

4.11 NOISE

4.11.1 Introduction

This section evaluates the Project's potential impacts concerning noise and vibration, including future housing development on the housing sites. The noise and vibration analysis summarizes existing conditions and the relevant regulatory framework, discusses the Project's potential noise and vibration impacts, and identifies mitigation to avoid or minimize impacts, as needed.

4.11.2 Regulatory Setting

Federal

Noise Control Act

The Noise Control Act of 1972 recognized the role of the federal government in dealing with major commercial noise sources that require uniform treatment. Since Congress has the authority to regulate interstate and foreign commerce, regulation of noise generated by such commerce also falls under congressional authority. The federal government specifically preempts local control of noise from aircraft, railroads, and interstate highways. The U.S. Environmental Protection Agency (U.S. EPA) has identified acceptable noise levels for various land uses to protect the public, with an adequate margin of safety, and to establish noise emissions standards for interstate commerce.

The Department of Housing and Urban Development's standards define L_{dn} at below 65 a-weighted decibels (dBA) for outdoors as acceptable for residential areas. Outdoor levels up to 75 dBA day-night noise level (L_{dn}) may be made acceptable through the use of insulation in buildings (Department of Housing and Urban Development, 2009).

State

California Code of Regulations, Section 65302(f)

California Code of Regulations Section 65302(f) requires local land use planning jurisdictions to prepare a general plan. The noise element is a mandatory component of the general plan. It may include general community noise guidelines developed by the California Department of Health Services and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction. The State guidelines also recommend that the local jurisdiction consider adopting a local noise control ordinance. The California Department of Health Services developed guidelines for community noise acceptability for use by local agencies. Selected relevant levels are as follows (L_{dn} may be considered nearly equal to the Community Noise Equivalent Level [CNEL]):

- CNEL below 60 dBA – normally acceptable for low-density residential use
- CNEL of 55 dBA to 70 dBA – conditionally acceptable for low-density residential use
- CNEL below 65 dBA – normally acceptable for high-density residential use
- CNEL of 60 to 70 dBA – conditionally acceptable for high-density residential use, transient lodging, churches, and educational and medical facilities
- CNEL below 70 dBA – normally acceptable for playgrounds and neighborhood parks

“Normally acceptable” is defined as satisfactory for the specified land use, assuming that normal conventional construction is used in buildings. “Conditionally acceptable” may require some additional noise attenuation or special study. Under most of these land use categories, overlapping ranges of acceptability and conditionally acceptable are presented, leaving some ambiguity in areas where noise levels fall within the overlapping range.

Public Utilities Code (PUC) 21676(a)

State Aeronautics Act: Airport Land Use Commission requires each local agency whose General Plan includes areas covered by an airport land use commission plan to submit a copy of its general plan or specific plans to the Airport Land Use Commission (ALUC). If the plan or plans are inconsistent with the ALUC’s plan, the local agency is notified and that local agency shall have another hearing to reconsider its plans. The local agency may overrule the commission after such hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes stated in PUC Section 21670. Section 21676(b) of the Public Utilities Code requires that prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the ALUC pursuant to Section 21675, the local agency shall first refer the proposed action to the ALUC. If the ALUC determines that the proposed action is inconsistent with its plan, the referring agency shall be notified. The local agency may, after a public hearing, overrule the ALUC by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes stated in PUC Section 21670.

California Code of Regulations, Title 24 – Building Standards

The State’s noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

California Code of Regulations, Title 24 – Noise Insulation Standards

Pertinent State noise regulations are contained in the California Code of Regulations. Title 24, Noise Insulation Standards, establishes the acceptable interior environmental noise level for multiple dwelling unit development at 45 dBA L_{dn}. This may be extended by local legislative action to include single dwelling unit development.

Local

Airport Environs Land Use Plan

The Airport Environs Land Use Plan (AELUP) for John Wayne Airport (last amended in 2008) was established to safeguard the general welfare of the inhabitants within the vicinity of the airport and to ensure the continued operation of the airport. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas

susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace.

Per Federal Aviation Regulations (FAR) Part 77, Section 77.13(a), notice to the Federal Aviation Administration (FAA) is required for any proposed structure more than 200 feet Above Ground Level (AGL) of its site. Notices to the FAA provide a basis for evaluating project impacts on operational procedures and air navigation. To coincide with the FAA regulation, the ALUC also requires notification of all such proposals, which may result in referral to the ALUC.

City of Newport Beach General Plan

The *City of Newport Beach General Plan 2006 Update* (General Plan) includes goals and policies to identify noise sources and problems affecting community safety and comfort and establishes policies and programs that limit community exposure to excessive noise levels. The Noise Element and the Land Use Element set standards for acceptable noise levels by various land uses and provides guidance for how to balance the noise created by an active and economically healthy community with the community's desire for peace and quiet.

The following General Plan goals and policies that have been adopted by the City for the purpose of avoiding or mitigating an environmental effect are applicable to future development projects associated with the proposed Project.

Noise Element

Goal N 1 **Noise Compatibility—Minimized land use conflicts between various noise sources and other human activities.**

Policy N 1.1 **Noise Compatibility of New Development.** Require that all proposed projects are compatible with the noise environment through use of Table N2 (see **Table 4.11-1: Land Use Noise Compatibility Matrix**), and enforce the interior and exterior noise standards shown in Table N3 (see **Table 4.11-2: City of Newport Beach Noise Standards**).

Policy N 1.2 **Noise Exposure Verification for New Development.** Applicants for proposed residential or mixed-use projects located in areas projected to be exposed to 65-70 dBA CNEL or greater, as shown on Figure N5 (see **Figure 4.11-1: Airport Area Noise Contours With Housing Sites**), must conduct a noise study to provide evidence that the depicted noise contours do not adequately account for local noise exposure circumstances due to such factors as, topography, variation in traffic speeds, and other applicable conditions. These findings shall be used to determine the level of exterior or interior noise, attenuation needed to attain an acceptable noise exposure level and the feasibility of such measures when other planning considerations are taken into account, consistent with Title 21 of the California Code of Regulations.

Policy N 1.3 **Remodeling and Additions of Structures.** Require that all remodeling and additions of structures comply with the noise standards shown in Table N3 (**Table 4.11-2**).

Land Use Categories		Community Noise Equivalent Level (CNEL)						
Categories	Uses	<55	55-60	60-65	65-70	70-75	75-80	>80
Residential	Single Family, Two Family, Multiple Family	A	A	B	C	C	D	D
Residential	Mixed Use	A	A	A	C	C	C	D
Residential	Mobile Home	A	A	B	C	C	D	D
Commercial- <i>Regional, District</i>	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
Commercial- <i>Regional, Village District, Special</i>	Commercial Retail, Bank, Restaurant, Movie Theatre	A	A	A	A	B	B	C
Commercial Industrial Institutional	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
Commercial- <i>Recreational</i> Institutional- <i>Civic Center</i>	Amphitheatre, Concert Hall Auditorium, Meeting Hall	B	B	C	C	D	D	D
Commercial- <i>Recreation</i>	Children’s Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
Commercial- <i>General, Special</i> Industrial, Institutional	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
Institutional	Hospital, Church, Library, Schools’ Classroom	A	A	B	C	C	D	D
Open Space	Parks	A	A	A	B	C	D	D
Open Space	Golf Course, Cemeteries, Nature Centers Wildlife Reserves, Wildlife Habitat	A	A	A	A	B	C	C
Agriculture	Agriculture	A	A	A	A	A	A	A

Notes:
 CNEL = Community Noise Equivalent Level
Zone A: Clearly Compatible—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B: Normally Compatible**—New construction or development should be undertaken only after detailed analysis of the noise reduction requirements and are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C: Normally Incompatible—New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.
Zone D: Clearly Incompatible—New construction or development should generally not be undertaken.

