

8. NOISE ELEMENT

BACKGROUND AND CONTEXT

The City of Palm Springs is exposed to many sources of noise that, in excessive levels, can affect physical and psychological wellbeing, property values, and economic productivity. As a result, minimizing the exposure of Palm Springs residents to excessive noise is essential to maintaining a quiet, safe, and productive environment and a high quality of life.

The purpose of this noise element is to outline a set of noise control policies, programs, and implementation measures that provide guidance for solving noise-related issues and problems. By identifying noise sources within the City and its sphere of influence, future noise impacts associated with the continued growth of a thriving city such as Palm Springs can be minimized and avoided.

DEFINITIONS

The following is a list of commonly used terms and abbreviations that may be found within this Element or when discussing the topic of noise. Figure 8-1, *Sources of Sound*, illustrates the level of noise generated by common everyday occurrences.

- ◆ **Ambient Noise.** The composite of noise from all sources. In this context, the ambient noise level constitutes the normal or existing level of environmental (background) noise at a given location.
- ◆ **Community Noise Equivalent Level (CNEL).** The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. CNEL and L_{dn} are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

- ◆ *dB (Decibel)*. The unit of measure for loudness based on a logarithmic scale.
- ◆ *dBA (A-weighted decibel)*. The A-weighted decibel scale discriminates against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale ranges from zero for the average least perceptible sound to about 130 for the average pain level.
- ◆ *Intrusive Noise*. Noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content.
- ◆ *Noise Contours*. Areas around a noise source with equal levels of noise exposure. Noise contours are drawn similar to a topographical map.
- ◆ *Vibration*. Another community annoyance related to noise is vibration. As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized by displacement, velocity, and/or acceleration. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration.

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Vibration can be felt outdoors, but the perceived intensity of vibration impacts is much greater indoors, due to structural shaking. Some of the most common sources of vibration come from trains, transit vehicles, construction equipment, airplanes, and trucks. Several land uses are especially sensitive to vibration, and therefore have a lower vibration threshold. These uses include, but are not limited to, concert halls, hospitals, libraries, vibration-sensitive research or manufacturing operations, residential areas, schools, and offices.

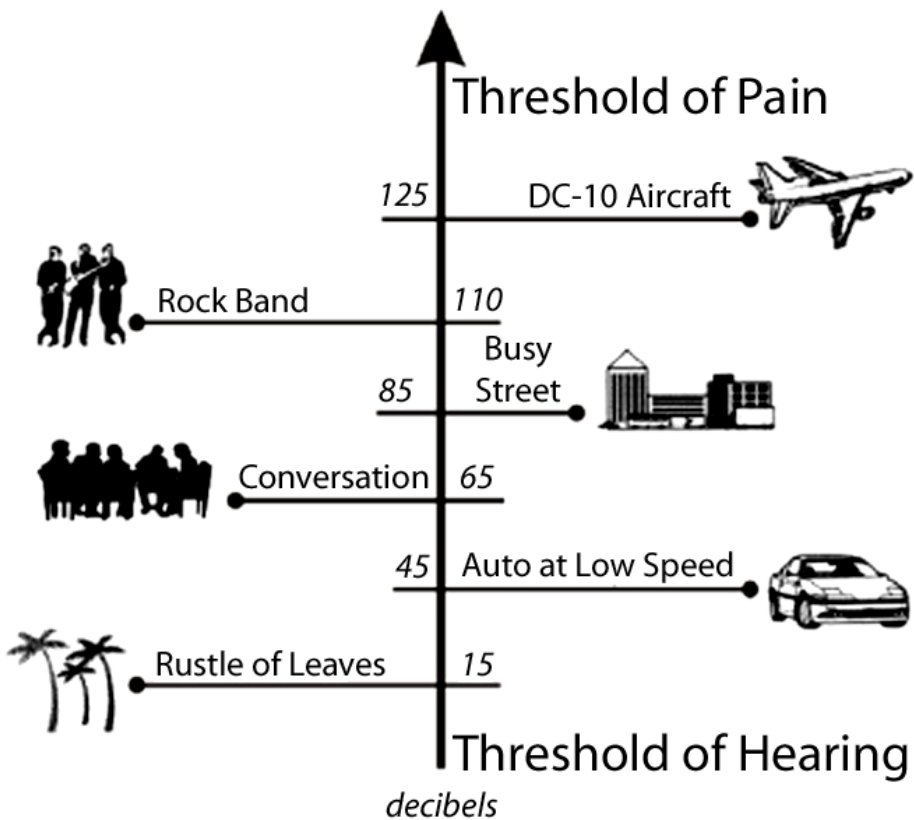


Figure 8-1 Sources of Sound

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RELATIONSHIP TO OTHER PLANS AND PROGRAMS

The Noise Element is a tool used to achieve and maintain environmental noise levels that are compatible with land use. The Noise Element identifies noise-sensitive land uses and noise sources, and defines areas of noise impact. The Element establishes goals, policies, and programs to ensure that residents of Palm Springs will be protected from the impacts that can be created by excessive noise.

RELATED REGULATORY DOCUMENTS

The intent of the Noise Element is to set goals to limit and reduce the effects of noise intrusion on sensitive land uses and to set acceptable noise levels for varying types of land uses. To this end, the City has the authority to set land use noise standards and place restrictions on private activities that generate excessive or intrusive noise. However, it should be recognized that the City does not have the authority to regulate all sources of noise generated within the City, and that various other agencies, such as the Federal Highway Administration, the U.S. Department of Housing and Urban Development, and the California Department of Health Services, may supersede City authority as discussed below.

