



XIII - NOISE ELEMENT



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VISION STATEMENT

The City will strive to create a community free of noise disturbances. All City residents and visitors will be able to enjoy indoor and outdoor spaces without the intrusion of harmful levels of noise. Noise mitigation efforts that emphasize site and project design will encourage attractive and natural spaces across all land uses.

INTRODUCTION

Noise is any unwanted sound that interferes with an individual's ability to perform a task or enjoy an activity. While there are sounds that are considered desirable, this element is intended to address unwanted sounds for the health, safety, and welfare of the community. Removing or reducing the impact of significant sources of noise will improve quality of life for Rancho Cordova's residents, employees, and visitors. The City will remove major sources of noise when possible and mitigate the impacts of all other noise-producing activities.

PURPOSE

The goal of this Noise Element is to identify the major sources of noise within the City and discuss the City's role in ensuring comfortable and safe noise levels throughout the community. The goals, policies, and actions provided will, when implemented, improve the noise environment in the Planning Area.





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RELATED PLANS AND PROGRAMS

The Noise Element relates to several other plans and programs, including the following:

- **Mather Field Comprehensive Land Use Plan (CLUP/ALUP).** The Mather Field CLUP/ALUP includes regional policies to ensure land use compatibility with respect to aircraft noise. For all development occurring near the Mather Airport, the Plan requires affected cities and counties to evaluate the impact of aircraft noise on proposed development and to consider requiring noise reduction measures, aviation noise easements, and buyer or renter notification.
- **Regional Metropolitan Transportation Plan (MTP).** The MTP incorporates land use planning to transportation improvements throughout the six-county region. Traffic modeling estimates traffic volumes and data used in acoustical analysis of transportation noise.
- **Planning and Operational Activities of Sacramento Regional Transit.** RT provides details about planned transit facilities and operations used in acoustical analysis of transportation noise. Regional Transit's light rail operations represent a significant noise source that the City will seek to minimize and will be considered in land planning decisions.
- **California Noise Control Act and Guidelines.** The legislature enacted the Noise Control Act to address unwanted and hazardous noise as a public health and welfare issue through noise control, prevention, and abatement. The State Office of Noise Control in the Department of Health Services established criteria and guidelines for use in setting standards for human exposure to noise. This Element is consistent with those provisions.
- **California Department of Transportation (Cal Trans) Standards.** Cal Trans standards establish construction specifications associated with Cal Trans facilities and rights-of-way related to transportation noise.
- **Rancho Cordova Design Guidelines.** The Design Guidelines identify Citywide standards to promote high-quality, pedestrian-oriented development. The guidelines also address compatibility of uses and design of noise attenuation features.

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RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Noise Element relates to several other elements in the General Plan, including the Land Use Element, Urban Design Element, Circulation Element, and Safety Element. The Land Use and Urban Design Elements establish land use patterns and development/design policies to ensure land use compatibilities including potential noise issues. The Circulation Element identifies the City's roadway network that is used in projecting transportation noise sources. Finally, the Safety Element includes information about airport safety and planning documents, including noise impact. Where the overlap can be identified, cross references are provided to alert the reader to specific sections of other elements.

ISSUES AND CONSIDERATIONS

NOISE SETTING

Noise is generally defined as unwanted sound. Sound levels are measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing. Forty decibels would correspond with the sound of soft music, 80 decibels would correspond to freeway traffic noise at 50 feet, and 110 decibels would correspond to a commercial jet takeoff at 200 feet away. Continued exposure to sound levels over 85 dB may cause hearing loss.

The City's existing noise ordinance, which is based on the County noise ordinance, establishes maximum allowable exterior and interior noise levels for affected land uses. The ordinance generally limits exterior noise levels (measured at residential land and agricultural land uses) to a maximum of 55 dBA during any cumulative 30-minute period during the daytime hours (7:00 a.m.–10:00 p.m.), and 50 dBA during any cumulative 30-minute period during the nighttime hours (10:00 p.m.–7:00 a.m.). The ordinance sets somewhat higher noise limits for noise of shorter duration; however, noise shall not exceed 75 dBA during the day and 70 dBA at night. Activities generally considered to be exempt from the noise standards include construction activities (provided that they occur between the daytime hours of 7:00 a.m.– 6:00 p.m., Monday through Saturday, and 9:00 a.m.–6:00 p.m. on Sunday), school athletic and entertainment events, activities conducted on public parks and playgrounds, and transportation noise.

