NOISE ELEMENT 2015

This element provides goals, objectives, policies and implementation measures to help protect citizens of Camarillo from excessive noise

CAMARILLO

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CONTENTS

Adopted
September 9, 2015
Resolution 2015-99

Previously Adopted
August 28. 1996

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12.1 INTRODUCTION

The City of Camarillo is a suburban community whose focus is on maintaining a pleasant, healthy, and productive environment for the people who live, work, and play within the City. Accordingly, Camarillo should be a place where residents and visitors alike are protected from excessive noise, which has been demonstrated to have a potentially negative impact on the health, safety, and general welfare of the public.

12.2 PURPOSE OF NOISE ELEMENT

The Noise Element of a General Plan is a comprehensive program for including noise control in the planning process. It is a tool for local planners to use in achieving and maintaining land uses that are compatible with current and projected future environmental noise levels. The Noise Element identifies noise sensitive land uses and noise sources, and defines areas of noise impact for the purpose of developing and implementing programs to ensure that Camarillo residents will be protected from excessive noise intrusion.

12.3 GENERAL PLAN CORRELATION

The General Plan is required to be internally consistent. Therefore, this Noise Element has been prepared to be consistent with all other elements of the Camarillo General Plan. Because the Noise Element is a tool for achieving and maintaining land uses that are compatible with current and projected future environmental noise levels, it relates most directly to the Land Use Element, and should be used in conjunction with it. For example, when planning or permitting new development, the City should ensure that that proposed projects are consistent with applicable land use designations from the Land Use Element, as

well as the information and standards contained in this Noise Element, including whether or not the proposed project is in a noise impact zone or would itself create noise that would negatively impact surrounding land uses. The Noise Element should also be referred to during any amendments to, or updates of, the Land Use Element, to ensure that the noise environment is properly taken into account. The Noise Element also uses data and other information from the Circulation Element of the General Plan to identify and forecast the geographical location and potential impacts of transportation-related noise, which is the predominant noise source in Camarillo.

12.4 STATUTORY AUTHORITY

The State of California has mandated that each county and city prepare a Noise Element as part of its General Plan. The Noise Element follows guidelines in Section 65302(f) of the State Government Code and Section 46050.1 of the Health and Safety Code. Section 65302(f) of the State Government Code requires that the Noise Element consider the following major noise sources:

a. Highways and freeways.

b. Primary arterials and major local streets.

c. Passenger and freight online railroad operations and ground rapid transit systems.

d. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

e. Local industrial plants, including, but not limited to, railroad classification yards.

Other ground stationary noise sources including, but not limited to, military installations, contributing to the community noise environment.

Section 65303(f) of the State Government Code requires the Noise Element to include implementation measures and possible solutions that address existing and foreseeable noise problems, if any.

The State Guidelines for Preparation and Content of Noise Elements of the General Plan indicate that the Noise Element should present the noise environment in terms of noise contours and, for those areas identified as containing noise sensitive facilities, the noise environment should be determined by monitoring.

12.5 FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

12.5.1 FUNDAMENTALS OF SOUND

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by emphasizing certain frequencies and de-emphasizing others in a manner approximating the sensitivity of the human ear.

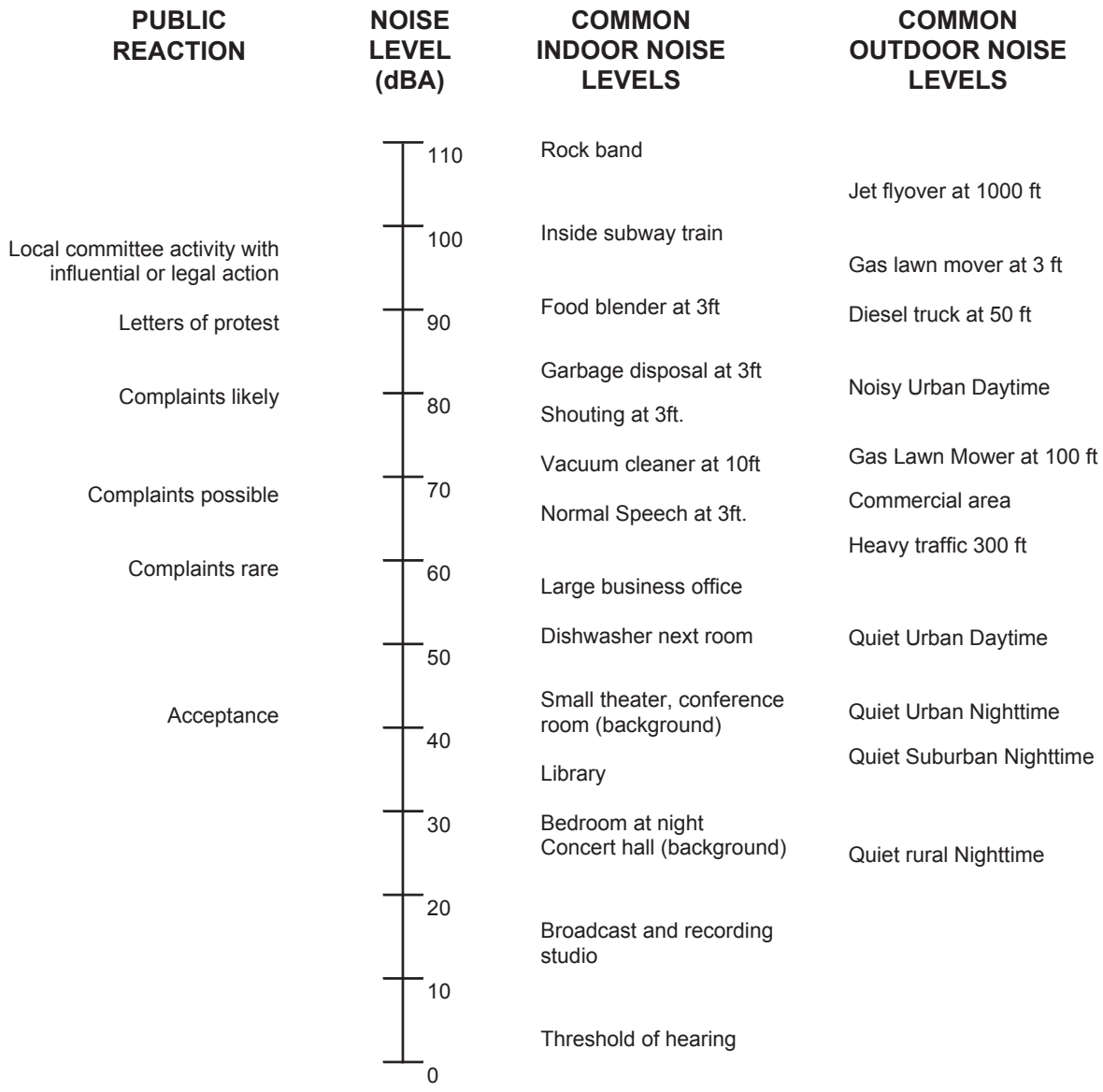
Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud; and 20 dBA higher four times as loud; and so forth. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud). Examples of various sound levels in different environments are shown in Figure 1.

