NOISE ELEMENT

INTRODUCTION

Noise levels within Rancho Santa Margarita can affect the quality of life of residents living and those working within the community. High noise levels can create stress and irritation, and even impact health. The Noise Element includes goals to ensure the compatibility of land use are considered as part of the land use planning and site development process, as well as the effects of transportation and non-transportation related noise on the community. Effective strategies are provided to reduce excessive noise and limit community exposure to loud noise sources.

Purpose of the Noise Element

The purpose of the Noise Element is to ensure and maintain the community's desired quality-of-life and community's character through noise compatibility. The Noise Element identifies and assesses the community's existing noise environment, and provides guidance to proactively avoid or limit noise and land use compatibility problems in the future. The Element addresses the following key issues related to noise and establishes goals and policies to achieve and maintain acceptable noise levels associated with various land uses and activities:

1) Land Use and Noise Compatibility
2) Transportation Related Noise
3) Non-Transportation Related Noise

Scope and Content of the Noise Element

The State of California recognizes the relationship between noise and noise sensitive uses, and has adopted State Guidelines for Noise Elements. This Noise Element satisfies the requirements of State planning law and is a mandated component of the General Plan. Government Code Section 65302(f) establishes the required components of the Noise Element, which includes identifying and evaluating noise problems in the community and analyzing and quantifying existing and projected noise levels for applicable noise sources to the extent practicable. The Element also complies with California Health and Safety Code Section 56050.1 guidelines for Noise Elements.

The Noise Element considers existing and potential noise sources and identifies noise exposure contours associated with major transportation systems within the planning area. This information serves as a guide for establishing land use patterns, site design and development standards, and addressing existing and potential noise problems within the planning area.

The Noise Element is comprised of three sections:

1) Introduction;
2) Issues, Goals, and Policies; and
3) the Noise Plan.

The Introduction summarizes the general intent of the Noise Element and the Issues, Goals, and Policies section identifies transportation and non-transportation related noise issues and goals and policies to address these issues. The goals are statements of the community's desires and comprise broad statements of purpose and direction. The policies serve as guides for reducing or avoiding adverse noise impacts within the community. Policies and programs assist noise control through land use regulation and enforcement of City ordinances, which limit the exposure of the community to excessive noise levels. The Noise Plan describes the fundamentals of sound and noise, identifies noise standards, illustrates existing and future noise contours, and demonstrates how the goals and policies will be achieved and implemented.

Relationship to Other General Plan Elements

Policies and plans in the Noise Element are designed to protect existing and planned land uses from significant noise impacts. The Element identifies potential noise sources and establishes programs to avoid or mitigate noise impacts. Concurrently, the Land Use Element contains policies to ensure that environmental conditions, including noise, are considered in all land use decisions. Adequately planning for future residential and other noise-sensitive land uses can avoid

incompatible development where noise impacts cannot be reduced or mitigated to acceptable levels.

The Noise Element is linked to transportation policies in the Circulation Element, as transportation noise is a primary contributor to the noise environment in Rancho Santa Margarita. The projected noise contours identified in this Element directly correspond to the Circulation Plan and projected traffic associated with implementation of the Land Use Plan. Both the Noise and Circulation Elements contain policies and programs to minimize the effects of transportation noise on existing and planned land uses.

The Noise Element also relates to the Conservation/Open Space Element. Excessive noise can diminish enjoyment of parks and other designated open space. Noise levels are considered in the planning of new recreational and open space areas. Additionally, open space areas can be used to separate and buffer noise sensitive land uses from noise producers.

ISSUES, GOALS, AND POLICIES

Human activities in the community create noise levels that can affect overall quality of life. The Goals and Policies identified in the Noise Element are designed to protect the community from excessive noise and ensure the small-town village character is protected. These include:

1) Minimizing the effects of noise associated with new development and reuse/revitalization projects;

2) Minimizing the impact of transportation-related noise; and

3) Minimizing the impact of noise associated with activities, such as construction, business operations and property maintenance.

Land Use and Noise Compatibility

Rancho Santa Margarita provides a mix of land uses for people to live, work, shop, and play. Thoughtful placement and development of these uses will minimize the exposure and effects of noise on the community.

Goal 1: Minimize the effects of noise through land use planning, project design and development review.

Policy 1.1: Consider the compatibility of new development and reuse/ revitalization projects with the noise environment by utilizing noise/land use compatibility standards and the Noise Contours Map as a guide.