Source: City of Newport Beach General Plan, adopted July 25, 2006.

Table 4.11-2: City of Newport Beach Noise Standards

Land Use Categories		Allowable Noise Levels (dBA)			
Categories	Uses	Interior ^{1, 2}		Exterior ^{1, 2}	
		Interior Noise Level (L _{eq}) 7am to 10pm	Interior Noise Level (L _{eq}) 10pm to 7am	Interior Noise Level (L _{eq}) 7am to 10pm	Interior Noise Level (L _{eq}) 10pm to 7am
Residential	Single Family, Two Family, Multiple Family (Zone I)	45	40	55	50
	Residential Portions of Mixed Use Developments (Zone III)	45	40	60	50
Commercial Industrial	Commercial (Zone II)	N/A	N/A	65	60
	Industrial or Manufacturing (Zone IV)	N/A	N/A	70	70
Institutional	Schools, Day Care Centers, Churches, Libraries, Museums, Health Care Institutions (Zone I)	45	40	55	50

Notes:

dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level

1. If the ambient noise level exceeds the resulting standard, the ambient shall be the standard.
2. It shall be unlawful for any person at any location within the incorporated area of the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such a person which causes the noise level when measured on any other property, to exceed either of the following:
 - The noise standard for the applicable zone for any fifteen-minute period;
 - A maximum instantaneous noise level equal to the value of the noise standard plus twenty dBA for any period of time (measured using A-weighted slow response).
 - In the event the ambient noise level exceeds the noise standard, the noise standard applicable to said category shall be increased to reflect the maximum ambient noise level.
 - The noise standard for the residential portions of the residential property falling within one hundred feet of a commercial property, if the intruding noise originates from that commercial property.
 - If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

Source: City of Newport Beach General Plan, adopted July 25, 2006.

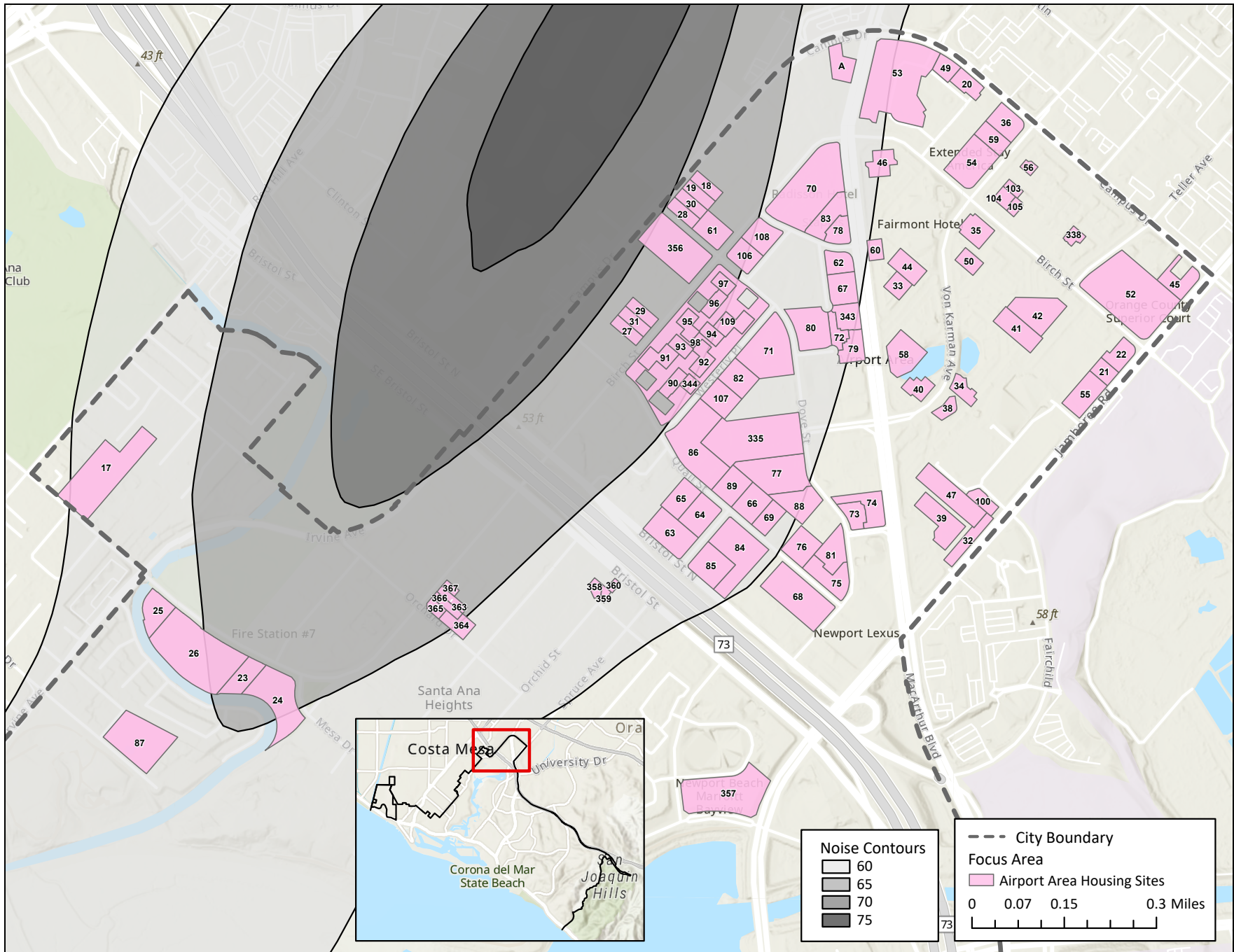


Figure 4.11-1: Airport Area Noise Contours with Housing Sites
 City of Newport Beach General Plan Housing Implementation
 Program Environmental Impact Report

- Policy N 1.4** **New Developments in Urban Areas.** Require that applicants of residential portions of mixed-use projects and high-density residential developments in urban areas (such as the Airport Area and Newport Center) demonstrate that the design of the structure will adequately isolate noise between adjacent uses and units (common floor/ceilings) in accordance with the California Building Code.
- Policy N 1.5** **Infill Projects.** Allow a higher (above 65 dBA CNEL) exterior noise level standard for infill projects in existing residential areas adjacent to major arterials if it can be shown that there are no feasible mechanisms to meet the exterior noise levels. The interior standard of 45 dBA CNEL shall be enforced for any new residential project or mixed-use project containing a residential component, consistent with Title 21 of California Code of Regulations.
- Policy N 1.5A** **Airport Area Infill Projects.** Allow infill residential projects proximate to John Wayne Airport to have a higher exterior noise level standard (65-70 dBA CNEL) if it can be shown that there are no practical mechanisms or designs to meet the exterior noise levels. The interior standard of 45 dBA CNEL shall be enforced for any residential component of projects. No residential units may be located on parcels wholly within the John Wayne Airport 65 dBA CNEL noise contour area as shown in Figure N5 (see **Figure 4.11-1**), of the Noise Element of the General Plan, unless and until the City determines, based on substantial evidence, that the sites wholly within such contour area are needed for the City to satisfy its Sixth Cycle RHNA mandate. Nonresidential uses are encouraged on parcels located wholly within the 65 dBA CNEL contour area, shown in Figure N5.
- Policy N 1.6** **Mixed-Use Developments.** Encourage new mixed-use developments to site loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development.
- Policy N 1.7** **Commercial/Entertainment Uses.** Limit hours and/or require attenuation of commercial/entertainment operations adjacent to residential and other noise sensitive uses in order to minimize excessive noise to these receptors.
- Policy N 1.8** **Significant Noise Impacts.** Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses. The CNEL increase is shown in the table (**Table 4.11-3: City of Newport Beach Standards of Significance for Noise Increases**) below.