Sound levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as industrial machinery). Sound levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Sound levles from heavily traveled roads typically attenuate at about 3 dBA per doubling of distance. Sound levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the sound source reduces the sound level by about 5 dBA, while a solid wall or berm reduces sound levels by 5 to 10 dBA. The manner in which older homes in California (approximately 30 years old or older) were constructed generally provides a reduction of exterior-to-interior sound levels of about 20 to 25 dBA with closed windows and doors. The exterior-to-interior reduction of newer residential units and office buildings is generally 30 dBA or more (FTA, May 2006).

12.5.2 DEFINITION AND IMPACTS OF NOISE

Noise is defined as unwanted sound and it is known to have several adverse effects on people. Based on these known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. These criteria are based on such known impacts of noise on people as hearing loss, speech interference, sleep interference, physiological responses and annoyance. Each of these potential noise impacts on people is briefly discussed below:

FIGURE 1 - EXAMPLES OF TYPICAL SOUND LEVELS



Common Noise Levels and Public Reaction

Source: Caltrans Noise Manual, California State Department of Transportation

Hearing Loss is not a major noise concern in outdoor environments in Camarillo because the potential for noise induced hearing loss is more commonly associated with occupational noise exposures in heavy industry or very noisy work environments. Noise levels in neighborhoods, even in very noisy environments such as near airports, are not sufficiently loud to cause hearing loss.

Speech Interference is one of the primary noise concerns. Normal conversational speech is in the range of 60 to 65 dBA, and any noise in this range or louder may interfere with speech.

Sleep Interference is a major noise concern because sleep is the most noise sensitive human activity. Sleep disturbance studies have identified interior noise levels that have the potential to cause sleep disturbance. Sleep disturbance does not necessarily mean awakening from sleep, but can refer to altering the pattern and stages of sleep.

Physiological Responses are those measurable effects of noise on people, which are realized, for example, as changes in pulse rate and blood pressure. While such effects can be induced and observed, the extent to which these physiological responses cause harm or are signs of harm is not fully known.

Annoyance is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capacity.

12.5.3 NOISE METRICS

Community noise is generally not a steady state and varies with time. Under conditions of non-steady state noise, some type of statistical metric is necessary in order to quantify noise exposure over a long period of time. Several rating scales have been developed for describing the effects of noise on people. They are designed to account for the above known effects of noise on people.

Based on these effects, the potential for noise to impact people is dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for total acoustical energy exposure. These scales are: the Equivalent Noise Level (Leq), the Day Night Noise Level (Ldn), and the Community Noise Equivalent Level (CNEL). These scales are described in the following paragraphs.

Leq is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. Leq is the "energy" average noise level during the time period of the sample. Leq can be measured for any time period, but is typically measured for 15 minutes, 1 hour, or 24 hours.

Ldn is a 24-hour, time-weighted annual average noise level. Time-weighted refers to the fact that noise occurring during certain sensitive time periods is penalized for occurring at these times. In the Ldn scale, 10 dBA is added to noise levels experienced during the night (10 pm to 7 am). This attempts to account for increased human sensitivity to noise during the night, when most people sleep.

CNEL is similar to the Ldn scale in that it add 10 dBA to sound levels occuring between 10 pm and 7am, but it also adds 5 dBA to noise levels occurring during the evening (7 pm to 10 pm). Either Ldn or CNEL may be used to identify community noise impacts within the Noise Element.

12.6 NOISE STANDARDS, GUIDELINES, AND REGULATIONS

Although extensive research has been conducted on human responses to exposure to different levels of noise, no uniform standard can be applied to regulate noise across all communities. This is because the public's reaction to noise varies from community to community, based on factors such as the local noise environment, variations in the characteristics of noise (e.g. differences in duration or pitch), and variations in the public's perceptions of local noise conditions and what constitutes acceptable noise levels for different types of noise.

The Federal and State governments have developed noise regulations for use in projects carried out by these levels of government (such as Federal or State highway projects), and have also developed guidelines for use by local jurisdictions in developing and implementing noise control at the local level. Local governments typically utilize this guidance to develop noise ordinances to protect people from non-transportation related noise sources such as music, machinery, and vehicular traffic on private property. Noise ordinances do not apply to motor vehicle noise on public streets or other transportation-related noise sources that are preempted by the State or Federal government. Local protections from transportation-related noise are therefore accomplished through the land use planning process, of which this Noise Element is part.

12.6.1 FEDERAL AND STATE NOISE GUIDELINES AND REGULATIONS

The EPA, in March 1974, published a document titled "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety" (EPA 550/9-74-004). Table 1 shows requisite noise levels for various land uses from this document. In this table, 55 Ldn is described as the requisite level with an adequate margin of safety for areas with outdoor uses, including residences and recreational

areas. The EPA "levels document" does not constitute a standard, specification or regulation, but identifies safe levels of environmental noise exposure without consideration for economic cost for achieving these levels.

The Federal Highway Administration (FHWA) has adopted and published noise abatement criteria for highway construction projects. The noise abatement criteria specified by the FHWA are presented in Table 2 in terms of the maximum one hour Leq. The FHWA noise abatement criteria establish an exterior noise goal for residential land uses of 67 Leq and an interior goal for residences of 52 Leq. The noise abatement criteria apply to private yard areas and assume that typical wood frame homes with windows open provide 10 dB of noise reduction (outdoor to indoor) and 20 dB of noise reduction with windows closed.