City of Palm Springs Noise Ordinance

The City of Palm Springs has the authority to set land use noise standards and place restrictions on private activities that generate excessive or intrusive noise. The applicable standards for these activities are specified in the Palm Springs Municipal Code. The Municipal Code limits sound levels for stationary sources of noise radiated for extended periods from any premises in excess of 60 decibels at the property line. Sound created by construction or building repair of any premises within the City is exempt from the applications of the Municipal Code during the hours of 7:00 a.m. to 7:00 p.m., Monday–Friday, and 8:00 a.m.–5:00 p.m., Saturday (on Sundays and holidays construction is prohibited).

Federal Highway Administration

The freeways and state routes that run through the City (I-10 and Highway 111) are subject to federal funding and so are under the purview of the Federal Highway Administration (FHWA). The FHWA has developed noise standards that are typically used for federally funded roadway projects or projects that require either federal or Caltrans review. These noise standards are based on L_{eq} and L_{10} values and are included in Table 8-1, *FHWA Design Noise Levels*.

Table 8-1
FHWA Design Noise Abatement Criteria

Activity Category	Description of Activity Category	Design Noise Levels ¹	
		L _{eq} (dBA)	L ₁₀ (dBA)
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Examples include natural parks or wildlife habitat.	57 (exterior)	60 (exterior)
B	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (exterior)	70 (exterior)
C	Developed lands, properties, or activities not included in Categories A or B, above.	72 (exterior)	75 (exterior)
D	Undeveloped lands.	—	—
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.	52 (interior)	55 (interior)

¹ Either L_{eq} or L₁₀ (but not both) design noise levels may be used on a project.

L₁₀. The A-weighted sound level that is exceeded 10 percent of the sample time; alternatively, the A-weighted sound level that is exceeded 6 minutes in a 60-minute period (similarly, L₂₅, L₅₀, etc.). These values are typically used to demonstrate compliance with noise restrictions included in the City noise ordinance.

L_{eq} (Equivalent Energy Level). The average acoustic energy content of noise during the time it lasts. The L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure, no matter what time of day they occur.

L_{dn} (Day-Night Average Level). The average equivalent A-weighted sound level during a 24-hour period, obtained after the addition of 10 dB to sound levels from 10:00 p.m. to 7:00 a.m. Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual or daily basis, while L_{eq} represents the equivalent energy noise exposure for a shorter time period, typically one hour. CNEL and L_{dn} are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

U.S. Department of Housing and Urban Development

The Department of Housing and Urban Development (HUD) issues formal requirements related specifically to standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established three zones:

- ◆ 65 dBA L_{dn} or less. An acceptable zone where all projects could be approved.
- ◆ Exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn}. A normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA L_{dn} area and 10 dBA of attenuation in a 70 to 75 dBA L_{dn} area.
- ◆ Exceeding 75 dBA L_{dn}. An unacceptable zone in which projects would not, as a rule, be approved.

Federal Railroad Administration

The Environmental Protection Agency (EPA) is charged with the regulation of railroad noise under the Noise Control Act. The Federal Railroad Administration (FRA) is responsible for enforcement of EPA regulations related to railroad noise developed as part of the Noise Control Act. Table

8-2, *Summary of EPA/FRA Railroad Noise Standards*, summarizes the EPA railroad noise standards that set operating noise standards for railroad equipment and set noise limit standards for new equipment. FRA’s Office of Safety is responsible for enforcing the Railroad Noise Emissions Compliance Regulation that set maximum sound levels from railroad equipment and for regulating locomotive horns. The Union Pacific rail corridor that follows I-10 in the northern portion of Palm Springs falls under the regulation described above. Although the rail corridor is, for the most part, removed from the urbanized portions of the city, the regulations identified in Table 8-2 will affect any existing or future development that is situated within close proximity to the railroad.

Table 8-2
Summary of EPA/FRA Railroad Noise Standards

Noise Standards	Operating Conditions	Noise Metric ^{1,2}	Measured Distance (feet)	Standard (dBA)
Nonswitcher Locomotives built on or before 12/31/79	Stationary	L _{max} (slow)	100	73
	Idle Stationary	L _{max} (slow)	100	93
	Non-Idle Moving	L _{max} (fast)	100	95
Switcher Locomotives plus Nonswitcher Locomotives built after 12/31/79	Stationary	L _{max} (slow)	100	70
	Idle Stationary	L _{max} (slow)	100	87
	Non-Idle Moving	L _{max} (fast)	100	90
Rail Cars	Speed ≤ 45 mph	L _{max} (fast)	100	88
	Speed ≥ 45 mph	L _{max} (fast)	100	93
	Coupling	Adj. Avg. Max.	50	92

¹ Slow and fast exponential time weighting is used.

² Note that these values are in terms of the L_{max}, and can be considerably greater than the L_{eq} typically used in the measurement of obtrusive noise.

Source: United States Environmental Protection Agency Railroad Noise Emission Standard (40 Code of Federal Regulations Part 201).

California Department of Health Services

The California Department of Health Services (DHS) Office of Noise Control studied the correlation of noise levels and their effects on various land uses. As a result, the DHS established four categories for judging the severity of noise intrusion on specified land uses.