CNEL (dBA)	dBA Increase
55	3
60	2
65	1
70	1
Over 75	Any increase is considered significant

CNEL = Community Noise Equivalent Level; dBA = A-weighted decibels
 Source: City of Newport Beach General Plan, adopted July 25, 2006.

- Goal N 2** **Minimized motor vehicle traffic and boat noise impacts on sensitive noise receptors.**
- Policy N 2.1** **New Development.** Require that proposed noise-sensitive uses in areas of 60 dBA and greater, as determined the analyses stipulated by Policy N1.1, demonstrate that they meet interior and exterior noise levels.
- Policy N 2.2** **Design of Sensitive Land Uses.** Require the use of walls, berms, interior noise insulation, double-paned windows, advanced insulation systems, or other noise measures, as appropriate, in the design of new residential developments to attenuate noise levels to not exceed 45 dBA CNEL interior. Other new noise-sensitive land uses that are adjacent to major arterials and located proximate to John Wayne Airport (e.g., infill residential) and within the 65-70 dBA CNEL noise contour area are required to be indoor-oriented to reduce noise impacts on outdoor living or recreational areas. Application of the Noise Standards in Table N2 (see **Table 4.11-1**) shall govern this requirement.
- Policy N 2.3** **Limiting Hours of Truck Deliveries.** Limit the hours of truck deliveries to commercial uses abutting residential uses and other noise sensitive land uses to minimize excessive noise unless there is no feasible alternative. Any exemption shall require compliance with nighttime (10:00 p.m. to 7:00 a.m.) noise standards.
- Goal N 3** **Protection of Newport Beach residents from the adverse noise impacts of commercial air carrier operations at John Wayne Airport as provided in the City Council Airport Policy.**
- Policy N 3.1** **New Development.** Ensure new development is compatible with the noise environment proximate to John Wayne Airport by not allowing residential units on parcels located wholly within the John Wayne Airport 65 dBA CNEL noise contour, as shown in Figure N5 (see **Figure 4.11-1**) of the Noise Element of the General Plan, unless and until the City determines, based on substantial evidence, that the sites wholly within such contour area are needed for the City to satisfy its Sixth Cycle RHNA mandate.
- Policy N 3.2** **Residential Development.** Require that residential development proximate to John Wayne Airport shall not be located on parcels wholly within the John Wayne Airport 65 dBA CNEL noise contour shown in Figure N5 (see **Figure 4.11-1**) of the Noise Element of the General Plan, unless and until the City determines, based on substantial evidence, that the sites wholly within such contour area are needed for the City to satisfy its Sixth Cycle RHNA mandate. Require developers of residential or mixed-use land uses with a residential component to notify prospective purchasers or tenants of aircraft noise. Additionally, require outdoor common areas or recreational areas of residential or mixed-used developments to be posted with signs notifying users regarding the proximity to John Wayne Airport and the presence of operating aircraft and noise.

Goal N 4 **Minimization of Nontransportation-Related Noise. Minimized nontransportation-related noise impacts on sensitive noise receptors.**

Policy N 4.1 **Stationary Noise Sources.** Enforce interior and exterior noise standards outlined in Table N3 (**Table 4.11-2**), and in the City’s Municipal Code to ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources, such as heating, ventilation, and air conditioning equipment.

Policy N 4.6 **Maintenance or Construction Activities.** Enforce the Noise Ordinance noise limits and limits on hours of maintenance or construction activity in or adjacent to residential areas, including noise that results from in-home hobby or work related activities.

Goal N 5 **Minimized excessive construction-related noise.**

Policy N 5.1 **Limiting Hours of Activity.** Enforce the limits on hours of construction activity.

Land Use Element

Policy LU 6.15.3 **Airport Compatibility.** Require that all development be constructed in conformance with the height restrictions set forth by the Federal Aviation Administration (FAA), Federal Aviation Regulations (FAR) Part 77, and Caltrans Division of Aeronautics, and that residential development shall be allowed only on parcels with noise levels of less than John Wayne Airport 65 dBA CNEL noise contour area *as* shown in Figure N5 (see **Figure 4.11-1**) of the Noise Element of the General Plan unless and until the City determines, based on substantial evidence, that the sites wholly within the 65 dBA CNEL noise contour shown in Figure N5 are needed for the City to satisfy its Sixth Cycle RHNA mandate. Nonresidential uses are, however, encouraged on parcels located wholly within the 65 dBA CNEL contour area.

City of Newport Beach Municipal Code

Chapter 10.26 Community Noise Control. Newport Beach Municipal Code (Municipal Code) Chapter 10.26 identifies exterior and interior noise standards, exemptions, and violations for sources of noise in the City. The noise regulations apply to all noise sources, with the exception of the activities listed in Municipal Code Section 10.26.035 (Exemptions). These activities include occasional outdoor gatherings, construction noise sources, and stationary noise sources.

Exterior noise standards established in Municipal Code Section 10.26.025 (Exterior Noise Standards) are identified in **Table 4.11-4: City of Newport Beach Exterior Noise Standards**. Municipal Code Section 10.26.030 establishes the prohibited interior noise limits as identified in **Table 4.11-5: City of Newport Beach Interior Noise Standards**. For both exterior and interior noise levels, if the ambient noise level is greater than the identified noise standards, the noise standard becomes the ambient noise level without the offending noise.

Table 4.11-4: City of Newport Beach Exterior Noise Standards

Noise Zone	Noise Zone Land Uses	Noise Level	Time Period
I	Single-, two- or multiple-family residential	55 dBA 50 dBA	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
II	Commercial	65 dBA 60 dBA	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
III	Residential portions of mixed-use properties	60 dBA 50 dBA	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.
IV	Industrial or manufacturing	70 dBA 70 dBA	7:00 a.m. to 10:00 p.m. 10:00 p.m. to 7:00 a.m.

Notes:
 dBA = A-weighted decibels
 Source: City of Newport Beach, Newport Beach Municipal Code Chapter 10.26, current through Ordinance 2023-20, passed November 28, 2023.

Table 4.11-5: City of Newport Beach Interior Noise Standards

Noise Zone	Type of Land Use	Allowable Interior Noise Level (L _{eq})	
		7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
I	Residential	45 dBA	40 dBA
III	Residential portions of mixed-use properties	45 dBA	40 dBA

Notes:
 dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level
 Source: City of Newport Beach, Newport Beach Municipal Code Chapter 10.26, current through Ordinance 2023-20, passed November 28, 2023.