Table 1 - Environmental Protection Agency Noise Guidelines

ACTIVITY CATEGORY	DESIGN NOISE LEVEL - LEQ	DESCRIPTION OF ACTIVITY CATEGORY
A	57 (Exterior)	Tracts of land in which serenity and quiet are of extraordinary signifance 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. Such areas could include amphitheaters, particular parks or portions of open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas and parks which are not Included in category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Category A or B above.
D	-	For requirements of undeveloped lands see FHWA PPM 773.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

a. Since different types of activities appear to be associated with different levels, identification of a maximum level for activity interference may be difficult except in those circumstances where speech communication is a critical activity. (See Figure D-2 for noise levels as a function of distance which allow satisfactory communication.)
b. Based on lowest level.
c. Based only on hearing loss.
d. An Leq(8) of 75 dB may be identified in these situations so long as the exposure over the remaining 16 hours per day is low enough to result in a negligible contribution to the 24-hour average, i.e., no greater than an Leq of 60 dB.
Note: Explanation of identified level for hearing loss: The exposure period which results in hearing loss at the identified level is a period of 40 years.
*Refers to energy rather than arithmetic averages.
Source: U.S. Environmental Protection Agency, Information On Levels Of Environmental Noise Requisite To Protect Public Health And Welfare Wtih An Adequate Margin Of Safety, March 1974

Table 2 Federal Highway Administration Noise Criteria

Measure		Indoor			Outdoor		
		Activity Interference	Hearing Loss Consid-eration	To Protect Against Both Effects (b)	Activity Interference	Hearing Loss Consid-eration	To Protect Against Both Effects (b)
Residential with Outside Space and Farm Residences	**Ldn**	**45**	**-**	**45**	**55**	**-**	**55**
	Leq(24)	**-**	**70**	**-**	**-**	**70**	**-**
Residential with No Outside Space	**Ldn**	**45**	**-**	**45**	**-**	**-**	**-**
	Leq(24)	**-**	**70**	**-**	**-**	**-**	**-**
Commercial	**Leq(24)**	**(a)**	**70**	**70(c)**	**(a)**	**70**	**70(c)**
Inside Transportation	**Leq(24)**	**(a)**	**70**	**(a)**	**-**	**-**	**-**
Industrial	**Leq(24)(d)**	**(a)**	**70**	**70(c)**	**(a)**	**70**	**70(c)**
Hospitals	**Ldn**	**45**		**45**	**55**	**-**	**55**
	Leq(24)	**-**	**70**	**-**	**-**	**70**	
Educational	**Leq(24)**	**45**	**-**	**45**	**55**	**-**	**55**
	Leq(24)(d)	**-**	**70**	**-**	**-**	**70**	
Recreational Areas	**$L_{eq(24)}$**	**(a)**	**70**	**70(c)**	**(a)**	**70**	**70(c)**
Farm Land and General Unpopulated Land	**$L_{eq(24)}$**	**-**	**-**	**-**	**(a)**	**70**	**70(c)**

Note: These sound levels are only to be used to determine impact. These are the absolute levels where abatement must be considered. Noise abatement should be designed to achieve a substantial noise reduction - not the noise abatement criteria.

Source: Federal Highway Administration, Highway Traffic Noise Analysis and Abatement Policy and Guidance, June 1995.

The State of California requires each city and county to adopt a Noise Element as part of its General Plan. Noise Elements usually contain a noise/land use compatibility matrix. In 1976, the California Department of Health, State Office of Noise Control published a recommended noise/land use compatibility matrix in its "Guidelines for the Preparation and Content of Noise Elements of the General Plan," (California Department of Health, Office of Noise Control, February 1976). Many jurisdictions have adopted this recommended matrix as a standard in their Noise Element. The State of California Office of Planning and Research has adopted guidelines based on these recommendations in order to assess the compatibility of various land use types with a range of noise levels. The City of Camarillo has adapted the State's recommended noise/land use compatibility matrix for use in Camarillo, as discussed below.

12.6.2 CITY OF CAMARILLO NOISE GUIDELINES AND REGULATIONS

This Noise Element utilizes the State guidelines discussed above as the basis for its Noise/Land Use Compatibility Matrix, shown in Figure 2. Figure 2 is the primary tool that allows the City to ensure integrated planning for compatibility between land uses and outdoor noise. As shown in Figure 2, outdoor noise levels for residential land uses and other noise-sensitive land uses (schools, libraries, churches, hospitals, and nursing homes) are normally acceptable up to 60 dBA CNEL and conditionally acceptable (contingent on noise analysis and effective interior noise mitigation, when necessary) in the range of 60-70 dBA CNEL. This is due to the fact that 45 dBA is commonly accepted as the maximum desirable interior noise level for habitable structures (for example, Title 24 of the California Health and Safety Code establishes an interior noise standard of 45 dBA for mobile homes). As described in Section 12.5.1, older homes in California generally provide approximately 20-25 dBA of exterior noise reduction with closed windows and doors, while newer homes and office buildings generally provide 30 dBA or more with closed windows and doors. It is therefore assumed that exterior noise levels at or below 60 dBA CNEL will be reduced to below the 45 dBA interior noise level standard by conventional construction techniques, while exterior noise above 60 dBA CNEL will require site-specific studies and, potentially, noise mitigation in order to be acceptable. Exterior noise levels above 75 dBA are assumed to be clearly unacceptable because even 30 dBA of noise reduction would not reduce such noise levels to the 45 dBA interior noise standard.