Figure 8-2, *Land Use Compatibility for Community Noise Exposure*, presents the land use compatibility chart for community noise prepared by the California Office of Noise Control and adopted in this Noise Element to demonstrate land-use compatibility.

It defines “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable” exterior noise levels for various

land uses. A “conditionally acceptable” designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise-insulation features are incorporated in the design. By comparison, a “normally acceptable” designation indicates that standard construction can occur with no special noise reduction requirements.

Habitable: a dwelling area that is occupied, or that is intended or designed to be occupied, by one family with facilities for living, sleeping, cooking, and eating. (Source: California Health and Safety Code, Section 19970)

Table 8-3, *State of California Interior and Exterior Noise Standards*, includes the state interior and exterior noise standards for varying land uses. It is important to note that the exterior noise levels are to be attained in *habitable* areas and need not encompass the entirety of a property.

Table 8-3
State of California Interior and Exterior Noise Standards

Categories	Land Use Uses	CNEL (dBA)	
		Interior ¹	Exterior ²
Residential	Single and multiple family, duplex	45 ³	65
	Mobile homes	—	65 ⁴
Commercial	Hotel, motel, transient housing	45	—
	Commercial retail, bank, restaurant	55	—
	Office building, research and development, professional offices	50	—
	Amphitheater, concert hall, auditorium, movie theater	45	—
	Gymnasium (Multipurpose)	50	—
	Sports Club	55	—
	Manufacturing, warehousing, wholesale, utilities	65	—
	Movie Theaters	45	—
Institutional / Public	Hospital, school, classrooms/playgrounds	45	65
	Church, library	45	—
Open Space	Parks	—	65

¹ Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors

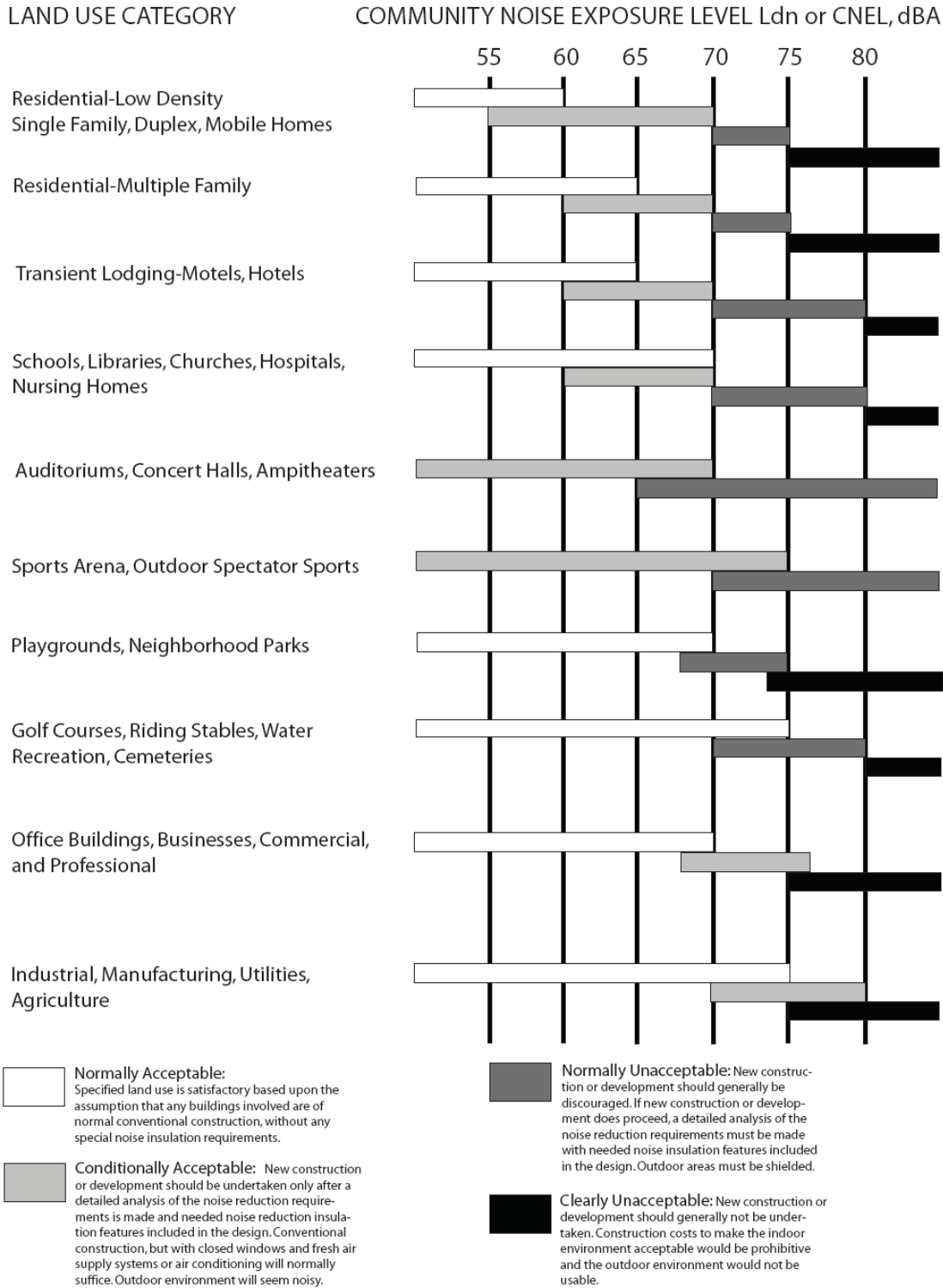
² Outdoor environment limited to:

- Private yard of single-family dwellings
- Multiple-family private patios or balconies accessed from within the dwelling (Balconies 6 feet deep or less are exempt)
- Mobile home parks
- Park picnic areas
- School playgrounds
- Hospital patios

³ Noise-level requirement with closed windows, mechanical ventilation, or other means of natural ventilation shall be provided as per Chapter 12, Section 1205 of the Uniform Building Code.