There are generally two types of noise sources: transportation and stationary. Transportation noise is produced primarily by traffic on public roadways, railroad line operations, and aircraft in flight. Control of noise from transportation-related sources is regulated at the federal and state levels. Stationary noise encompasses a wide range of fixed



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sources of noise, including industrial operations, power-generating stations, outdoor recreation facilities, quarries, construction sites, and restaurant drive-through speaker boxes.

The major noise sources in the Planning Area consist of transportation noise associated with traffic on highways and major roadways, light rail, and airport noise and stationary noise including commercial and industrial uses, active recreation of parks, outdoor play areas of schools. Each of these noise sources is discussed individually below. Refer to Draft Environmental Impact Report Section 4.7 (Existing and Future Noise Conditions) for both transportation and non-transportation noise sources existing and projected at build out of the General Plan. Mitigation Measures have been incorporated into the General Plan.



Roadway Traffic

Major roadways within the City of Rancho Cordova include State Routes 50 and 16, Sunrise Boulevard, Folsom Boulevard, White Rock Road, Zinfandel Drive, Bradshaw Road, and others. The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict existing and cumulative traffic noise levels for major roadways in the Planning Area. The General Plan EIR includes tables showing the roadways, traffic volume, and distance from the centerline of each roadway to three specified noise levels (70, 65, and 60 dB).

Railroads

The City is served by Regional Transit Light Rail along the Folsom Boulevard/ Highway 50 corridor. Based on survey information and Sacramento Regional Transit (RT) data, approximately 137 train pass-bys occur per day along the double tracks west of Hazel Avenue and approximately 59 train pass-bys occur per day along the single tracks east of Hazel Avenue. The Sound Exposure Level (SEL) of individual trains at a distance of 100 feet is approximately 90 dB with usage of the warning horn, and approximately 86 dB without the usage of the horn. Trains are generally required to sound warning horns as they approach at-grade crossings located within the City of Rancho Cordova. The General Plan EIR includes a table of average noise levels at a distance of 100 feet from the tracks and 500 feet from the at-grade crossings.

Airport

Mather Airport (formerly Mather Air Force Base) has been open as a public-use air cargo and general aviation airport since May 5, 1995. Managed by the County Department of Airports, the airport, which operates 24 hours per day, consists of two primary runways, one 11,300 feet long and the other 6,100 feet long, generally aligned in a northeast-to-southwest

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direction. Mather Airport is a joint-use facility, supporting both military and commercial operations, and is rapidly developing as an air cargo depot.

Portions of the Planning Area are located within the currently adopted 60- and 65-dBA CNEL noise contours of the Mather Airport Comprehensive Land Use Plan (CLUP). At the time of General Plan preparation, the CLUP is being revised to account for existing and projected changes in aircraft operations that have occurred since development of the CLUP for Mather Airport. As would be expected, single-event noise levels (SEL) for aircraft overflights within the plan area would be greatest and most frequent near the airport's primary flight paths.

General Service Commercial and Light Industrial Uses

Noise sources associated with service commercial uses such as automotive repair facilities, wrecking yards, tire installation centers, car washes, loading docks, etc., are found at various locations within the City of Rancho Cordova. The noise emissions of these types of uses are dependent on many factors, and are therefore, difficult to quantify precisely. Nonetheless, noise generated by these uses contribute to the ambient noise environment in the immediate vicinity of these uses, and should be considered where either new noise-sensitive uses are proposed nearby or where similar uses are proposed in existing residential areas.