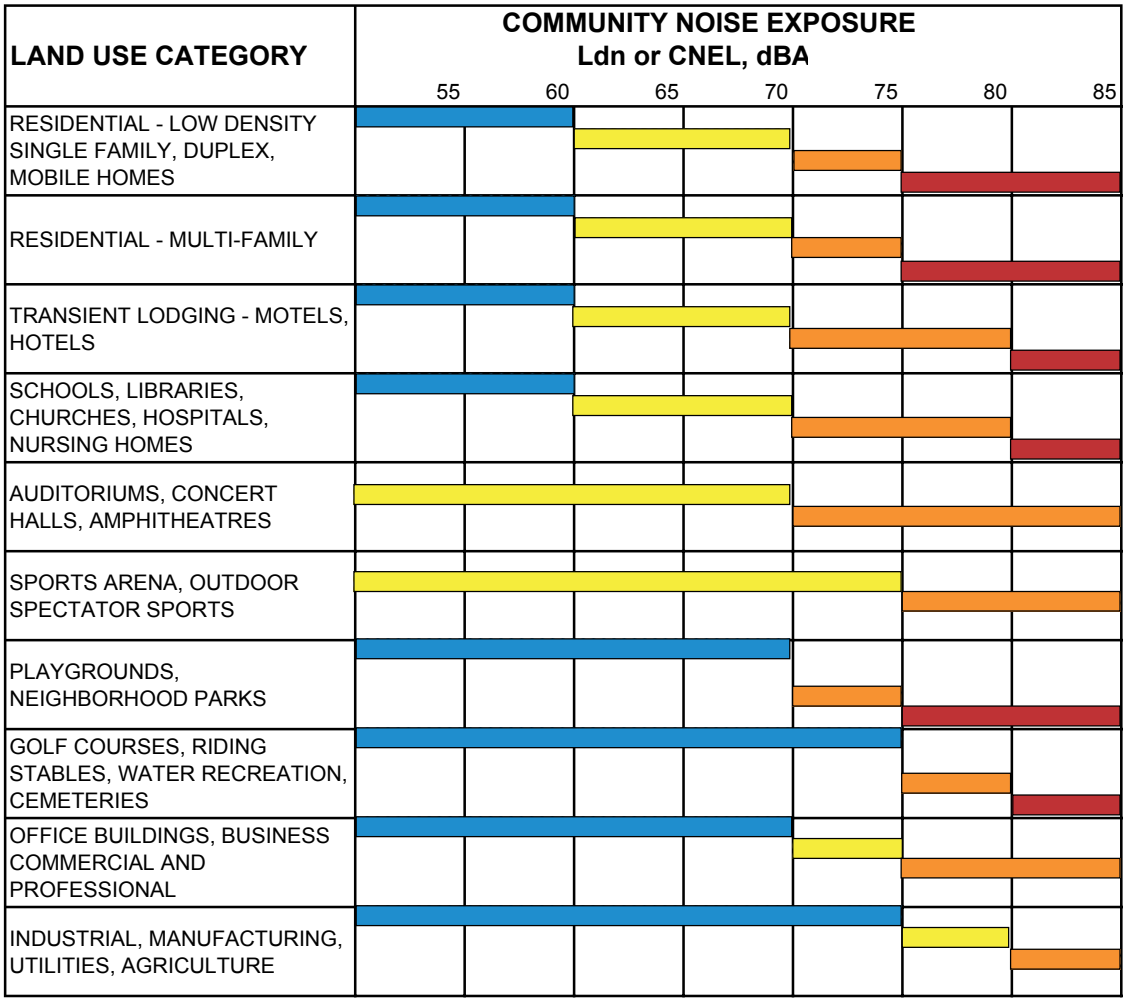
12.7 NOISE ENVIRONMENT

This section describes the existing and projected future noise environment in Camarillo, based on information from the City's 1996 Noise Element, field observations, noise measurements, and noise modeling conducted in February and March of 2015.

12.7.1 NOISE SOURCES

Observations, noise measurements, and modeling indicate that the most common and primary source of noise in the City is motor vehicles (e.g., automobiles, buses, trucks, and motorcycles) along U.S. Highway 101 (the Ventura Freeway) and major arterial roads such as State Highway 34 (Lewis Road). Motor vehicle noise is of particular concern because it is characterized by a high number of individual events, which often create a sustained noise level, and because of its proximity to noise-sensitive uses. Secondary, but still important, sources of noise in Camarillo include:

FIGURE 2 - CITY OF CAMARILLO LAND USE/NOISE COMPATIBILITY MATRIX



NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

- Operations on the Union Pacific (UP)/Amtrak/ Metrolink railroad.
- Aircraft overflights from Camarillo Airport and Naval Base Ventura County, and to a lesser extent overflights from other airports such as Oxnard Airport.
- Stationary sources. The primary noise associated with these facilities are caused by sources including delivery trucks, generators, outdoor loudspeakers, pressure washers, and construction equipment.

12.7.2 COMMUNITY NOISE SURVEY

To measure current noise levels at key locations in Camarillo, eight short-term noise measurements, ranging in length from 13 to 24 minutes, were taken on Thursday, February 26, 2015, and Wednesday March 4, 2015, as shown in Figure 3. Nine long-term (greater than 24-hour) noise measurements were taken on February 26-27, 2015, and March 4-5, 2015, also shown in Figure 3. All measurements were taken using an ANSI Type II integrating sound level meter. Figure 3 also shows the major noise sources discussed above and the noise-sensitive receptors discussed below.

The locations of these noise measurements were selected based on several factors, including the locations of the noise measurements taken for the 1996 Noise Element (so as to quantitatively compare the change in noise that has occurred over time), known significant noise sources in the community, and input received at a January 28, 2015 Planning Commission/City Council Joint Study Session and a February 9, 2015 Citizen Advisory Committee on Land Use Meeting.

12.7.3 NOISE SENSITIVE RECEPTORS

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with each use. Noise-sensitive land uses generally include residences, schools, hospitals, long term medical or mental care facilities, and libraries. The locations of such noise-sensitive receptors in Camarillo are shown in Figure 3, which also shows the noise monitoring results and major noise sources such as airport flight paths, the railroad, and industrial and commercial areas. As shown in Figure 3, much of the City is made up of

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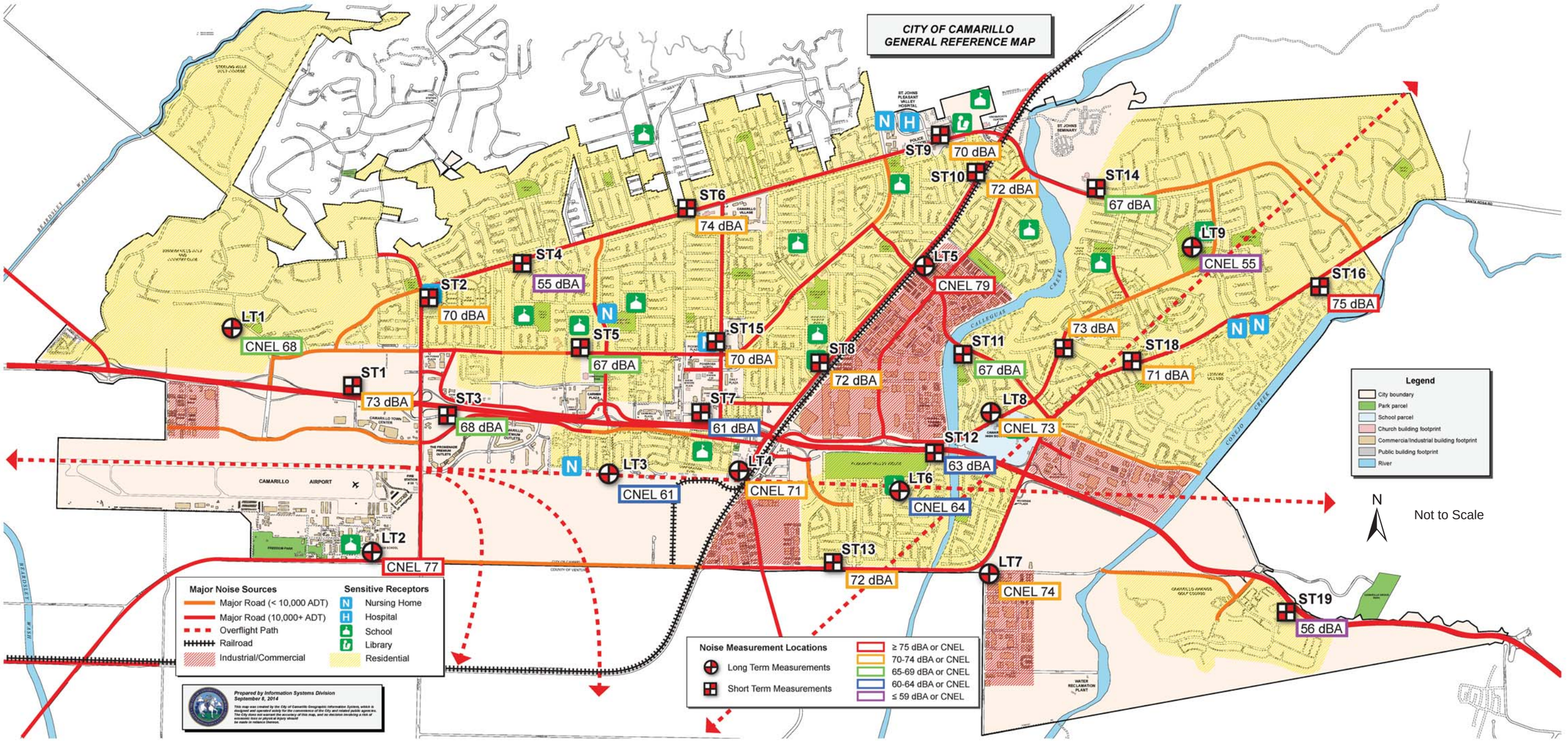
FIGURE 3- NOISE SOURCES, NOISE-SENSITIVE RECEPTORS, AND NOISE MEASUREMENT LOCATIONS