⁴ Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

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Source: California Office of Noise Control (as adopted from Wiley Labs for the Environmental Protection Agency, 1976).

Figure 8-2 Land Use Compatibility for Community Noise Exposure

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GOALS, POLICIES AND ACTIONS

SETTING

The noise environment for Palm Springs can be described using noise contours developed for the major noise sources within the City. The contour map developed for 20-year forecast conditions (2025), is reproduced in Figure 8-3, *Future Roadway Noise Contours (City-Wide)*. The 60 dB CNEL contour level shown on this map represents the zone in which any proposed noise sensitive land use should be evaluated on a project specific basis and may require mitigation to meet City or state (*Title 24*) standards. The 65 CNEL contour represents the level for which any new residential land uses will require mitigation in order to comply with local noise standards. Focus area maps showing these contours are represented in Figure 8-4, *Future Roadway Noise Contours Detail (Northern Area)*, and Figure 8-5, *Future Roadway Noise Contour Detail (Central City)*.

Noise affects all types of land uses and activities, although some land uses are more sensitive to high noise levels than others. Residential land uses, hospitals, rest homes and convalescent hospitals, churches, schools, and other areas identified as noise sensitive must be protected from excessive noise. In Palm Springs, the transitions to residential land uses from commercial, airport, industrial and entertainment uses Downtown are particularly important in maintaining the City's quality of life.

This element contains a brief discussion of noise-related issues in Palm Springs and detailed policy guidance for issues and problems related to noise in the City of Palm Springs. The first issue, Land Use Planning and Design, involves the relationship between noise sources and the placement and design of various land uses. The second issue, Transportation-Related Noise Sources, considers the impacts of motor vehicle, truck, aircraft, and rail activity within the City. Lastly, the third issue, Non-Transportation-Related Noise Sources, considers the impacts of commercial, industrial, manufacturing, community, and residential activities. The policies and actions provided for each issue will ensure the high quality of life afforded by a community protected from excessive levels of noise.

California Code of Regulations (CCR) Title 24, also known as the California Building Standards Code, provides minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures through a program of permitting, plan review, inspection, and enforcement.

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Figure 8-3 Future Roadway Noise Contours

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Figure 8-4 Future Roadway Noise Contours Detail (Northern Area)

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Figure 8-5 Future Roadway Noise Contours Detail (Central City)

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LAND USE PLANNING AND DESIGN

Land use compatibility with noise is an important consideration in the planning and design process. Compatibility is achieved by establishing standards and criteria that specify acceptable limits of noise for various land uses throughout the City. See Figure 8-2, *Land Use Compatibility for Community Noise Exposure*, and Table 8-3, *State of California Interior and Exterior Noise Standards*, for City policies related to land uses and acceptable noise levels.

To identify potential mitigation that addresses noise abatement strategies, noise evaluations should be conducted when proposed projects place sensitive land uses and major noise generators within close proximity. The City's Planning Department currently uses the project review process to identify potential noise issues and works with developers and landowners to apply site planning and other design strategies to reduce noise impacts. A developer, for example, could take advantage of the natural shape and contours of a site to arrange buildings and other uses in a manner that would reduce and possibly eliminate noise impacts. Examples of other site and architectural techniques could include:

- ◆ Increasing the distance between noise source and receiver.
- ◆ Placing non-noise-sensitive land uses such as parking lots, maintenance facilities, and utility areas between the noise source and receiver, while maintaining aesthetic considerations.
- ◆ Using non-noise-sensitive structures such as garages to shield noise-sensitive areas.
- ◆ Orienting buildings to shield outdoor spaces from a noise source.
- ◆ Locating bedrooms in residential developments on the side of the house facing away from major roads.

GOAL NS1

Protect residential areas and other sensitive land uses from impacts generated by exposure to excessive noise.

Policies

- NS1.1 Continue to enforce acceptable noise standards consistent with health and quality of life goals established by the City and employ noise abatement measures, including the noise ordinance, applicable building codes, and subdivision and zoning regulations.
- NS1.2 Encourage the application of site planning and architectural design techniques that reduce noise impacts on proposed and existing projects.