Policy 1.2: Require the inclusion of noise-reducing features within the site design of development and reuse/revitalization projects to reduce impacts on noise-sensitive uses.

Policy 1.3: Ensure proposed development meets noise insulation standards for noise-sensitive uses.

Transportation Related Noise

The primary source of noise impacting Rancho Santa Margarita results from transportation-related noise. The Foothill Transportation Corridor, along with other major roadways, create higher levels of noise that can affect the overall quality of life if noise-sensitive uses are in close proximity without appropriate noise-reduction measures. Reduction in transportation-related noise, especially truck-related noise, in noise-sensitive areas would reduce potentially unhealthy effects attributable to excessive noise.

Goal 2: Minimize transportation-related noise impacts.

Policy 2.1: Reduce and avoid excessive transportation-related noise levels to noise-sensitive land uses that may occur due to the transition of existing uses or the development of noise-sensitive uses located near the toll road (SR-241) or major arterials, through the use of noise control measures within the site design of development and reuse/revitalization projects.

Policy 2.2: Identify and implement a system of truck routes that provide for the effective transport of goods while minimizing impacts on noise-sensitive land uses.

Non-Transportation Related Noise

Noise sources not directly related to transportation such as construction, manufacturing or business operations, and property maintenance activities should be considered and controlled to minimize the community's exposure to excessive noise levels.

Goal 3: Minimize current and future non-transportation related noise impacts.

Policy 3.1: Reduce the impacts of noise-producing land uses, activities, and businesses on noise-sensitive land uses for items such as, but not limited to: delivery and service hours, parking and loading areas, ingress/egress points, landscape maintenance activities, and refuse collection areas.

Policy 3.2: Incorporate noise-reducing features within the site design of new construction or rehabilitation projects impacted by non-transportation-related noise for items such as, but not limited to: parking and loading areas, ingress/egress points, HVAC units, entertainment speakers, and refuse collection areas.

Policy 3.3: Direct noise emanating from stationary noise sources, construction activities, and special events away from noise-sensitive land uses.

Policy 3.4: Orient mixed-use and multi-family residential units and the location of balconies and common recreation areas away from major roadways and other noise sources.

Related Goals and Policies

The goals and policies in the Noise Element are related to and support subjects included within other General Plan elements; refer to Table N-1.

Table N-1
Noise Related Goals and Policies by Element

General Plan Element	Noise Element Issue Areas		
	Land Use and Noise Compatibility	Transportation Related Noise	Non-Transportation Related Noise
Land Use	1.1, 1.2, 1.3	2.1, 2.2	3.1, 3.2, 3.3, 3.4
Economic Development			
Circulation		2.1, 2.2	3.4
Housing			3.3, 3.4
Conservation/Open Space			3.3
Safety			

NOISE PLAN

Rancho Santa Margarita experiences typical noise associated with urbanized environments and the City receives relatively few noise complaints. Complaints typically pertain to noise associated with schools and transportation, specifically motorcycles. The City recognizes the importance of maintaining a high-quality of life for its residents and providing an environment where people are not negatively impacted by excessive noise levels. The Noise Plan describes how noise is measured and controlled and identifies the existing and future noise environment of the community. It articulates the community's desire to minimize unhealthy noise exposure associated with new development and revitalization/reuse projects, transportation, and other noise sources.

Land Use and Noise Compatibility

Noise is problematic when noise sensitive land uses are affected. Land uses considered sensitive by the State of California include schools, playgrounds, athletic facilities, hospitals, rest homes, rehabilitation centers, long-term care, and mental care facilities. The City considers sensitive land uses to include residences, schools, hospitals, churches, and recreation areas. Generally, a sensitive receptor is identified as a location where human populations (especially children, senior citizens, and sick persons) are present.

Most noise impacts can be avoided when noise sources, sensitive land uses, and information about the future noise environment are considered in land use planning and development decisions.

Noise Standards and Land Use Compatibility

Noise generally is defined as unwanted or intrusive sound. Because noise consists of pitch, loudness, and duration, describing noise with a single unit of measure presents a challenge. The A-weighted decibel scale (dBA) has been developed to describe the loudness of a sound or sound environment based on the sensitivity of the human ear.