Source: Veneklasen Associates, March 2015

residential neighborhoods. The City also contains one hospital (St. John's Pleasant Valley Hospital), a public library, seven nursing homes, and 14 public and private schools.

12.7.4 IDENTIFICATION OF NOISE PROBLEM AREAS

The results of the Community Noise Survey (see Figure 3) and noise contour modeling (see discussion and Figure 4 below) indicate that noise-sensitive receptors in Camarillo are generally not in areas subject to excessive noise levels, in this case defined as noise in excess of 75 dBA CNEL and thus within the "Clearly Unacceptable" range shown in Figure 2. One exception may be the ACE Charter High School, located just east of the intersection of Pleasant Valley Road and Airport Way in the southwestern part of the City. In this location a long-term noise reading of 77 dBA CNEL was taken during the Community Noise Survey between Pleasant Valley Road and school buildings.

12.7.5 NOISE MODELING

Noise modeling was carried out for this Noise Element to model both current and future noise levels for the predominant sources of noise in Camarillo: transportation-related noise along area roadways, the Union Pacific/Amtrak/Metrolink railway, and the Camarillo Airport. The purpose of modeling these noise levels is to determine which areas may be subject to long-term noise levels in excess of City standards.

Roadway noise levels were modeled using the Bruel & Kjaer Predictor Version 10 program and average daily trips (ADT) data obtained from the City. Roadway noise level modeling does not account for any intervening barriers or topography that may shield individual receptors from the noise source. Therefore, the levels that are presented represent a conservative yet reasonable worst-case estimate of noise levels. ADT data represents the total number of vehicle trips that occur on a given roadway throughout the entire day. These vehicle trips are distributed throughout the day, with peak periods occurring at various times. No future traffic counts were available. As such, future conditions were estimated using a 1% increase per year. Sound levels predicted at particular sites from traffic counts were validated by the field measurements discussed in *S*ection 12.7.2.

Because railway noise is expected to remain essentially unchanged through 2035, rail noise contours were taken from the City's existing Noise Element. Noise contours for Camarillo Airport were taken from the Camarillo Airport Master Plan (Coffman Associates, July 2011). This Master Plan has noise contours for both "Existing" and "Ultimate" (or buildout) scenarios, which are used for the Existing (2015) and Future (2035) scenarios in this Noise Element. Noise contours for Naval Base Ventura County are expected to remain essentially unchanged through 2035, and were taken from the Ventura County Airport Comprehensive Land Use Plan. For further detail regarding the noise modeling procedures and methodology used to model roadway noise levels, please refer to the Technical Background Report to this Noise Element (Appendix A).

12.7.6 NOISE CONTOURS

The results of the noise modeling are expressed as “noise contours”. Noise contours are lines of equal noise level, shown on a map, extending out from a noise source (or sources). Figure 4 shows the existing (2015) traffic noise contours for the City and Figure 5 shows the future (2035) traffic noise contours. The results shown in these figures represent an estimate of CNEL noise levels as modeled from the centerline of the given roadway segment, railway, or flight path.

12.7.7 IMPACT AREAS

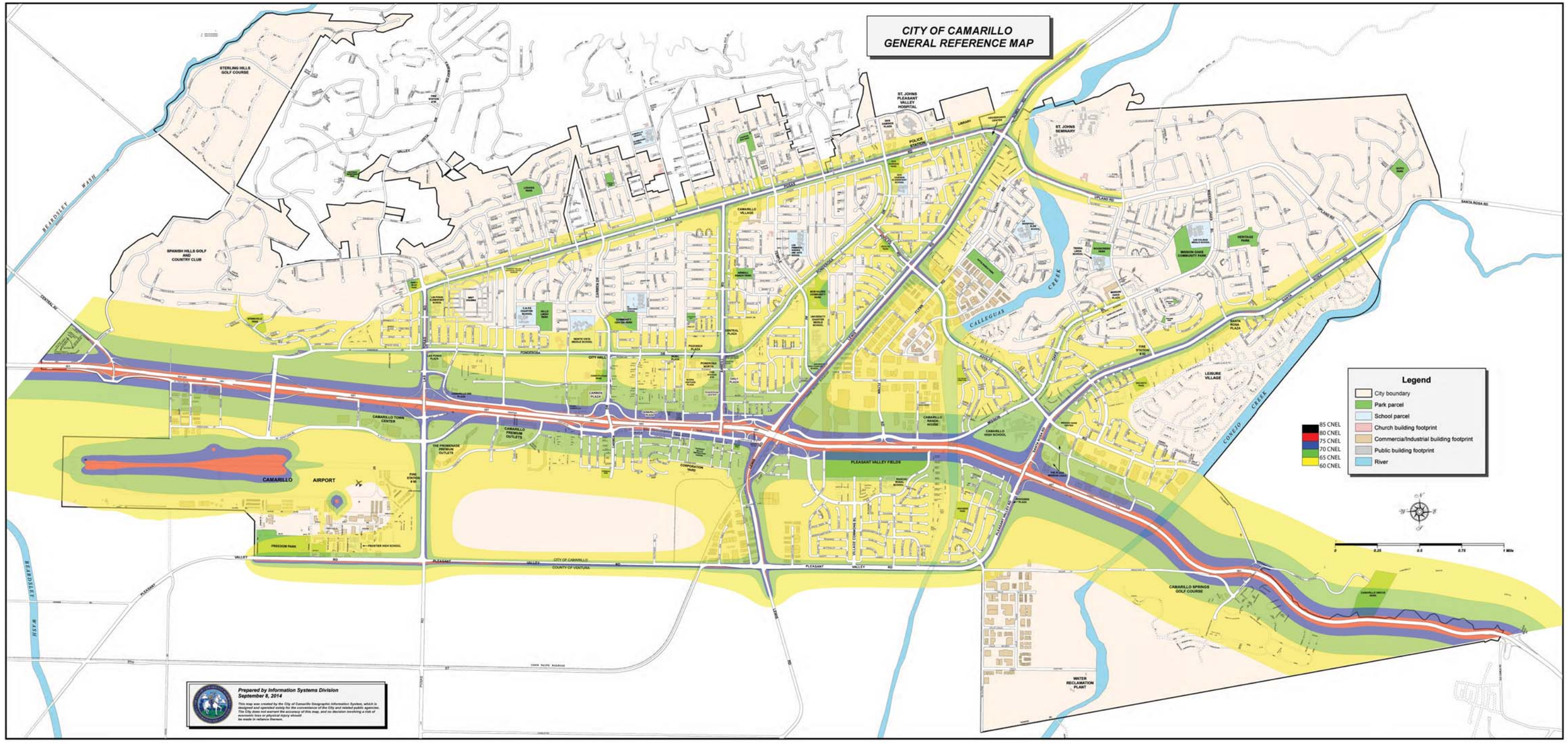
Traffic noise contours in 2035 are expected to be similar to existing noise contours. Changes do, however, occur in certain areas. Traffic is projected to increase on the 101 Freeway and thus noise levels will increase and the noise contours expand outward from the freeway along its entire length through the City, although more so in some cases than others. For example, around the area of the new Springville Road/101 Freeway interchange, increased traffic on the 101 Freeway, the planned extension of Ponderosa Drive, and development of the Springville Specific Plan area lead to increased traffic along local roadways and extension of the 65 dBA noise contour north to approximately Ponderosa Drive. In other areas, the traffic noise contours generally experience an incremental expansion from the centerline of major roadways due to increased traffic noise levels.