The Municipal Code addresses exterior noise levels, stating “It is unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property, to exceed either of the following:

1. The noise standard for the applicable zone for any fifteen-minute period;
2. A maximum instantaneous noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).”

In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under said category is increased to reflect the maximum ambient noise level. The Noise Zone III standard applies to that portion of residential property falling within 100 feet of a commercial property, if the intruding noise originates from that commercial property. If the measurement location is on boundary between two different noise zones, the lower noise level standard applicable to the noise zone applies.

Additionally, Municipal Code Section 10.26.040 prohibits noise levels at the exterior of schools, day care centers, hospitals, churches, libraries, or museums from exceeding the standards set forth in Municipal Code Chapter 10.26 or from interfering with the activities at these institutions.

With respect to interior noise levels, Municipal Code Section 10.26.030 (Interior Noise Standards) states it is unlawful for any person at any location within the incorporated area of the City to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such

a person which causes the noise level when measured on any other property, to exceed either of the following:

1. The noise standard for the applicable zone for any 15-minute period;
2. A maximum instantaneous noise level equal to the value of the noise standard plus 20 dBA for any period of time (measured using A-weighted slow response).

In the event the ambient noise level exceeds the noise standard, the noise standard applicable to said category is increased to reflect the maximum ambient noise level. The Noise Zone III standard applies to that portion of residential property falling within 100 feet of a commercial property, if the intruding noise originates from that commercial property. If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone applies.

In accordance with Municipal Code Section 10.28.040 (Construction Activity – Noise Regulations), construction noise activities are exempt from the noise regulations, provided that the construction activities to occur on any weekday, which is not a federal holiday, between the hours of 7:00 a.m. and 6:30 p.m. Construction can be performed on a Saturday, in any area of the City that is not designated as a high-density area, between 8:00 a.m. and 6:00 p.m.

Municipal Code Section 20.30.080.C (Noise Exposure Verification for New Development) states that projects located in areas projected to be exposed to a 60 dBA CNEL and higher may conduct a field survey, noise measurements, or other noise modeling analysis in a manner acceptable to the Director to provide evidence that the noise contours identified in the Noise Element of the General Plan do not adequately account for local noise exposure circumstances due to topography, variation in traffic speeds, or other conditions. These findings are to be used to determine the level of required noise attenuation methods and the feasibility of mitigation.

Municipal Code Section 20.30.080(F) (Residential Use Proximate to John Wayne Airport) states that residential uses, including mixed-use residential, shall be allowed on parcels wholly or partially outside the John Wayne Airport 65 dBA CNEL noise contour as shown in Figure N5 of the Noise Element of the General Plan, as identified in the 2014 John Wayne Airport Settlement Agreement Amendment Environmental Impact Report (EIR No. 617) and consistent with Title 21 of the California Code of Regulations, subject to the following conditions that apply to all residential project within the John Wayne Airport 60 dBA CNEL or higher CNEL noise as shown in Figures N4 and N5 of the Noise Element of the General Plan (see **Figure 4.11-1**):

- 1) Prior to the issuance of any building permits for such development, a noise study shall be prepared by a City-approved qualified acoustical consultant and submitted to the Community Development Director for approval;
- 2) All new residential structures or the residential units within a mixed-use development shall be attenuated to provide an interior noise level of 45 dBA CNEL or less;
- 3) The design of the residential portions of mixed-use projects and residential developments shall have adequate noise attenuation between adjacent uses and units (common floor/ceilings) in accordance with the California Building Code;

- 4) New mixed-use developments shall incorporate designs with loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development;
- 5) Use of walls, berms, interior noise insulation, double paned windows, advance insulation systems, or other noise mitigation measures, as deemed appropriate shall be incorporated in the design of new residential to bring interior sound attenuation to 45 dBA CNEL or less;
- 6) Residential uses shall be indoor-oriented to reduce noise impingement on outdoor living areas;
- 7) On-site indoor amenities, such as fitness facilities or recreation and entertainment facilities shall be encouraged; and
- 8) Advanced air filtration systems for buildings shall be considered to promote cleaner air.

Residential development shall be limited to parcels wholly or partially outside the 65 dBA CNEL noise contour, unless and until the City determines, based on substantial evidence, that the sites wholly within such contour area are needed for the City to satisfy its Sixth Cycle RHNA mandate. Non-residential uses are encouraged on parcels located wholly within the 65 dBA CNEL contour area.

4.11.3 Existing Conditions

Noise Concepts

Noise is generally defined as loud, unexpected, or unwanted sound typically associated with human activity. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment. Sound is composed of various frequencies; however, the human ear does not respond to all frequencies, being less sensitive to very low and high frequencies than to medium frequencies that correspond with human speech.

There are three conceptual components to noise: a noise source, a receptor, and the propagation path between the two. The loudness of the noise source, obstructions, or atmospheric factors affecting the propagation path, determine the perceived sound level and noise characteristics at the receptor. Noise sources can be classified in two forms: point sources, such as individual pieces of stationary or mobile equipment (pumps, heavy construction equipment), and line sources, such as a roadway with a large number of pass-by sources (motor vehicles).

Measuring sound directly in terms of pressure would require a large range of numbers. To avoid this, the decibel (dB) scale was devised. The dB scale uses the hearing threshold of 20 micropascals (μPa) as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness.

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because

environmental noise fluctuates over time, these scales consider that the noise's effect on people is largely dependent on the noise's total acoustical energy content, as well as the time when the noise occurs. Most commonly, environmental sounds are described in terms of an average level (L_{eq}) that has the same acoustical energy as the summation of all the time-varying events. While L_{eq} represents the continuous sound pressure level over a given period, the day-night noise level (L_{dn}) and Community Equivalent Noise Level (CNEL) are measures of energy average during a 24-hour period, with dB weighted sound levels from 7:00 p.m. to 7:00 a.m.

Sound-level meters adjust for the weight the human ear gives to certain frequencies, applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called "A-weighting" and is commonly used in measurements of community environmental noise. The A-weighted sound level (dBA) is determined to be the most appropriate unit of measure for community noise.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted:

- Except in carefully controlled laboratory experiments, a 1.0-dBA change cannot be perceived by humans.
- Outside the laboratory, a 3.0-dBA change is considered a just-perceivable difference.
- A minimum 5.0-dBA change is required before any noticeable change in community response would be expected. A 5.0-dBA increase is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Noise-Sensitive Receptors

Noise-sensitive receptors are associated with land uses wherein indoor and/or outdoor human activities may be subject to stress and/or significant noise interference. They include residential (single and multiple dwelling unit development and similar uses); transient lodging (which are sensitive at night including hotels, motels, and similar uses); facilities for long-term medical care; daycare facilities; private or public

educational facilities; libraries; churches; and other places of public gathering. In addition to buildings, exterior use areas may also be considered noise-sensitive receptors. Exterior use areas are areas where frequent human use for prolonged periods (at least an hour) may reasonably occur. Common examples of exterior use areas include residential backyards, multiple dwelling unit communal areas, patios, picnic areas, recreation areas, playgrounds, active sports areas, and parks. Sensitive land uses in the City and areas adjacent to the City boundaries includes residences, schools, offices, hospitals, libraries, and recreational areas.

