impacts of proposed new fixed noise sources upon nearby noise-sensitive uses.

Where a noise-sensitive land use is proposed near a fixed noise source, such as an industrial facility, noise measurements will be performed to determine whether existing and/or future noise levels due to that source will exceed the standards of Table IX-3 within the property line of the proposed use. Similarly, where a fixed noise-producing use such as an industrial facility is proposed near an existing or future noise-sensitive use, a noise analysis will be prepared to ensure that the noise produced by that use will not exceed the standards of Table IX-3 within the property line of the noise-sensitive use. *(Policies 6, 7 and 8)*

TABLE IX-1
MAXIMUM ALLOWABLE NOISE EXPOSURE
TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas ¹	Interior Spaces	
	L _{dn} /CNEL, dB	L _{dn} /CNEL, dB	L _{eq} , dB ²
Residential	60 ³	45	--
Transient Lodging	60 ³	45	--
Hospitals, Nursing Homes	60 ³	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60 ³	--	40
Office Buildings	65	--	45
Schools, Libraries, Museums	--	--	45
Playground, Neighborhood Parks	70	--	--

¹ Outdoor activity areas for residential developments are considered to be the back yard 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.

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 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 75 dB 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.

Note: 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 Planning Department/Division. Commercial and industrial uses have not been listed because such uses are not considered to be particularly sensitive to noise exposure.

TABLE IX-2
REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS

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 L_{dn} or CNEL and/or the standards of Table IX-3 and compare those levels to the adopted policies of the Noise Element. Noise prediction methodology must be consistent with the methods identified in the document entitled Existing Noise Environment (See Appendix).
- E. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
- F. Estimate noise exposure after the prescribed mitigation measures have been implemented.
- G. Describe a post-project assessment program that could be used to monitor the effectiveness of the proposed mitigation measures.

TABLE IX-3

**PERFORMANCE STANDARDS
FOR NON-TRANSPORTATION NOISE SOURCES
OR PROJECTS AFFECTED BY NON-TRANSPORTATION NOISE SOURCES
(As Measured at the Property Line of Noise-Sensitive Uses)**

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	50	45
Maximum level, dB	70	65

¹ For municipal power plants consisting primarily of broadband, steady state noise sources, the hourly (Leq) noise standard may be increased up to 10 dB(A), but not exceed 55 dB(A) Hourly Leq dB.

Each of the noise levels specified above should be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Such noises are generally considered by residents to be particularly annoying and are a primary source of noise complaints. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

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