- NS1.3 Utilize maximum anticipated, or “worst case,” noise conditions as the basis for land use decisions and design controls as a means of preventing future incompatibilities.
- NS1.4 Evaluate the compatibility of proposed land uses with the existing noise environment when preparing, revising, or reviewing development proposals.
- NS1.5 Protect noise-sensitive land uses such as schools, hospitals, and convalescent homes from unacceptable noise levels from both existing and future noise sources.
- NS1.6 Require mitigation where sensitive uses are to be placed along transportation routes to ensure compliance with state noise standards.
- NS1.7 Allow new developments in areas exposed to noise levels greater than 60 dB CNEL only if appropriate mitigation measures are included such that applicable noise standards are met.
- NS1.8 Include measures within project design that will assure that adequate interior noise levels are attained as required by the California Building Standards Code (Title 24), California Noise Insulation Standards (*Title 25*) and pertinent sections of the California Building Code and the City’s Municipal Code.
- NS1.9 Develop joint agreements with adjacent jurisdictions to apply standardized zoning and soundproofing requirements to reduce noise incompatibilities across jurisdictional boundaries.
- NS1.10 Minimize noise spillover from commercial uses into adjacent residential neighborhoods.
- NS1.11 Encourage public agencies and institutions located in the City to incorporate appropriate measures to contain noise generated by their activities on-site.

Title 25 of the California Code of Regulations sets forth requirements for the insulation of dwelling units from excessive and potentially harmful noise.

Actions

- NS1.1 Evaluate the City Noise Ordinance to ensure that regulations address contemporary issues.
- NS1.2 Incorporate into the Zoning Ordinance and Municipal Code standards and requirements that:
 - Protect residential units from impacts of exterior noise;
 - Prevent the transference of interior noise to the outside;

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- Prevent transference of noise between residential units and individual businesses in multitenant buildings; and
- Prevent transference of noise between commercial and residential uses in mixed-use structures.

These should meet the minimum standards defined by the State Office of Noise Control. Standards for insulation, windows, building materials, and design of common walls and floors shall be included.

- NS1.3 Update noise standards and criteria at least every five years to reflect new techniques to control and integrate noise control.
- NS1.4 Establish a periodic monitoring program to measure changes in ambient noise levels. Should projected noise contours be modified, appropriate land use and design controls shall be applied to newly impacted areas.
- NS1.5 Require that noise analyses for future developments be prepared by a qualified acoustical consultant. Studies must indicate how proposed developments are in compliance with the City noise ordinance. Studies will be reviewed by the appropriate decision-making body prior to the issuance of permits.
- NS1.6 Establish design criteria for commercial buildings that prevent the transmission of significant and unacceptable noise between individual tenants and businesses.
- NS1.7 Establish design criteria for multifamily buildings that prevent the transmission of significant and unacceptable noise between individual residential units.
- NS1.8 Establish design criteria for mixed-use structures that prevent the transmission of significant and unacceptable noise between commercial and residential uses.
- NS1.9 Explore the creation of an “entertainment zone” noise overlay in the City’s Municipal Code to address the maximum noise levels permitted in mixed-use areas or the Downtown and to provide direction for the siting of noise-generating uses (bars, restaurants, outdoor dining) to minimize the noise impacts to nearby residential units.

TRANSPORTATION-RELATED NOISE SOURCES

A number of transportation-related noise sources exist within the City of Palm Springs or the City's sphere of influence. These sources are the predominant contributors of noise in the City. Roadways, such as I-10, Highway 111 and Highway 62, the Union Pacific rail corridor, and the Palm Springs International Airport are all sources of noise that should be considered in the placement of land uses throughout the City and in the application of noise standards and sound-attenuation measures.

Freeways and Highways

Freeway noise is not a significant issue for the City of Palm Springs, as very few residences exist in close proximity to the freeways. Scattered residential areas appear to lie just outside the 65 CNEL contour for the freeways but experience noise levels above 60 CNEL.

Interstate 10. While a major source of noise, I-10 impacts relatively few sensitive land uses. The land uses adjacent to this freeway are mostly industrial, comprised mainly of wind energy conservation system (WECS) fields. Areas of concern in reference to noise generated by I-10 are the residential areas northwest of the junction with Highway 62, the residential area of West Garnet, and the residential areas near the intersection with Palm Drive. Some of the proposed land use is decidedly within the 65 CNEL contour for the freeway.

Highway 111. The area of concern in reference to noise generated by Highway 111 is the residential area at Overture Drive. Some of the land use is within the 65 CNEL contour for the highway.

Highway 62. Although not within the City boundary, a stretch of Highway 62 borders a portion of the City's sphere of influence that contains low density residential land uses. Some of the land use is within the 65 CNEL contour for the highway.

Roadways

In addition to the freeway/highway noise, roadways are a significant source of noise impacts upon residential land uses. Many of the City's major roadways have the potential to produce noise levels that exceed the 65 CNEL at sensitive land uses, exceeding the City's noise standard and creating noise conflicts with future land uses if proper noise attenuation techniques are not implemented.

Railways

Railroad operation is also a major source of noise. Southern Pacific has a line that passes through the northern end of the City. The rail line within the City has very little opportunity to adversely impact residential land uses because the land adjacent to the line is predominantly designated as industrial or open space. Although little development has occurred at this time, it is expected that areas adjacent to the railroad will experience an increase in development over the lifetime of the General Plan. Should residential development occur in these areas, noise impacts from the Union Pacific rail line must be mitigated at the time development occurs. Currently, the majority of existing residential areas are situated far from the railroad tracks with the exception of the residential development along Garnet Ave in the northwestern portion of the City's sphere of influence. The major impact of the railroad upon this area is probably the high single-event noise levels for nighttime freight operations that pass through the City. Some residences in this area experience noise levels in excess of 65 CNEL.