The dBA descriptor only reports noise from a single source or combination of sources at a point in time. To allow a more comprehensive description of a noise environment, Federal and State agencies have established noise and land use compatibility guidelines that use averaging approaches to noise measurement. Two measurement scales commonly used in California are the Community Noise Equivalent Level (CNEL) and the day-night level (Ldn). To account for increased human sensitivity at night, the CNEL level includes a 5-decibel penalty on noise during the 7:00 a.m. to 10:00 p.m. time period and a 10-decibel penalty on noise during the 10:00 p.m. to 7:00 a.m. time period. The Ldn level includes only the 10-decibel weighting for late-night noise. These values are nearly identical for all but unusual noise sources.

The City's primary goal regarding community noise is to minimize the excessive exposure of residents to noise levels to the extent possible, given the City's developed condition. The Noise Plan establishes noise/land use compatibility guidelines based on cumulative noise criteria for outdoor noise. Table N-2 outlines the criteria the City uses to review development proposals.

Table N-2
Noise/Land Use Compatibility Criteria

Land Use Category	Community Noise Exposure (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 77.5	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

CNEL = community noise equivalent level; NA = not applicable

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.
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 have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
NORMALLY UNACCEPTABLE: New construction or development should 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 must be included in the design.
CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.

The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and businesses, commercial, and professional uses.

Construction Standards

The provisions of the State Noise Insulation Standards (Title 24, Part 2, CCR) are enforced in Rancho Santa Margarita. Title 24 specifies that combined indoor noise for multi-family living spaces shall not exceed 45 dBA CNEL. This standard must be implemented when the outdoor noise level exceeds 60 dBA CNEL. Title 24 requires that the same standard be applied to all new hotels, motels, apartments and multi-family projects. The Development Services Director acts as the noise control coordinator. This designation of responsibility allows consistent and continued enforcement of the established noise standards.

Project Design

New development or redevelopment/revitalization projects could introduce new land uses or intensification of land uses. When reviewing a development project, noise generation and potential impacts to surrounding development are considered in accordance with CEQA. An acoustical analysis is required for projects that will generate noise potentially affecting sensitive receptors. Where significant impacts are identified, mitigation measures are required.

Common mitigation measures for non-residential uses include acoustically treated and quiet-design furnaces, fans, motors, compressors, valves, and pumps. The City may also require limited delivery hours and hours of operation to minimize impacts to adjacent residential users or other sensitive receptors.

Projects involving residential uses may require special consideration and adjustments to site plans. Site planning involves arrangement of land uses, lots, and buildings to minimize noise levels. The placement of noise compatible land uses between the roadway and more sensitive uses is an effective site planning technique. The use of buildings as noise barriers, and their orientation away from the source of noise, can shield sensitive activities, entrances, and common open space areas. Mixed-use developments require special consideration of the placement of uses within the development so that the residential component is protected from the commercial/office component, as well as exterior noise sources. Incorporation of design features such as placing bedrooms, windows, balconies and courtyards/open space areas away from noise sources, as well as increased setbacks and landscape buffers can also contribute to noise reduction. The City will require noise-reducing features within the site design of new development and reuse/revitalization projects to reduce noise exposure to noise-sensitive uses.

Transportation Related Noise

Transportation noise refers to noise from automobile use, trucking, airport operations, and rail operations. There are no airports or rail operations within the planning area. The major source of noise within the City is transportation-related, with vehicular traffic being the most substantial source.

The roadways within the City that generate the most traffic noise from vehicle and truck traffic include SR-241 due to higher traffic volumes and vehicle speeds than other roadways. Major arterials that generate noise include Santa Margarita Parkway, Antonio Parkway, Alicia Parkway, and Avenida Empresa.

Residential neighborhoods are located in close proximity to portions of CA-241 including near its intersection with Antonio Parkway and Melinda Road. Antonio Parkway itself is a major 6-lane arterial with relatively high-speed traffic that runs through numerous residential neighborhoods.

Vehicular noise is enforced by the Orange County Sheriff's Department (OCSD) through the California Vehicle Code (CVC).

Noise Contours

The transportation noise environment for the community can be described with noise contours. The noise contours are used to guide land use and development decisions. Vehicular noise along major roadways were modeled to estimate existing (2016) noise levels from mobile traffic. The roadway noise levels were projected using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (RD-77-108), together with several roadway and site parameters. The existing roadway noise contours are illustrated in Figure N-1.