Existing Mobile Noise

Existing roadway noise levels were calculated for the roadway segments in the City. This task was accomplished using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the Housing, Land Use and Circulation Elements Transportation Analysis (Urban Crossroads, 2023) (Transportation Analysis). The noise prediction model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data indicates that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along roadway segments in the City are included in **Table 4.11-6: Existing Traffic Noise Levels**. As indicated in the table, existing traffic noise levels range between 54.3 dBA L_{dn} and 73.5 dBA L_{dn} in the City, with the highest noise levels occurring along Bison Avenue and Ford Road.

Roadway	Roadway Segment	ADT Volume	CNEL at 100 Feet
Campus Drive	Dove St to Quail St	29,100	68.0
	Bristol St to Orchard Dr	28,400	69.1
Irvine Avenue	Mesa Dr to Del Mar Ave	30,600	68.1
	Del Mar Ave to Monte Vista Ave	34,700	63.9
	23rd to 22nd St	35,100	66.3
	22nd to 20th St	30,700	67.0
	20th to 19th St	32,100	67.2
	19th to 17th St	22,300	65.6
Jamboree Road	North of Campus Dr	40,100	70.5
	Campus Dr to Birch St	43,100	71.0
	Birch St to Bristol St	41,700	71.8
	Bristol St to Bayview Way	48,600	72.7
	Bayview Way to University Rd	50,500	72.6
	University Rd to Bison Ave	43,000	71.9
	Bison Ave to Ford Rd	41,700	71.7
	Ford Rd to San Joaquin Hills Rd	53,500	72.9
	San Joaquin Hills Rd to Santa Barbara Dr	40,500	71.7
	Santa Barbara Dr to Back Bay Dr	35,400	71.0

Table 4.11-6: Existing Traffic Noise Levels			
Roadway	Roadway Segment	ADT Volume	CNEL at 100 Feet
	Back Bay Dr to Pacific Coast Highway	35,400	70.9
	Pacific Coast Highway to Bayside Dr	11,500	61.4
University Road	SR 73 to Jamboree Rd	13,800	65.8
MacArthur Boulevard	North of Campus Dr	44,600	72.3
	Campus Dr to Birch St	29,500	70.6
	Birch St to Van Karman Ave	18,100	68.1
	Van Karman Ave to Jamboree Rd	37,800	71.4
	Jamboree Rd to University Rd	36,800	72.1
	University Rd to Bison Ave	67,300	74.1
	Bison Ave to Ford Rd	70,600	74.5
	South of Ford Rd	61,800	74.7
	North of San Joaquin Hills Rd	61,800	74.5
	San Joaquin Hills Rd to San Miguel Dr	37,800	71.5
	San Miguel Dr to Pacific Coast Highway	41,800	71.7
San Miguel Drive	Bonita Canyon Dr to Spyglass Hill Rd	19,500	67.2
	South of Spyglass Hill Rd	15,300	66.2
	North of San Joaquin Hills Rd	15,300	66.2
	San Joaquin Hills Rd to MacArthur Blvd	13,100	63.2
Newport Coast Drive	SR 73 to San Joaquin Hills Rd	26,800	70.7
	South of San Joaquin Hills Rd	24,000	70.4
	North of Pacific Coast Highway	24,000	70.3
SR 55/Newport Boulevard	17th St to Hospital Rd	43,600	71.0
	Hospital Rd to Pacific Coast Highway	48,700	70.2
	Via Lido to 32nd St	30,000	67.0
	32nd St to West Balboa Blvd	22,600	63.8
Von Karman Avenue	North of Campus Dr	19,300	66.1
	Campus Dr to Birch St	17,100	64.4
Spyglass Hill Road	East of San Miguel Dr	3,200	57.0
	North of San Joaquin Hills Rd	3,200	57.0
Newport Center Drive	Newport Center Dr to Pacific Coast Highway	22,900	67.1
Dover Drive	19th to 17th St	14,400	61.4
	17th to 16th St	25,900	65.0
	16th to Cliff Dr	29,700	68.0
Birch Street	MacArthur Blvd to SR 73	19,400	66.1
Bristol Street North	West of Campus Dr	41,600	69.4
Bristol Street South	West of Campus Dr	24,700	67.1
	East of Birch St	20,600	66.3

Roadway	Roadway Segment	ADT Volume	CNEL at 100 Feet
	West of Jamboree Rd	34,900	68.6
Campus Drive	MacArthur Blvd to Von Karman Ave	22,700	66.9
	Von Karman Ave to Jamboree Rd	18,400	65.8
	Jamboree Rd to University Rd	23,700	67.0
Mesa Drive	SR 55 to Irvine Ave	10,800	61.0
Birch Street	Irvine Ave to SR 73	13,200	64.4
22 nd Street	East of SR 55	4,500	56.3
19 th Street	East of SR 55	7,300	57.0
17 th Street	Irvine Ave to Dover Dr	16,300	62.9
Pacific Coast Highway	West of Superior Ave	51,100	71.6
	Superior Ave to SR 55	43,400	70.1
	SR 55 to Riverside Ave	53,500	69.3
	Riverside Ave to Dover Dr	49,000	70.1
	Dover Dr to Bayside Dr	64,800	71.5
	Bayside Dr to Jamboree Rd	60,500	73.0
	Jamboree Rd to Newport Center Dr	43,400	71.0
	Newport Center Dr to Avocado Ave	35,800	70.2
	Avocado Ave to MacArthur Blvd	34,300	69.9
	MacArthur Blvd to Goldenrod Ave	48,500	68.9
	Golden Rd Ave to Marguerite Ave	48,500	67.9
	Marguerite Ave to Poppy Ave	48,500	67.7
	East of Poppy Ave	32,400	68.3
	West of Newport Coast Dr	32,400	70.6
East of Newport Coast Dr	41,600	72.6	
Bison Avenue	Jamboree Rd to MacArthur Blvd	7,900	62.5
	MacArthur Blvd to SR 73	14,400	66.3
	East of SR 73	34,500	68.8
Ford Road	West of MacArthur Blvd	10,900	64.7
	East of Jamboree Rd	10,900	64.7
Bonita Canyon Drive	MacArthur Blvd to San Miguel Dr	36,600	70.0
San Joaquin Hills Road	Jamboree Rd to Santa Cruz Dr	23,400	68.3
	Santa Cruz Dr to Santa Rosa Dr	15,000	66.5
	Santa Rosa Dr to MacArthur Blvd	24,600	68.6
	San Miguel Dr to Marguerite Ave	21,000	67.8
	Marguerite Ave to Spyglass Hill Rd	17,900	67.9
	East of Spyglass Hill Rd	18,100	68.0
	West of Newport Coast Dr	16,100	67.5
Santa Barbara Drive	Jamboree Rd to Newport Center Dr	14,400	64.9

Roadway	Roadway Segment	ADT Volume	CNEL at 100 Feet
Santa Cruz Drive	San Joaquin Hill Rd to Newport Center Dr	12,300	61.7
Santa Rosa Drive	San Joaquin Hill Rd to Newport Center Dr	10,500	60.1
Avocado Avenue	San Miguel Rd to Pacific Coast Highway	15,300	65.1
Superior Avenue	17th St to Placentia Ave	17,200	64.4
	Placentia Ave to Hospital Rd	21,400	65.4
	Hospital Rd to Pacific Coast Highway	17,600	64.5
Balboa Boulevard	Pacific Coast Highway to 32nd St	19,000	62.8
Marguerite Avenue	South of San Joaquin Hills Rd	11,000	62.5
	North of Pacific Coast Highway	5,600	55.8
Placentia Avenue	Superior Ave to Hospital Rd	8,700	61.3
	West of Superior Ave	14,800	63.8

Notes:
ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level.
Source: Based on traffic data within the *Housing, Land Use and Circulation Elements Transportation Analysis*, prepared by Urban Crossroads, 2023. Refer to Appendix E for traffic noise modeling assumptions and results.