Parks and School Playing Fields

There are several park and school uses throughout the Planning Area. Noise generated by these uses depends on the age and number of people utilizing the respective facility at a given time, and the types of activities they are engaged in. School playing field activities tend to generate more noise than those of neighborhood parks, as the intensity of school playground usage tends to be higher. At a distance of 100 feet from an elementary school playground being used by 100 students, average and maximum noise levels of 60 and 75 dB, respectively, can be expected. At organized events such as high school football games with large crowds and public address systems, the noise generation is often significantly higher. As with service commercial uses, the noise generation of parks and school playing fields is variable.





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Aerojet General

Aerojet, a GenCorp Inc. company, is a major space and defense contractor specializing in missile and space propulsion, and defense and armaments. It is located south of Highway 50 between Hazel Avenue and Prairie City Road. Although much of the manufacturing/production which takes place at Aerojet occurs within insulated buildings, there are several noise producing activities/types of equipment which occur or are used in outdoor areas of the facility (e.g., compressors, cooling towers, fluid pumps, alarms, rocket testing, PA system, and construction/demolition and operation of a wastewater treatment facility). Because of the wide range of noise generation associated with these sources and activities, proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

Cordova Shooting Center

The Cordova Shooting Center is located on Douglas Road west of Sunrise Boulevard. The facility is used for small arms, rifle and shotgun firing and is open seven days a week with hours beginning as early as 9:00 am and ending as late as 7:00 pm. Firearms used at this facility and similar shooting ranges generate maximum noise levels ranging from approximately 95 dB to 115 dB at a distance of 50 feet. Due to the impulsive nature of the noise generated at this facility, and the fact that impulsive noises have been found to be more annoying than steady state noises, proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

Aggregate Facilities

There are various aggregate mining and processing facilities within the Planning Area. Operations at aggregate facilities typically consist of the excavation of aggregate material using front-loaders and or self elevating scrapers, the transfer of that material via truck or conveyor to the processing plant, where it is crushed and screened into various sized products, and the load out of the material via heavy trucks. The noise generation of such facilities varies by size, type of equipment, and hours of operation, but processing plant equipment normally ranges from 80 to 90 dB Leq at a distance of 100 feet from the processing plant equipment. Because of the early startup hours normally associated with these types of uses, and the high noise generation of the mining and processing equipment, proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

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Sacramento Rendering Company

The Sacramento Rendering Company is located along Kiefer Boulevard, west of Douglas Boulevard. Activities at this facility consist of the recycling of byproducts from the meat and poultry industries. The facility normally operates six days a week, 24-hours per day. Most of the noise-generating processes are located within the facility, and the principal noise source is heavy truck traffic associated with approximately 90 deliveries per day. When the noise levels were measured in 2001/2002 as part of the Sunrise Douglas Community Plan/Sunridge Specific Plan EIR, the plant entrance on Kiefer Road had a noise measurement of 50 dBA.

Kiefer Landfill

Sacramento County operates the Kiefer Landfill at 12701 Kiefer Blvd. Noise sources associated with this facility consist primarily of trucks arriving and departing the site, and heavy earthmoving equipment used in day-to-day landfill operations. Typical hours of operation at this facility are from 7:00 am to 5:00 pm. The landfill is surrounded by undeveloped rolling terrain. Significant noise sources at this location include bulldozers, backup warning devices, garbage trucks, and private and commercial traffic using the landfill. Noise measurements conducted at the landfill in 1989 yielded an average noise level of 71 dBA at a distance of 100 feet from the main dump activity area. Due to historic conflicts which arise from the development of noise-sensitive land uses in the vicinities of landfills, proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

Noise Associated with Construction Activities

During construction and demolition associated with projects within the Plan Area, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in construction would generate maximum noise levels typically ranging from 85 to 90 dB at a distance of 50 feet. Impulsive construction activities such as pile driving would generate even higher noise levels. Although construction activities can vary in duration, they are nonetheless temporary in nature and typically occur during normal daytime working hours.