There are areas along the major arterials within the City that experience traffic noise levels in excess of 70 CNEL. The highest noise levels occur along Santa Margarita Parkway, west of Avenida Empresa. Many of the City's commercial areas experience noise levels in excess of 65 CNEL adjacent to major arterial roadways and SR-241 rights-of-way. Residences located within this area may experience unacceptable noise levels. It should be noted that the contours depicted do not include attenuation from intervening structures, walls, or topography, and these are modeled traffic noise levels, and are not based upon actual site measurements.

Highways typically result in greater noise levels than other roadways due to higher traffic volumes and vehicle speeds. As shown on Figure N-1, SR-241 traverses the City and represents a primary source of traffic noise. SR-241 bisects the City with interchanges at Antonio Parkway, Santa Margarita Parkway, and Los Alisos Boulevard. Based on Caltrans traffic data, average daily traffic along the segments of SR-241 that pass through the City is approximately 59,200 vehicles for both northbound and southbound traffic.

The Land Use Element anticipates the potential for future development during the General Plan planning period. Additional development would result in an increase in traffic volumes. Figure N-2 shows projected roadway noise contours associated with future traffic volumes. As shown, projected roadway noise contours would slightly increase along the major roadways, including SR-241, Santa Margarita Parkway, and Antonio Parkway.

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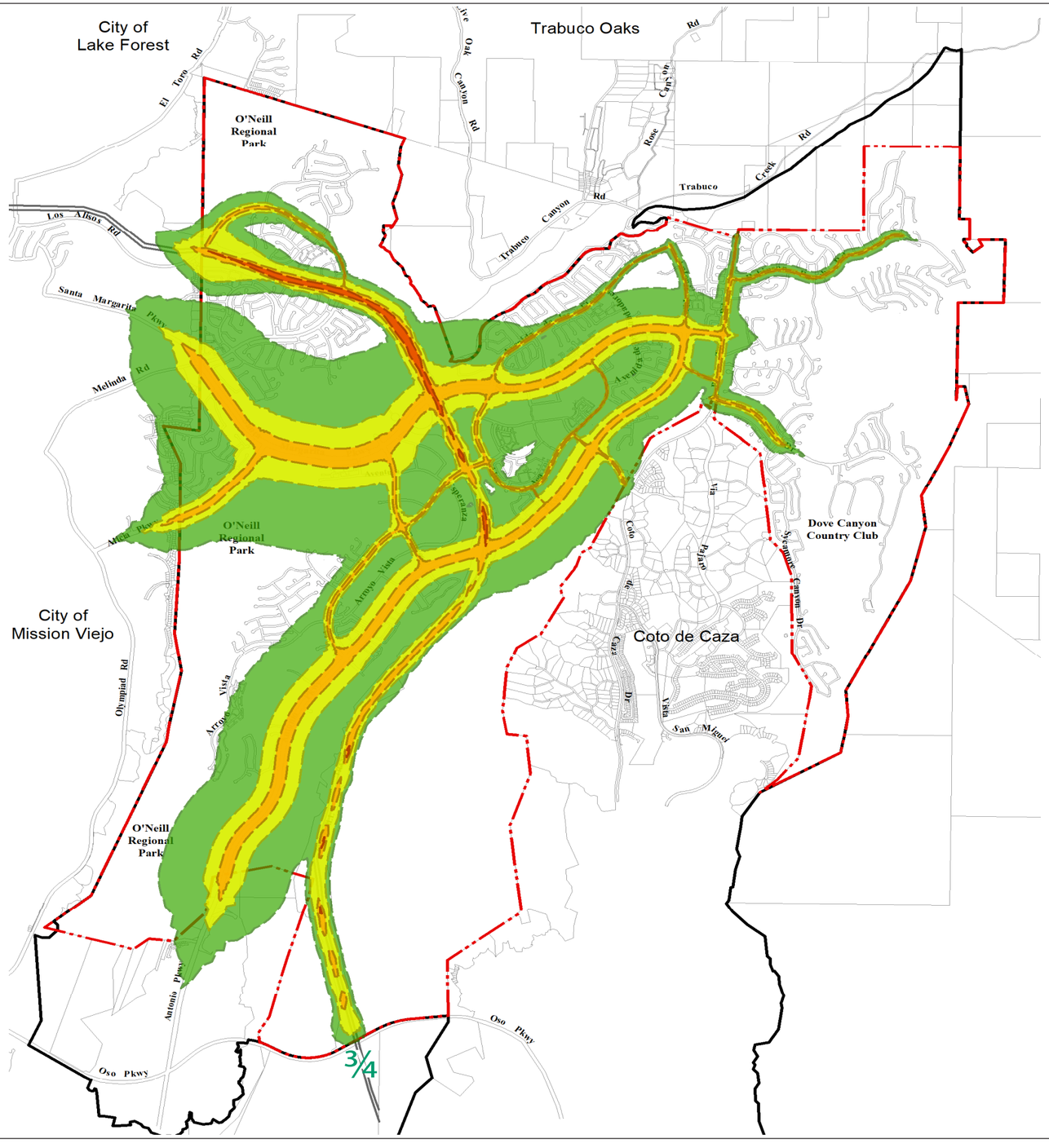