Airport

A major source of noise within the City of Palm Springs is aircraft noise generated by the Palm Springs International Airport. Low-flying aircraft from the airport pass over portions of Palm Springs and neighboring Cathedral City. Most of this air traffic is made up of single-engine jet general aviation aircraft. A significant number of commercial jet aircraft, however, make use of the airport, as a great number of people travel to the City for business and recreation purposes. Land uses in the immediate vicinity of the airport are heavily urbanized, with residential uses situated to the north and industrial uses to the south.

The Palm Springs International Airport Master Plan Study (May 2003) and Riverside County Airport Land Use Compatibility Plan (RCALUCP) identify noise contours surrounding the airport (see Figure 8-6, *Airport Noise Contours*). The 65 **CNEL** contours from aircraft operations extend into residential areas northwest of the airport near the intersection of Vista Chino and Sunrise Way. The maximum noise exposure considered acceptable for new residential land

Traffic Calming and Roadway Noise: In addition to reducing average speeds through neighborhoods, traffic-calming measures contribute to reductions in noise impacts from roadways. See the Circulation Element for additional discussion on traffic-calming measures.

Community Noise Equivalent Level (CNEL): The noise metric adopted by the State of California for describing airport noise impacts. The noise impacts are typically depicted by a set of contours, each of which represents areas of land having the same CNEL value.

uses in the environs of the Palm Springs International Airport is set at a limit of 62 dB CNEL. This is a higher threshold than for other airports in Riverside County. The RCALUCP recommends that dwellings incorporate special noise-reduction measures into their design, if necessary, to ensure that interior noise levels do not exceed 45dB CNEL. However, most opportunities for new development are two miles or more distant from the immediate vicinity of the airport. The RCALUCP also contains countywide policies relating to noise contours, noise exposure, and abatement.

Sound Attenuation Techniques

The construction of noise barriers and the practice of site design review are the most effective methods available to alleviate transportation related noise in the City. Noise barriers are most effective when the barrier directly intercepts the “line of sight” between the noise source and the receiver. An elevated noise source is more difficult to mitigate than one that is at or below the level of the noise recipient. In addition, thoughtful site design review can reduce potential conflicts between transportation-related noise sources and adjacent land uses. For example, project design techniques, such as locating driveways and parking areas away from the habitable portions of residential buildings, help alleviate transportation-related noise conflicts.

Figure 8-6 Airport Noise Contours

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GOAL NS2

Minimize, to the greatest extent possible, the impact of transportation related noise on residential areas and other sensitive land uses.

Policies

- NS2.1 Require noise-attenuating project design or sound barriers to reduce the level of traffic-generated noise on residential and other noise-sensitive land uses to acceptable levels.
- NS2.2 Use traffic calming measures to reduce vehicular speeds and noise levels in residential neighborhoods.
- NS2.3 Continue to enforce the noise standards of the State Motor Vehicle Code and other state and federal legislation pertaining to motor vehicle noise.
- NS2.4 Require that new development minimize the noise impacts of trips it generates on residential neighborhoods by locating driveways and parking away from the habitable portions of dwellings to the greatest extent possible.
- NS2.5 Require that development generating increased traffic and subsequent increases in the ambient noise levels adjacent to noise-sensitive land uses provide appropriate mitigation to reduce the impact of noise.
- NS2.6 Employ noise-mitigation practices, such as natural buffers or setbacks between arterial roadways and noise-sensitive areas, when designing future streets and highways, and when improvements occur along existing road segments.
- NS2.7 Maintain roadways so that the paving is in good condition to reduce noise-generating cracks, bumps, and potholes.
- NS2.8 Require sound walls, berms, or landscaping along existing and future freeways and railroad rights-of-way to beautify the landscape and reduce noise.
- NS2.9 Support the efforts of the California Department of Transportation and local transportation agencies in developing noise-mitigation programs.
- NS2.10 Require new equipment and vehicles purchased by the City to comply with noise-performance standards consistent with the best available noise-reduction technology.

Transportation demand management programs: see the Circulation Element for additional information.

- NS2.11 Encourage employers to participate in vanpools and other *transportation demand management programs* to reduce traffic and noise impacts in the City.
- NS2.12 Work with local agencies to provide public transit services that reduce traffic and noise and to ensure that the equipment they use does not generate excessive noise levels.
- NS2.13 Encourage the Union Pacific railroad to minimize the level of noise produced by train movements and whistle noise within the City by reducing the number of nighttime operations, improving vehicle system technology and constructing new or developing improved sound barriers where residences exist next to the track.
- NS2.14 Review and evaluate the City's traffic-flow systems to synchronize signalization to avoid traffic stops, which produce excessive noise.
- NS2.15 Locate land uses that are compatible with higher noise levels adjacent to major roads and railway corridors.
- NS2.16 Restrict truck access in the City to approved truck routes and review hours of access to maximize residential and commercial activities free of truck traffic.
- NS2.17 Restrict early-morning trash pickup to less-sensitive land use areas where possible and rotate early morning pickup areas where restrictions are not possible.
- NS2.18 Require businesses that generate substantial parking overflow into residential areas to participate in the development of municipal or private parking structures.
- NS2.19 Prohibit low-level, nonemergency overflights of helicopters in residential areas of the City to minimize noise impacts to the City's neighborhoods.
- NS2.20 Allow the development of heliports or helipads only when it can be demonstrated that noise impacts on adjacent uses can be adequately mitigated and the helicopter operation has a community-wide benefit.
- NS2.21 Coordinate the routing of helicopter flights with the California Highway Patrol, the Riverside County Sherriff's Office, the U.S. Marine Corps, Desert Hospital, and any other agency providing emergency helicopter service in the Palm Springs airspace to ensure that they do not adversely affect residential areas of the City.