Comparing these updated noise levels to the City’s exterior noise standards shown in Figure 3, residences in close proximity to the 101 Freeway and other major arterial roadways may be exposed to noise levels that exceed the City’s 60 dBA L_{dn} (Day/Night) standard for residential properties. Actual noise levels at individual properties near these roadways may be reduced or otherwise affected by sound walls, berms, or other factors such as topography.

12.8 NOISE MITIGATION

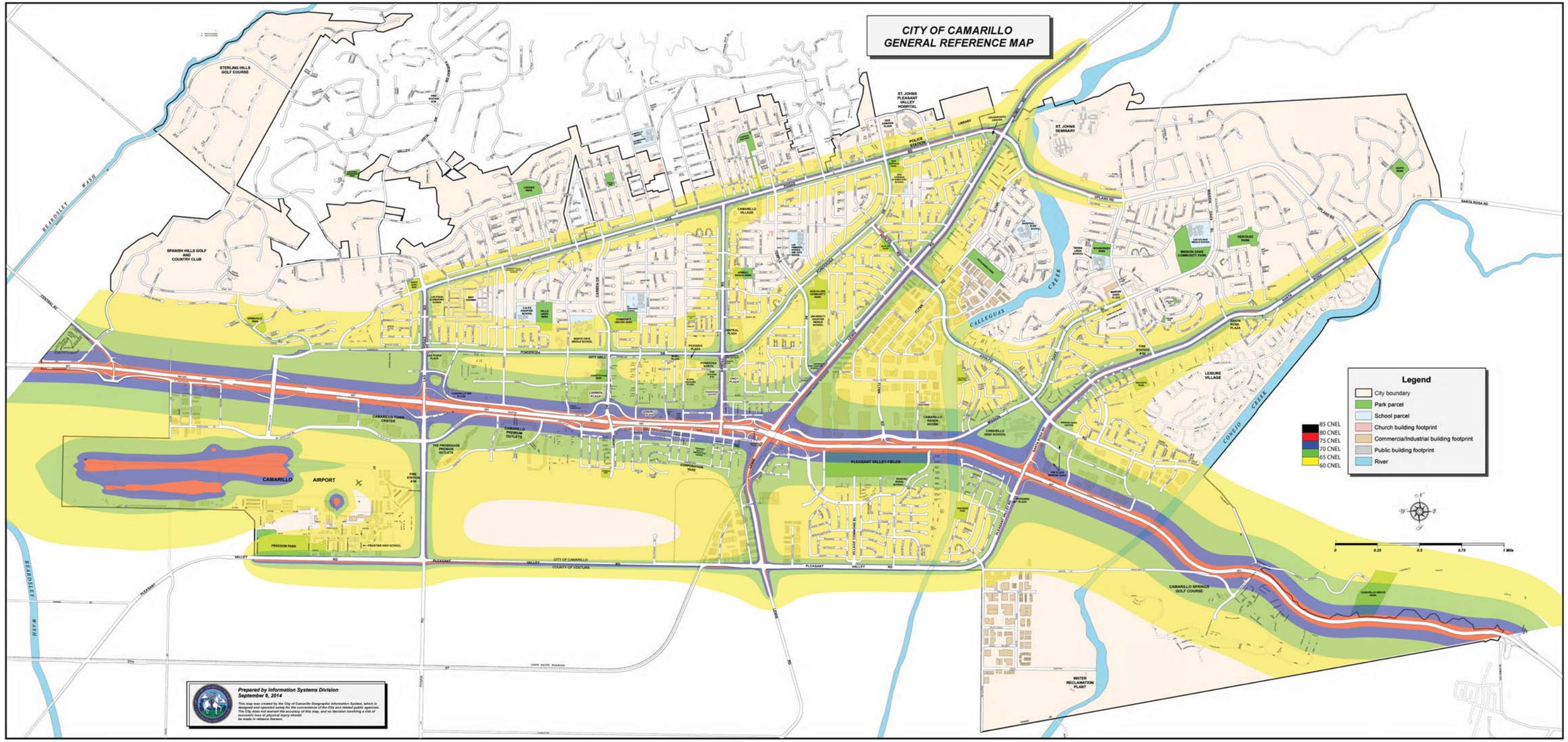
The sources of noise in Camarillo can be divided into two basic categories, transportation sources (primarily traffic) and non-transportation sources. A local government has little direct control of transportation noise at the source. State and Federal agencies have the responsibility to control noise from the source through vehicle noise emission level standards. The most effective method the City has to mitigate transportation noise is through reducing the impact of noise on the community by employing various measures such as land use planning, site design review, and physical interventions such as noise barriers and setbacks.