Airport Noise

Airplanes and airports can be sources of excessive noise. John Wayne International Airport (John Wayne Airport) is located directly north of the City limits (see **Figure 3-1 in Section 3.0: Project Description**). Land uses within the planning area boundaries identified in the 2008 John Wayne AELUP must conform to noise, safety, and height restriction standards. The General Land Use Policy of the Airport Land Use Commission for Orange County identified below outlines the land use standards for the AELUP planning areas.

Within the boundaries of the AELUP, any land use may be found to be inconsistent with the AELUP which:

- Places people so that they are affected adversely by aircraft noise;
- Concentrates people in areas susceptible to aircraft accidents;
- Permits structures of excessive height in areas which would affect adversely the continued operation of the airport; or
- Permits activities or facilities that would affect adversely aeronautical operations.

In addition, although not listed here, the AELUP also contains land use policies, which include specific policies that further clarify the General Policy. Limitations on land uses due to noise are set forth in Table 1 (Airport Land Use Commission for Orange County Airport Environs Land Use Plan Limitations on Land Use Due to Noise).

Existing Stationary Noise

The City is highly urbanized, consisting primarily of residential, commercial, office, and parks/recreational uses. The primary stationary noise sources in the City include urban-related activities (e.g., mechanical equipment, parking areas, conversations, and recreational areas). The noise associated with these sources may represent a single-event or a continuous occurrence.

Vibration

Groundborne Vibration

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave and is expressed in terms of inches-per-second (in/sec). The RMS velocity is defined as the average of the squared amplitude of the signal and is expressed in terms of velocity decibels (VdB). The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 4.11-7: Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibrations identifies the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the individual's sensitivity. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per second (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

Vibration-Sensitive Uses

The Federal Transit Administration (FTA) *Transit Noise and Vibration Assessment Manual* (2018) (FTA Noise and Vibration Manual) has identified the following three categories of vibration-sensitive uses:

- Category 1 – High Sensitivity Uses: Buildings where ambient vibration well below levels associated with human annoyance is essential for equipment or operations within the building. Typical uses covered in Category 1 include vibration-sensitive research and manufacturing facilities, hospitals, and university research operations.
- Category 2 – Residential Uses: Buildings where people sleep. Typical uses covered in Category 2 include residential, hotels, and hospitals.
- Category 3 – Institutional Uses: Buildings that do not have vibration-sensitive equipment, but still have the potential for activity interference. Typical uses covered in Category 3 include schools, churches, other institutions, and quiet offices.

Maximum PPV (in/sec)	Vibration Annoyance Potential Criteria	Vibration Damage Potential Threshold Criteria	FTA Vibration Damage Criteria
0.008	--	Extremely fragile historic buildings, ruins, ancient monuments	--
0.01	Barely Perceptible	--	--
0.04	Distinctly Perceptible	--	--
0.1	Strongly Perceptible	Fragile buildings	--
0.12	--	--	Buildings extremely susceptible to vibration damage
0.2	--	--	Non-engineered timber and masonry buildings
0.25	--	Historic and some old buildings	--
0.3	--	Older residential structures	Engineered concrete and masonry (no plaster)
0.4	Severe	--	--
0.5	--	New residential structures, Modern industrial/commercial buildings	Reinforced-concrete, steel or timber (no plaster)

Notes:
 PPV = peak particle velocity; in/sec = inches per second; FTA = Federal Transit Administration
 Source: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020 and Federal Transit Administration, *Transit Noise and Vibration Assessment Manual*, 2018.

4.11.4 Thresholds of Significance

The City uses the thresholds of significance specified in the *State CEQA Guidelines Appendix G Environmental Checklist Form*. Noise impacts would be significant if the Project would:

- Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Result in generation of excessive ground-borne vibration or ground-borne noise levels; and/or
- Expose people residing or working in the project area to excessive noise levels for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

Significance of Changes in Traffic Noise Levels

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dB. However, this is based on a direct, immediate comparison of two sound levels. Community noise exposures occur over a long period of time and changes in noise levels occur over years (rather than the immediate comparison made in a laboratory situation). Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dB, and 3

dB is the most commonly accepted discernable difference. A 5 dB change is generally recognized as a clearly discernable difference.

In accordance with the City of Newport Beach's traffic noise impact criteria, a significant traffic noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses (**Table 4.11-3**). As such, the Project would result in a significant noise impact if traffic noise levels exceed the criteria identified in the table at uses in the City.

Stationary Source Noise Levels

Stationary noise impacts typically occur when noise exceeds the City of Newport Beach Noise Ordinance standards for interior and exterior noise levels, shown in **Table 4.11-4** and **Table 4.11-5**.

4.11.5 Methodology

Construction Noise

Construction noise levels were based on typical noise levels generated by construction equipment published by the FTA and the FHWA. Construction noise is assessed in dBA L_{eq} . This unit is appropriate because L_{eq} can be used to describe noise level from operation of each piece of equipment separately, and levels can be combined to represent the noise level from all equipment operating during a given period.

Reference noise levels are used to estimate construction equipment noise based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

Operational Noise

The analysis of the "Without Project" and "With Project" noise environments is based on noise prediction modeling and empirical observations. Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Reference noise levels are collected from field noise measurements and other published sources from similar types of activities are used to estimate noise levels expected with the Project's stationary sources. The reference noise levels are used to represent a worst-case noise environment as noise level from stationary sources can vary throughout the day. Operational noise is evaluated based on the standards within the City's Noise Ordinance and General Plan. The "Without Project" and "With Project" traffic noise levels were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108).

Vibration

Groundborne vibration levels associated with construction-related activities for the Project were evaluated using typical groundborne vibration levels associated with construction equipment, obtained from FTA published data for construction equipment. Potential groundborne vibration impacts related to building/structure damage and interference with sensitive existing operations were evaluated, considering the distance from construction activities to nearby land uses and typically applied criteria.

The City currently does not have a significance threshold to assess vibration impacts. Therefore, the FTA guidelines set forth in the FTA Transit Noise and Vibration Impact Assessment Manual are used to evaluate potential impacts related to vibration.

4.11.6 Project Impacts and Mitigation

Threshold 4.11-1 **Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Construction

As addressed in this Program EIR, the impact analysis is conservative because it accounts for additional housing units as a buffer to address future “no net loss” to preclude the need to identify replacement sites during 6th Cycle implementation. Therefore, this Program EIR conservatively analyzes a total development capacity of 9,914 units including future development capacity of up to 9,649 units on 247 housing sites, 25 units of pipeline projects, and 240 accessory dwelling units (ADUs). Further, this Program EIR analysis does not consider any loss of existing on the ground development which may be displaced to accommodate 9,914 housing units.