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- NS2.22 Require that helicopters which utilize City airspace maintain noise-alleviating altitudes until landing and utilize noise-abatement procedure, except when these rules must be disregarded for safety and emergency reasons.
- NS2.23 Work with the federal government to incorporate helicopter routes on the “VFR (Visual Flight Rules) Aeronautical Chart” that align with the City’s commercial corridors, such as Palm Canyon and Indian Canyon Drives.
- NS2.24 Maximum compatibility between aircraft operations at Palm Springs International Airport and noise-sensitive land uses within the environs of the airport shall be achieved through compliance with the Noise Compatibility Plan of the *FAR Part 150* Noise Compatibility Study.
- NS2.25 Encourage and facilitate the development of alternative transportation modes that minimize noise within residential areas such as bicycle and pedestrian pathways.

Federal Aviation Regulations Part 150 addresses aircraft noise and land use compatibility issues and estimates existing and future levels of aircraft and noise exposure using methods approved by the Federal Aviation Administration (FAA).

Actions

- NS2.1 Include standards and requirements in the Zoning Ordinance for parking lots and structures to prevent noise impacts on-site and on adjacent noise-sensitive uses. These shall potentially include the use of buffers containing landscape and sound walls, enclosure of the façade of parking structures facing a residence (including hotels), limitation of the hours of operation of surface parking lots, use of sound-absorbing materials, and configuration of parking areas to minimize sound amplification and transmission.
- NS2.2 Explore the creation of standards that minimize the use of paving materials that generate high levels of noise.
- NS2.3 Conduct traffic studies as a part of the development review procedure for projects requiring General Plan Amendments or specific plans to evaluate the impacts of traffic and noise through residential neighborhoods. Require mitigation if ambient noise levels are adversely affected.
- NS2.4 Evaluate the noise impacts of truck deliveries on adjacent residential properties as a part of the development review procedure for all commercial and manufacturing uses. Where significant impacts are identified, require the inclusion of noise-mitigation techniques such as the use of a sound wall or enclosure of delivery areas.

Federal Aviation Regulations Part 91 governs general airport operating and flight rules. The provisions in FAR Part 91 address airport functions such as: equipment, instrument and certificate requirements; airport maintenance; preventative maintenance and alterations; foreign aircraft operations; and operating noise limits.

- NS2.5 Adopt *FAR Part 91* rules as the noise standard for helicopter flights in the City.
- NS2.6 Consult with the California Highway Patrol, the Riverside County Sheriff's Office, the U.S. Marine Corps, Desert Hospital, and any other agency operating helicopters in the City's airspace to discourage familiarization flights between 11 p.m. and 7 a.m.
- NS2.7 Require that proposed helipads demonstrate that they do not result in noise levels of 65 dBA or greater in residential areas of the City, and conduct periodic review for compliance with this standard. Failure to meet this standard should be a basis for revocation of the helipad permit.

NON-TRANSPORTATION-RELATED NOISE SOURCES

Stationary noise sources, such as commercial, industrial, and residential activities, and temporary sources of noise, such as earth-moving equipment or barking dogs, are controlled through the enforcement of the City's Noise Ordinance. The Noise Ordinance is designed to protect residential areas and other sensitive land uses from excessive noise generated from stationary and temporary noise sources by setting maximum levels of measurable ambient noise allowable for various situations and locations. These standards are enforceable by the police.

Stationary Noise Sources

A diversity of land uses occur throughout the City, each with its own potential for emitting excessive levels of noise. Industrial facilities generate noise through various activities using heavy equipment and machinery. Commercial uses, such as restaurants, bars, and entertainment establishments, may emit sound during nighttime operating hours. Residential areas also host stationary noise sources, such as pool and spa equipment or heating, ventilating and air conditioning (HVAC) units. Non-transportation-related noise can also come from the stationary operations of transport, such as railroad yards and truck depots used for loading and unloading. As these noise sources occur on private property, the associated land uses are subject to the local noise ordinance.

Temporary Noise Sources

Temporary sources of noise such as landscape maintenance activities, home stereo systems, and barking dogs are governed by the provisions of the City Noise Ordinance and Municipal Code. Temporary noise sources also include

NOISE ELEMENT

activities that are longer-term but not permanent, such as grading and construction projects that span several months. The City recognizes that construction is a necessity and noise control for construction needs to be carefully balanced. Various measures are available to reduce this type of noise, including limiting the hours within which construction can occur or the implementation of more involved noise attenuation measures, such as the construction of temporary walls.

Wind Turbines

The major stationary noise sources within the relatively undeveloped northern portions of the City are the WECS, or wind turbines. With the potential for increased development within these areas comes the possibility for noise-related conflicts. Because it is sometimes difficult to separate the noise generated from the turbines from the noise of wind, standards and criteria for allowable noise emissions are not easily measured. The application of the City Noise Ordinance is recommended as the primary method for controlling WECS noise.



Wind energy conservation system turbines north of Palm Springs.