Sacramento Raceway

The Sacramento Raceway is located on Excelsior Road north of Jackson Highway. The Raceway facilities include a quarter mile drag strip, and a midget car and motocross dirt oval



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track. Racing typically takes place on Wednesday and Friday nights with occasional large events on weekends. According to the Sacramento County General Plan Noise Element, a focused EIR was prepared for the Sacramento Raceway in 1981. The conclusions of that EIR state that the cumulative noise impacts of the raceway operations are significant. Bollard & Brennan Associates conducted noise measurements at the Sacramento raceway during the Governor's Cup races on September 22-23, 1989. Maximum noise levels of 130 dBA were measured at a distance of 100 feet from the dragstrip during Top Fuel Funny Car races. Maximum noise levels measured during Pro- Gas, Door-Slammer and Alcohol Dragster races registered between 100 and 120 dBA at the same location.

ISSUES THIS ELEMENT ATTEMPTS TO SOLVE

The Noise Element establishes a framework for how the City will address noise concerns in the Planning Area, with a specific emphasis on issues raised by the public, including those listed below:

- Reducing noise from vehicle traffic, especially in residential areas.
- Mitigating aircraft noise from Mather Field.
- Controlling noise from industrial uses and aggregate operations.
- Maintaining livability within dense neighborhoods.

GOALS, POLICIES, AND ACTIONS

The goals of this element are as follows and are listed subsequently with corresponding policies and actions.

- **Goal N.1: Ensure that all new development will be free of noise disturbances.**
- **Goal N.2: Mitigate Existing Noise Disturbances.**

GOAL N.1 - ENSURE THAT ALL NEW DEVELOPMENT WILL BE FREE OF NOISE DISTURBANCES.

Policy N.1.1 - Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.

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- **Action N.1.1.1** - Adopt a Noise Ordinance with noise level performance standards, including maximum allowable noise exposure, ambient versus nuisance noise, method of measuring noise, and enforcement procedures.

Policy N.1.2 - Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.

- **Action N.1.2.1** - Require new development of noise-creating uses to conform with the City's maximum noise levels.
- **Action N.1.2.2** - Require an acoustical analysis as part of the environmental review process when noise-sensitive land uses are proposed in areas where current or projected exterior noise levels exceed the City's standards.
- **Action N.1.2.3** - Require any potential noise impacts identified during the acoustical analysis to be mitigated in the project design to the maximum extent feasible.

Policy N.1.3 - Ensure that proposed non-residential land uses likely to exceed the City's standards do not create noise disturbances in existing noise-sensitive areas.

- **Action N.1.3.1** - Require an acoustical analysis as part of the environmental review process when proposed non-residential land uses are likely to produce noise levels that exceed the City's noise standards. The acoustical analysis must be prepared by a qualified person experienced in environmental noise assessment and architectural acoustics, and must estimate existing and projected cumulative noise levels and compare those levels to the policies within this Element.
- **Action N.1.3.2** - Require any noise impacts identified in the acoustical analysis to be mitigated in conjunction with the project design.

Policy N.1.4 - Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.

- **Action N.1.4.1** - Limit construction activity to the hours of 7:00 a.m. to 7:00 p.m. weekdays and 8:00 a.m. to 6:00 p.m. weekends when construction is conducted in proximity to residential uses.

Cross reference:
NR.8.3



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- **Action N.1.4.2** - Consider restricting the hours of operation of loading docks, trash compactors, and other noise-producing uses in commercial areas that are adjacent to residential uses.

- **Action N.1.4.3** - Require stationary construction equipment and construction staging areas to be set back from existing noise-sensitive land uses.

Policy N.1.5 - Mitigate noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) to the maximum extent feasible to comply with the City's standards.

Policy N.1.6 – Ensure that comfortable noise levels and adequate privacy are maintained in higher density development.

- **Action N.1.6.1** – Develop guidelines, strategies, and standards specifically related to maintaining acceptable noise levels in higher density development. Consider design and construction standards that minimize noise conflicts between residents with shared walls or floors/ceilings.