New residential development would involve construction activities that would generate on-site noise from heavy construction equipment and off-site noise from heavy haul trucks and construction worker commutes. With implementation of the proposed Project, residential development could occur intermittently throughout the City at various locations. As such, construction activities occurring under the proposed Project could result in a temporary increase in ambient noise levels.

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, and paving). Noise generated by construction equipment, including earthmovers, material handlers, and portable generators, can reach high levels. Although noise ranges are generally similar for all construction phases, the ground clearing and excavation phase tends to involve the most heavy-duty equipment having a higher noise-generation potential.

Typical noise levels generated by construction equipment are shown in **Table 4.11-8: Typical Construction Equipment Noise Levels**. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

As identified in the table, noise levels associated with individual construction equipment used for typical construction projects can reach levels of up to approximately 91 dBA (i.e., the highest noise level from grading activities) at 25 feet from the source. Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. The City does not have quantitative standards for construction noise levels.

Equipment	Typical Noise Level (dBA) at 25 feet from Source	Typical Noise Level (dBA) at 50 feet from Source	Typical Noise Level (dBA) at 100 feet from Source
Air Compressor	86	80	74
Backhoe	86	80	74
Compactor	88	82	76
Concrete Mixer	91	85	79
Concrete Pump	88	82	76
Concrete Vibrator	82	76	70
Crane, Mobile	89	83	77
Dozer	91	85	79
Generator	88	82	76
Grader	91	85	79
Impact Wrench	91	85	79
Jack Hammer	94	88	82
Loader	86	80	74
Paver	91	85	79
Pneumatic Tool	91	85	79
Pump	83	77	71
Roller	91	85	79
Saw	82	76	70
Scraper	91	85	79
Shovel	88	82	76
Truck	90	84	78

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

General Plan Policy N 4.6 would reduce impacts related to construction noise by limiting the hours of maintenance or construction activity in or adjacent to residential areas, and General Plan Policy N 5.1 would enforce the limits on hours of construction activity. Construction noise is an existing noise source in the City and while the noise levels at existing construction sites may not substantially differ from future construction noise resulting from development under the proposed Project, it is anticipated that construction noise would occur in areas of the City that are already developed. In some instances, construction noise may be introduced where it did not previously exist.

Because specific project-level information is inherently not available at this time, it is not possible nor appropriate to quantify the construction noise impacts at specific sensitive receptors. In most cases, construction of individual developments associated with implementation of the Project would temporarily increase the ambient noise environment in the vicinity of each housing site, potentially affecting existing and future nearby sensitive uses. The nearest sensitive uses (e.g., residential uses) could be located within approximately 25 feet of construction activities associated with the Project. As previously noted, intermittent construction equipment could reach or exceed 91 dBA. Because of the high degree of variability in construction noise, exposure to such sound level incursions could be brief, and the maximum noise levels at adjacent uses would lessen as the noisiest piece of construction equipment moved farther away, reduced the necessary power setting, and/or changed the interaction with the work piece. However, nearby sensitive receptors may be exposed to elevated noise levels for the duration of construction. Noise levels would be higher during the demolition, site preparation, and excavation

activities, where the use of heavy construction equipment is more frequent but also during other portions of the overall (building) construction process. Construction activities would also cause increased noise along access routes to and from the site due to movement of equipment and workers. These trips would occur incrementally over the construction phases.

Municipal Code Section 10.28.040 (Construction Activity – Noise Regulations) limits noise sources associated with construction, repair, remodeling, or grading of any real property to the hours of 7:00 a.m. and 6:30 p.m. on weekdays. Construction can be performed on Saturday, in any area of the City that is not designated as a high-density area, between the hours of 8:00 a.m. and 6:00 p.m.. Municipal Code Section 10.26.035(D) also exempts construction noise from the City’s exterior and interior noise limits, acknowledging that construction activity is a normalized function of typical urban and suburban activities during daytime hours. Therefore, construction noise is exempt and following compliance with the City’s allowable construction hours and provisions of the Municipal Code, construction activities associated with the Project would be less than significant.

Operations

Traffic Noise Impacts

Future residential development would generate increased traffic noise levels throughout the City. **Table 4.11-9: Future Traffic Noise Levels** identifies the future roadway noise levels in the City under “Future” and “Future Plus Project” conditions. As shown in the table, under “Future Plus Project” conditions, noise levels at a distance of 100 feet from the roadway centerline would range from approximately 56.0 dBA to 74.9 dBA, with the highest noise levels occurring along MacArthur Boulevard south of Ford Road. Only one of the roadway segments – Campus Drive from MacArthur Boulevard to Von Karman Avenue – would exceed the City’s noise increase standards¹ with Project implementation. The change in traffic noise along this roadway segment would be 1.2 dBA and would exceed the City’s 1 dBA threshold for existing noise levels between 65 and 70 dBA CNEL.

The General Plan contains several goals and policies to reduce traffic noise impacts at sensitive receptors, including Noise Element Goal N 2, and Policies N 1.2, N 2.1, N 2.2, and N 2.6. However, these goals and policies would only apply to the development of new sensitive residences or other sensitive receptors, as existing receptors cannot always be redesigned to include noise abatement, and it is not possible to construct noise barriers between roadways and existing development. There are four housing sites along the impacted roadway segment of Campus Drive. Existing residences are also located along the north side of Campus Drive; therefore, the Project would result in traffic noise impacts at this location.

¹ As described in Table 4.11-3, the threshold of significance of the roadway noise increase is dependent upon existing noise levels.

Table 4.11-9: Future Traffic Noise Levels								
Roadway	Roadway Segment	Future Without Project		Future With Project		Change	Increase Threshold?	Significant impact?
		ADT	dBA CNEL at 100 feet from Roadway Centerline	ADT	dBA CNEL at 100 feet from Roadway Centerline			
Campus Drive	Dove St to Quail St	32,100	68.4	32,900	68.5	0.1	1	No
	Bristol St to Orchard Dr	30,600	69.4	32,400	69.6	0.2	1	No
Irvine Avenue	Mesa Dr to Del Mar Ave	35,500	68.7	37,600	69.0	0.2	1	No
	Del Mar Ave to Monte Vista Ave	35,100	63.9	36,000	64.0	0.1	2	No
	23rd to 22nd St	36,200	66.4	37,000	66.5	0.1	1	No
	22nd to 20th St	32,500	67.2	33,900	67.4	0.2	1	No
	20th to 19th St	33,900	67.4	35,200	67.6	0.2	1	No
	19th to 17th St	27,600	66.6	28,600	66.7	0.2	1	No
Jamboree Road	North of Campus Dr	44,200	71.0	45,300	71.1	0.1	1	No
	Campus Dr to Birch St	48,300	71.5	49,800	71.6	0.1	1	No
	Birch St to Bristol St	44,800	72.1	47,000	72.3	0.2	1	No
	Bristol St to Bayview Way	53,400	73.1	55,900	73.3	0.2	1	No
	Bayview Way to University Rd	50,600	72.6	53,100	72.8	0.2	1	No
	University Rd to Bison Ave	49,000	72.4	50,700	72.6	0.1	1	No
	Bison Ave to Ford Rd	46,700	72.2	48,700	72.4	0.2	1	No
	Ford Rd to San Joaquin Hills Rd	57,500	73.2	60,000	73.4	0.2	1	No
	San Joaquin Hills Rd to Santa Barbara Dr	44,600	72.1	46,100	72.3	0.1	1	No
	Santa Barbara Dr to Back Bay Dr	35,400	71.0	40,600	71.6	0.6	1	No
	Back Bay Dr to Pacific Coast Highway	40,100	71.5	40,600	71.5	0.1	1	No
Pacific Coast Highway to Bayside Dr	13,200	62.0	13,500	62.1	0.1	1	No	
University Road	SR 73 to Jamboree Rd	17,000	66.7	17,500	66.8	0.1	1	No
MacArthur Boulevard	North of Campus Dr	47,400	72.6	49,900	72.8	0.2	1	No
	Campus Dr to Birch St	30,800	70.8	32,900	71.1	0.3	1	No
	Birch St to Van Karman Ave	20,600	68.7	21,600	68.9	0.2	1	No
	Van Karman Ave to Jamboree Rd	39,000	71.6	41,100	71.8	0.2	1	No
	Jamboree Rd to University Rd	37,300	72.2	38,000	72.3	0.1	1	No
	University Rd to Bison Ave	68,100	74.1	69,400	74.2	0.1	1	No
	Bison Ave to Ford Rd	71,200	74.6	74,000	74.7	0.2	1	No
South of Ford Rd	64,300	74.9	64,900	74.9	0.0	1	No	