Gas Blowdowns

Located near the junction of I-10 and Highway 62 within the City's sphere of influence is a facility used for evacuating natural gas pipelines. The evacuation of gas during regular maintenance of the pipeline and during emergencies is known as a gas blowdown. The pipeline and blowdown facility are operated by the Southern California Gas Company. Gas blowdown events are extremely loud, with noise levels approaching 135 dBA at distances of 50 feet. Few residences exist in close proximity to this facility, but some residences are located within an area where these blowdown events are audible. This facility is a concern for any future development. Any future planned land use in the vicinity of the blowdown facility must be subject to a detailed noise analysis to determine the exact impacts from the blowdown events.

GOAL NS3

Minimize, to the greatest extent possible, the impact of non-transportation-related stationary and temporary noise on residential areas and other sensitive land uses.

Policies

- NS3.1 Require that automobile and truck access to commercial properties—including loading and trash areas—located adjacent to residential parcels be located at the maximum practical distance from the residential parcel.

- NS3.2 Require that parking for commercial uses adjacent to residential areas be enclosed within a structure or separated by a solid wall with quality landscaping as a visual buffer.
- NS3.3 Require that parking lots and structures be designed to minimize noise impacts on-site and on adjacent uses, including the use of materials that mitigate sound transmissions and configuration of interior spaces to minimize sound amplification and transmission.
- NS3.4 Minimize, to the greatest extent possible, noise impacts on adjacent residential areas from live entertainment, amplified music, or other noise associated with nearby commercial or restaurant uses.
- NS3.5 Require that entertainment uses, restaurants, and bars control the activities of their patrons to the greatest extent possible to minimize noise impacts on adjacent residences.
- NS3.6 Restrict, where appropriate, the development of entertainment uses and other high-noise-generating uses adjacent to residential areas, senior citizen housing, schools, health care facilities, and other noise-sensitive uses.
- NS3.7 Pursue the development of municipal parking structures in commercial districts to reduce parking overflow into adjacent neighborhoods and the noise impacts associated with overflow parking.
- NS3.8 Coordinate with the Police Department to determine the appropriate police enforcement efforts necessary in residential neighborhoods to minimize noise-related disturbances from entertainment, restaurants, retail, and other uses.
- NS3.9 Encourage commercial uses that abut residential properties to employ techniques to mitigate noise impacts from truck deliveries, such as the use of a sound wall or enclosure of the delivery area.
- NS3.10 Require that construction activities that impact adjacent residential units comply with the hours of operation and noise levels identified in the City Noise Ordinance.
- NS3.11 Require that construction activities incorporate feasible and practical techniques which minimize the noise impacts on adjacent uses, such as the use of mufflers and intake silencers no less effective than originally equipped.
- NS3.12 Encourage the use of portable noise barriers for heavy equipment operations performed within 100 feet of existing residences, or

make applicants provide evidence as to why the use of such barriers is infeasible.

- NS3.13 Require that new or replacement wind turbines be located a minimum of 500 feet from residential areas. If located between 500 and 4,500 feet from residences, an acoustical study must be submitted to show compliance with the noise standards of this plan.
- NS3.14 Require any new land use proposed in the vicinity of the Southern California Gas Company blowdown facility to prepare a detailed noise analysis to determine exact noise impacts from the blowdown events. Approval of the proposed land use must be considered on the basis of a comparison of the noise levels on the site with the City Noise Ordinance.
- NS3.15 Work with public agencies and institutions that maintain facilities in the City to ensure that noise generated by their activities is limited to their site. Appropriate mitigation measures such as physical enclosures and time restrictions for operation shall be implemented.
- NS3.16 Allow for deviations from the noise standards for projects that are considered to be of significant importance (municipal revenue, socially valued, etc.) or contribute significant benefits to the City, provided that:
- The impacts can be mitigated by an acceptable compensating mechanism; and
 - The impacts shall be reviewed with public hearings by the community and approved by the Planning Commission and City Council in conjunction with a Planned Development District.
- NS3.17 Promote the use of solar energy generation systems to reduce noise impacts on the community.

Actions

- NS3.1 Incorporate standards in the Zoning Ordinance that address the siting of nightclubs, discotheques, and other similar uses that generate high noise levels due to their on-site operation and customer access. Standards shall:
- Restrict the development of nightclubs, discotheques, and other similar uses adjacent to residential areas, unless

measures are implemented that sufficiently protect the residences from noise from on-site activities and customer access.

- Prohibit nightclubs, discotheques, and other similar uses adjacent to senior housing, health care facilities, schools, and other similar noise-sensitive uses.
- Require nightclubs, restaurants, bars, and other entertainment uses with high levels of nighttime activity to monitor and control noise levels of patrons waiting for admission or loitering on sidewalks and parking areas in reasonable proximity to their business. This provision shall be included as a condition of business license renewal and shall be monitored by the City, which may impose additional conditions or revoke the license if adverse noise impacts are generated on a continual basis.

NS3.2 Allocate funds for the construction of municipal parking structures from capital improvement budgets, parking assessment districts, municipal bonding, and other available methods.

NS3.3 Establish maximum noise-level specifications for City equipment for which noise is normally a consideration. Where specific noise levels cannot be set, specifications should require that vendors state maximum noise levels expected to be produced by their equipment and/or operations.

NS3.4 Contract with a qualified acoustical consultant to provide services dealing with WECS noise on an as-needed basis. The services provided may include review of acoustical studies submitted for permit approval and measurement of noise for enforcement of the City Noise Ordinance.

NS3.5 Incorporate provisions into the City Noise Ordinance to regulate noise impacts of domestic portable power equipment, such as power tools, lawn mowers, and leaf blowers.