LEGEND

- 75 CNEL
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- Sphere of Influence

0 2,400 4,800 Feet

Sources: Orange County Local Agency Formation Commission, 2017 and City of Rancho Santa Margarita, 2016 Traffic Flow Map, May 2016.

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Roadway Noise Contours

Figure N-1

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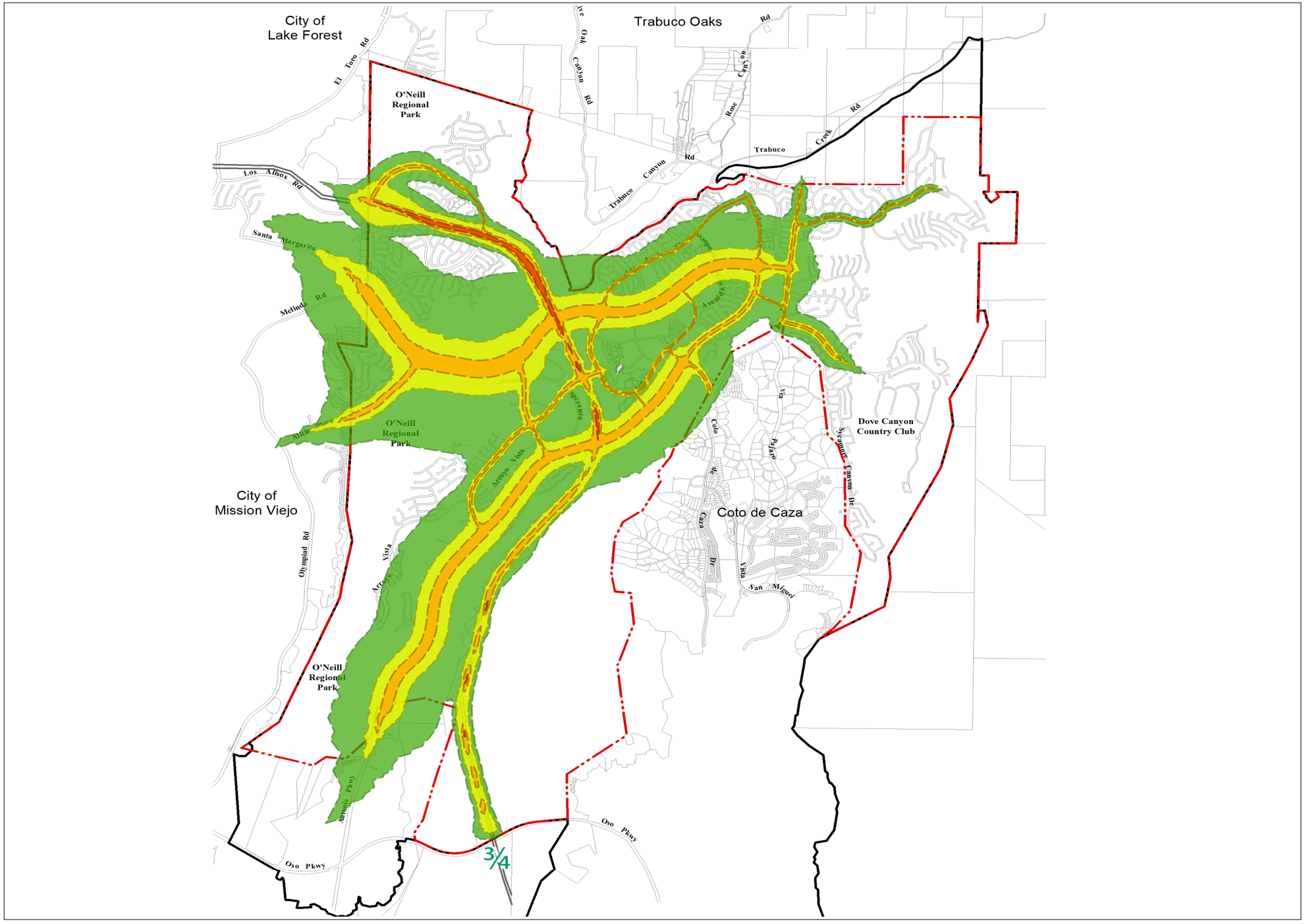