Policy N.1.7 - To the extent feasible and appropriate, the City shall require the use of temporary construction noise control measures for public and private project that may include the use of temporary noise barriers, temporary relocation of noise-sensitive land uses or other appropriate measures.

Policy N.1.8 - New residential development shall only be allowed inside of the 60 CNEL Mather Airport Policy Area if the following conditions are met:

- Noise insulation is provided in all new residential dwelling units that reduces interior noise levels to 45 dB with windows closed in any habitable room.
- Prospective buyers are notified through the Public Report prepared by the California Department of Real Estate disclosing the fact that the parcel is located within the Mather Airport Policy Area.
- An Aviation Easement is recorded on the property acknowledging that the property is located within the Mather Airport Policy Area. The easement shall grant the right of flight and unobstructed passage of all aircraft into and out of Mather Airport. The Aviation Easement shall be granted to the County of Sacramento, recorded

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with the Sacramento County Recorder and filed with the County Department of Airports.

GOAL N.2 - REDUCE NOISE DISTURBANCES IN EXISTING DEVELOPMENT AND ENSURE THAT ALL MITIGATION METHODS POSITIVELY CONTRIBUTE TO THE CITY'S LIVABILITY.

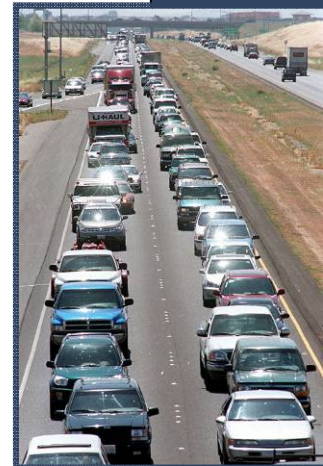
Policy N.2.1 - Strategically locate grade separations on existing or future light rail lines so that they will not result in adverse noise impacts to adjacent residential areas.



- **Action N.2.1.1** - Encourage placement of light rail lines below the grade of the roadway in order to reduce noise impacts.

Policy N.2.2 - Ensure that operational noise levels of new roadway projects will not result in significant noise impacts.

- **Action N.2.2.1** - Assess the significance of the noise increase of all roadway improvement projects in existing areas according the following criteria:
 - Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
 - Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
 - Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant.



Policy N.2.3 - Emphasize mitigation methods other than soundwall installation to reduce noise to acceptable levels in residential areas originally constructed without soundwalls.

- **Action N.2.3.1** - Adopt a Citywide noise reduction program to reduce traffic noise and other noise levels.



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Types of Uses

The types of uses which may typically produce the noise sources addressed below include, but are not limited to, industrial facilities including pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.

Stationary Noise Performance Standards

These noise level performance standards apply to new projects that are affected by or include non-transportation noise sources, with the exception of residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Typical noise sources are considered to be infrequently interrupted sources of noise, such as HVAC systems, cooling towers, fans, and blowers. Some examples of noise sources that are tonal, impulsive, repetitive, or consist mostly of speech or music include pile drivers, drive-through speaker boxes, outdoor speaker systems, punch presses, steam valves, and transformer stations.

TABLE N-1
CITY NOISE STANDARDS
NOISE LEVEL PERFORMANCE STANDARDS FOR NEW
PROJECTS AFFECTED BY OR INCLUDING NON-
TRANSPORTATION NOISE SOURCES

Stationary Noise Source	Noise Level Descriptor	Daytime Maximum (7 a.m. to 10 p.m.)	Nighttime Maximum (10 p.m. to 7 a.m.)
Typical	Hourly L_{eq} , dB	55	45
Tonal, impulsive, repetitive, or consist primarily of speech or music	Hourly L_{eq} , dB	50	40

The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels.

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TABLE N-2
MAXIMUM TRANSPORTATION NOISE EXPOSURE

Land Use	Outdoor Activity Areas ¹ Ldn/CNE L, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB ²
Residential	60 ³	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (e.g., the passing of a single train)	60 ³	40 ⁵	--
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. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
- 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 Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/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.
- 5 The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