FIGURE 4 - NOISE CONTOURS - EXISTING (2015)



Source: Veneklasen Associates, August 2015

FIGURE 5 - NOISE CONTOURS - FUTURE (2035)



Source: Veneklasen Associates, August 2015

12.8.1 LAND USE PLANNING

Noise mitigation through land use planning can be achieved for future development by planning the location of noise-sensitive land uses in areas outside areas of unacceptable noise levels (the "noise impact zone"). The existing and future noise contours shown in figures 4 and 5 can be used as tools to help achieve this end. For individual projects, site design review can help ensure that development is outside the noise impact zone or identify where mitigation may be necessary.

12.8.2 NOISE BARRIERS

Noise mitigation through the design and construction of a noise barrier, such as a wall or berm, is a common way of alleviating traffic noise impacts, especially in areas where existing development has become or may in the future become exposed to increased noise levels exceeding the City's standards. The effect of a noise barrier is dependent on the geometry between the noise source and the receiver (see Figure 6). Noise barriers are only effective when the noise barrier interrupts the "line of sight" between the source and receiver. The noise attenuation provided by noise barriers decreases with distance from the barrier.

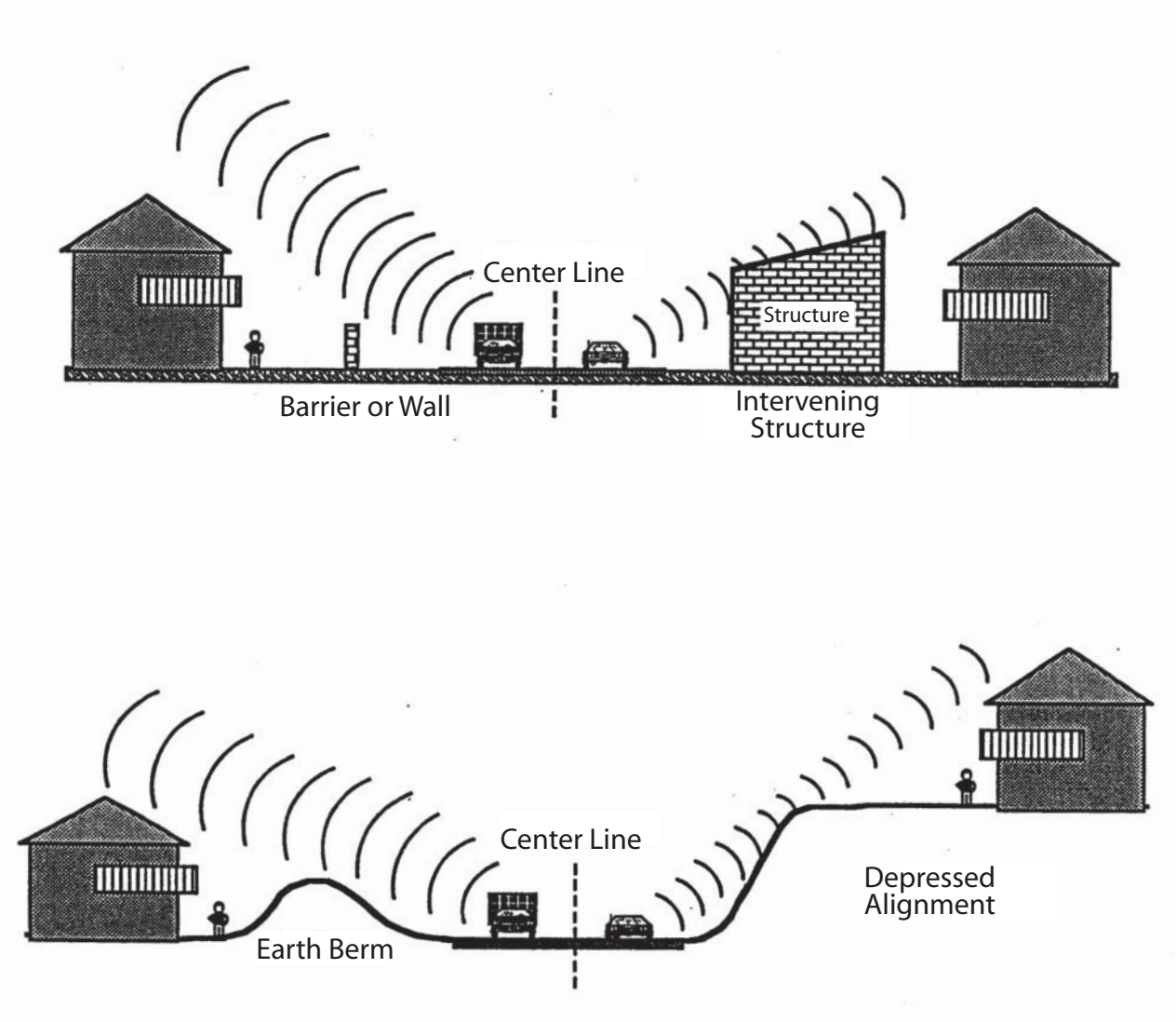
12.8.3 SETBACKS

Another common approach to mitigating noise impacts is through the use of setbacks. This approach may be more desirable in locations with relatively low volume roadways and where it is desirable to avoid a "walled in" look. The setback approach simply requires that the homes or other noise sensitive receptors be set back from the roadway at a distance sufficient to locate them outside the noise impact zone. While providing landscaping within this setback area actually provides little noise reduction, landscaping can provide a visual shield between the sensitive receptor and the road and provide aesthetic benefits.

12.9 GOALS, POLICIES AND IMPLEMENTATION MEASURES

The overarching purpose of this Noise Element is to limit exposure of the people of Camarillo to excessive noise. In order to achieve this overarching purpose, the Noise Element includes the following goals, objectives, policies, and implementation measures. The meaning of these terms is defined below.

FIGURE 6 - EXAMPLES OF NOISE BARRIER EFFECT



Source: City of Solvang Noise Element for the General Plan, January 28, 1987.

- **Goal:** A general, overarching statement of a desired community outcome.
- **Objective:** A statement providing more specific and measurable strategies to achieve a goal.
- **Policy:** A statement designed to guide specific actions on the part of the City to achieve goals and objectives.
- **Implementation Measures:** Specific actions that the City should take to achieve the goals, objectives, and policies of the Noise Element.

NOISE AND LAND USE PLANNING INTEGRATION

GOAL 1 CAMARILLO'S LAND USE PATTERN IS COMPATIBLE WITH CURRENT AND FUTURE NOISE LEVELS.

Objective 1.1

The City should properly consider noise issues as part of the land use planning process in order to minimize the effects of noise in the community.