LEGEND

- 75 CNEL
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- Sphere of Influence

0 2,400 4,800 Feet

Source: Michael Baker International, 2018.

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Future Roadway Noise Contour

Figure N-2

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Noise Control at Reception Sites

The most effective means of controlling noise from transportation systems is to reduce noise at the source. However, the City has little direct control over noise produced by transportation sources since State noise regulations preempt local regulations. Because the City cannot control noise at the source, City noise programs focus on reducing the impact of transportation noise reception sites.

During the planning stages of the development process, potential impacts from transportation noise will be identified and mitigation measures will be required as needed to meet City noise standards. Site planning, as discussed above, landscaping, topography and the design and construction of noise barriers are the most common method of alleviating vehicular traffic noise impacts. Setbacks and buffers can also achieve noise reduction.

Noise attenuating barriers are commonly incorporated into projects and can be extremely effective in reducing noise levels. Noise barriers incorporate the placement of berms walls, or a combination of the two with appropriate landscaping. Although noise barriers can be extremely effective, the visual effect of barriers on neighborhoods must be considered. Potentially significant aesthetics impacts associated with noise barriers must be addressed and mitigated through landscaping or other project design measures in all new public and private projects.

Truck Routes

Truck traffic generates noise that can disturb people in noise-sensitive land uses. Truck trips within Rancho Santa Margarita typically occur on higher capacity roadways near commercial and business areas. The City will identify a system of truck routes to provide for efficient transport of goods while minimizing potential impacts on noise-sensitive land uses.

Non-Transportation Related Noise

Non-transportation noise typically refers to noise from stationary sources such as commercial establishments, machinery, air conditioning systems, compressors, residential and recreational uses, special events, and landscape maintenance equipment. The most common sources of stationary noise within the City consist of construction activities, and commercial and industrial uses. Commercial and industrial land uses located near residential areas may generate occasional noise impacts. Residential land uses and areas identified as noise-sensitive should be protected from excessive noise from stationary sources including commercial, business park, and auto centers. These noise sources are best controlled through effective land use planning and application of the City's Noise Ordinance.

City of Rancho Santa Margarita Noise Control Ordinance

The City of Rancho Santa Margarita's regulations with respect to noise are included in RSM Municipal Code Chapter 5.04, Noise Control, also known as the Noise Ordinance. Construction-related and operational noise restrictions are discussed below.

Sections 5.04.050 and 5.04.060 of the Rancho Santa Margarita Municipal Code define the exterior and interior noise level limits for residential land uses; the City does not have specific noise level limits for commercial or industrial zones. Table N-3 summarizes the City's exterior and interior residential noise level standards.

Table N-3
Rancho Santa Margarita Municipal Code Noise Standards

Noise Level	Time Period
Exterior	
55 dBA	7 A.M. – 10 P.M.
50 dBA	10 P.M. – 7 A.M.
Interior	
50 dBA	7 A.M. – 10 P.M.
45 dBA	10 P.M. – 7 A.M.

Section 5.04.050(b) further defines the applicability of the exterior noise level limits in the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof. Each of the above noise levels shall be reduced by five dB(A).

Chapter 5.04 Noise Control is enforced by Code Enforcement for the City of Rancho Santa Margarita and by the OCSD depending upon the type and nature of the violation. Enforcement of the Ordinance ensures that adjacent properties are not exposed to excessive noise from stationary sources and requires proposed development projects to demonstrate compliance with the Ordinance and that construction activity adheres with established work schedule limits. Noise sources associated with construction, repair, remodeling, or grading are permitted between 7:00 a.m. and 8:00 p.m. Monday through Saturday, between 9:00 a.m. and 8:00 p.m. on Sunday's and federal holidays.

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