Policy 1.1.1

Ensure acceptable noise levels near noise-sensitive uses such as schools, houses of worship, hospitals, and convalescent homes in accordance with the City's Land Use/Noise Compatibility Matrix (Figure 2 of this Noise Element).

Policy 1.1.2

Where a potential noise conflict may occur, developers should submit noise assessment reports during the project planning process to identify potential noise impacts to their own developments and on nearby residential uses and other noise-sensitive land uses. New developments should incorporate appropriate noise mitigation measures in their project designs in order to meet the standards contained in this Element and the Camarillo Municipal Code.

Policy 1.1.3

State noise insulation standards should be applied for exterior-to-interior and for party walls and floor/ceiling noise control to new single-family and multi-family structures.

Policy 1.1.4

Ensure the compatibility of land uses when making land use planning decisions by requiring noise-reducing design features for projects that are adjacent to major roadways, the railroad, and the airport.

Policy 1.1.5

The City should encourage the use of soundwalls, berms and/or other noise attenuation measures in the design of residential uses and other noise-sensitive land uses that are adjacent to and impacted by major roads, rail lines, commercial and industrial areas.

Policy 1.1.6

The City should continue to evaluate truck routes in the City to ensure compatibility with residential uses and other noise-sensitive land uses where possible.

TRANSPORTATION NOISE CONTROL

GOAL 2 NOISE IMPACTS AFFECTING NOISE-SENSITIVE LAND USES FROM TRANSPORTATION SOURCES ARE MINIMIZED.

Objective 2.1

The analysis of transportation-related noise impacts upon the community should consider current and future conditions.

Policy 2.1.1

Practical measures to reduce noise impacts from transportation system noise sources should be utilized to the extent feasible.

Policy 2.1.2

The City should encourage coordination with Caltrans for the design of sound walls located within the Caltrans right-of-way to ensure walls are attractive and compatible with adjacent land uses.

Policy 2.1.3

Contractors should incorporate appropriate noise mitigation measures, such as limiting the hours of construction, into new and upgraded roadway projects adjacent to nearby noise-sensitive land uses.

Policy 2.1.4

The City should strive to reduce transportation system noise impacts through the design and coordination of transportation infrastructure and circulation.

Policy 2.1.5

Developers of new residential projects located in the vicinity of Camarillo Airport should inform potential residential property owners of airport generated and overflight noise.

Policy 2.1.6

Coordinate with State and regional agencies and Camarillo Airport to implement noise reduction measures and to monitor and reduce noise associated with aircraft.

Policy 2.1.7

The City should maintain close liaison with US Navy authorities (and any successors) responsible for operations at NBVC Point Mugu. While the City has no control over NBVC Point Mugu or its operations, concerns regarding noise impacts due to flight operations should be communicated to the proper authorities.

Policy 2.1.8

Promote effective noise-reducing design features and proper maintenance of rails and rail cars to minimize the effect of railroad operations.

Policy 2.1.9

The City should encourage coordination with authorities responsible for railroad operations and communicate concerns regarding noise impacts to them.

COMMUNITY NOISE CONTROL

GOAL 3 CONSTRUCTION, MAINTENANCE, AND NUISANCE NOISE IN RESIDENTIAL AND NOISE-SENSITIVE LAND USES IS REDUCED.

Objective 3.1

Ensure that noise-generating uses will not expose adjacent residential uses and other noise-sensitive land uses to noise levels that exceed the thresholds contained in the Noise Element and the City's adopted Noise Ordinance.

Policy 3.1.1

The City should adopt enforceable provisions within its noise ordinance for the reduction of non-transportation system noise impacts within the City of Camarillo.

Policy 3.1.2

The City should review and adopt practical provisions within its noise ordinance to limit the hours of use for powered yard and gardening equipment, machinery and other noise disturbances.

Policy 3.1.3

The City should limit the allowable hours of construction activities and maintenance operations.

Policy 3.1.4

The City should seek to limit the impact of nuisance noise sources upon residential and other noise sensitive uses.

Policy 3.1.5

The City should limit the hours for deliveries to and from commercial and industrial uses that are adjacent to residential uses to minimize noise impacts.

Policy 3.1.6

Design and construction features should be incorporated into residential and mixed-use projects to shield residents from excessive noise.

Policy 3.1.7

The placement of noise-generating sources such as gathering places, loading bays, parking lots, and trash enclosures should be considered in mixed-use developments to ensure compatibility with residential uses.

CITY OPERATIONS

GOAL 4 THE QUALITY OF LIFE IN THE COMMUNITY IS IMPROVED THROUGH EFFORTS ON THE PART OF THE CITY TO REDUCE NOISE IMPACTS.

Objective 4.1

The City should participate in efforts to reduce noise impacts to both City employees and the community.

Policy 4.1.2

The City should require its departments and agencies to observe State and Federal Occupational Safety Health noise standards.

Policy 4.1.3

The City should establish and maintain coordination among the appropriate agencies involved in noise abatement.

Policy 4.1.4

The City should avoid scheduling City maintenance and construction projects during evening, nighttime, and early morning hours to the extent feasible and practical.

IMPLEMENTATION MEASURES

In order to achieve the goals and policies of the Noise Element, an effective implementation program is necessary. The underlying purpose of the implementation program is to provide measures which will reduce the community's exposure to excessive noise and to minimize the future impacts of noise in the City. The City should consider implementing the following measures to control the impacts of noise in the City of Camarillo.

Measure 1. The City should regularly review and, when necessary, update the Noise Ordinance, and enforce the provisions of its Noise Ordinance that set appropriate noise limits for non-transportation system related noise sources within various land use classifications.

Measure 2. The City should require developers of commercial and industrial projects with noise-producing activities that seek to locate near residential or noise sensitive land uses to submit to the City noise study reports prepared by experienced persons with demonstrated expertise in noise control engineering. The noise study report shall include appropriate noise-mitigating measures, as necessary, to be incorporated into the proposed development that would reduce noise levels at noise-sensitive receptors to acceptable levels as defined in the City's Noise Element and Municipal Code.

Measure 3. The City should require developers of new noise-sensitive land uses in areas that would be exposed to noise exceeding the "normally acceptable" level for the proposed use(s) to submit to the City noise study reports prepared by experienced persons with demonstrated expertise in noise control engineering. The noise study report shall include appropriate noise-mitigating measures, as necessary, to be incorporated into the proposed development that would reduce noise levels at noise-sensitive receptors to acceptable levels as defined in the City's Noise Element and Municipal Code.

Measure 4. The City should investigate non-transportation source noise complaints received from the public, and notify and/or cite violators, consistent with its authority. Complaints regarding non-transportation noise sources received by the City during normal work hours should be referred to the City's Department of Community Development, and to the Police Department after normal work hours.

REFERENCES

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