Table 4.11-9: Future Traffic Noise Levels								
Roadway	Roadway Segment	Future Without Project		Future With Project		Change	Increase Threshold?	Significant impact?
		ADT	dBA CNEL at 100 feet from Roadway Centerline	ADT	dBA CNEL at 100 feet from Roadway Centerline			
	North of San Joaquin Hills Rd	64,300	74.7	64,900	74.7	0.0	1	No
	San Joaquin Hills Rd to San Miguel Dr	38,500	71.6	39,700	71.7	0.1	1	No
	San Miguel Dr to Pacific Coast Highway	44,300	72.0	44,700	72.0	0.0	1	No
San Miguel Drive	Bonita Canyon Dr to Spyglass Hill Rd	20,100	67.4	20,100	67.4	0.0	1	No
	South of Spyglass Hill Rd	16,000	66.4	16,000	66.4	0.0	1	No
	North of San Joaquin Hills Rd	16,000	66.4	16,000	66.4	0.0	1	No
	San Joaquin Hills Rd to MacArthur Blvd	13,700	63.4	13,700	63.4	0.0	1	No
Newport Coast Drive	SR 73 to San Joaquin Hills Rd	26,800	70.7	29,400	71.1	0.4	1	No
	South of San Joaquin Hills Rd	24,400	70.4	24,900	70.5	0.1	1	No
	North of Pacific Coast Highway	24,200	70.3	24,400	70.4	0.0	1	No
SR 55/Newport Boulevard	17th St to Hospital Rd	45,500	71.1	45,800	71.2	0.0	1	No
	Hospital Rd to Pacific Coast Highway	51,700	70.5	52,400	70.5	0.1	1	No
	Via Lido to 32nd St	30,600	67.1	30,800	67.1	0.0	1	No
	32nd St to West Balboa Blvd	22,600	63.8	22,800	63.9	0.0	1	No
Von Karman Avenue	North of Campus Dr	24,100	67.1	24,900	67.2	0.1	1	No
	Campus Dr to Birch St	21,100	65.3	21,400	65.4	0.1	1	No
Spyglass Hill Road	East of San Miguel Dr	4,200	58.2	4,300	58.3	0.1	2	No
	North of San Joaquin Hills Rd	4,200	58.2	4,300	58.3	0.1	2	No
Newport Center Drive	Newport Center Dr to Pacific Coast Highway	23,900	67.3	23,900	67.3	0.0	1	No
Dover Drive	19th to 17th St	14,600	61.4	15,000	61.5	0.1	1	No
	17th to 16th St	26,900	65.1	27,100	65.1	0.0	1	No
	16th to Cliff Dr	31,900	68.3	31,700	68.3	0.0	1	No
Birch Street	MacArthur Blvd to SR 73	21,400	66.5	22,200	66.7	0.2	1	No
Bristol Street North	West of Campus Dr	44,400	69.6	45,300	69.7	0.1	1	No
Bristol Street South	West of Campus Dr	26,400	67.4	27,000	67.5	0.1	1	No
	East of Birch St	23,100	66.8	23,800	66.9	0.1	1	No
	West of Jamboree Rd	38,300	69.0	38,600	69.0	0.0	1	No

Table 4.11-9: Future Traffic Noise Levels								
Roadway	Roadway Segment	Future Without Project		Future With Project		Change	Increase Threshold?	Significant impact?
		ADT	dBA CNEL at 100 feet from Roadway Centerline	ADT	dBA CNEL at 100 feet from Roadway Centerline			
Campus Drive	MacArthur Blvd to Von Karman Ave	21,100	66.6	27,800	67.8	1.2	1	Yes
	Von Karman Ave to Jamboree Rd	21,100	66.4	21,800	66.6	0.1	1	No
	Jamboree Rd to University Rd	30,200	68.1	30,500	68.1	0.0	1	No
Mesa Drive	SR 55 to Irvine Ave	11,100	61.1	11,100	61.1	0.0	1	No
Birch Street	Irvine Ave to SR 73	15,100	65.0	15,500	65.1	0.1	1	No
22nd Street	East of SR 55	4,600	56.4	4,600	56.4	0.0	2	No
19th Street	East of SR 55	7,600	57.1	7,600	57.1	0.0	2	No
17th Street	Irvine Ave to Dover Dr	17,300	63.2	17,900	63.3	0.1	1	No
Coast Highway	West of Superior Ave	55,100	71.9	56,100	72.0	0.1	1	No
	Superior Ave to SR 55	46,700	70.4	47,200	70.4	0.0	1	No
	SR 55 to Riverside Ave	65,300	70.2	66,400	70.3	0.1	1	No
	Riverside Ave to Dover Dr	50,800	70.3	51,700	70.4	0.1	1	No
	Dover Dr to Bayside Dr	71,200	71.9	72,900	72.0	0.1	1	No
	Bayside Dr to Jamboree Rd	65,600	73.3	66,900	73.4	0.1	1	No
	Jamboree Rd to Newport Center Dr	46,800	71.3	47,800	71.4	0.1	1	No
	Newport Center Dr to Avocado Ave	37,900	70.4	38,100	70.4	0.0	1	No
	Avocado Ave to MacArthur Blvd	37,300	70.2	37,500	70.2	0.0	1	No
	MacArthur Blvd to Goldenrod Ave	50,400	69.1	50,600	69.1	0.0	1	No
	Golden Rd Ave to Marguerite Ave	50,100	68.0	50,400	68.1	0.0	1	No
	Marguerite Ave to Poppy Ave	49,800	67.8	50,000	67.8	0.0	1	No
	East of Poppy Ave	45,000	69.8	45,300	69.8	0.0	1	No
	West of Newport Coast Dr	32,400	70.6	32,600	70.6	0.0	1	No
East of Newport Coast Dr	43,300	72.8	43,300	72.8	0.0	1	No	
Bison Avenue	Jamboree Rd to MacArthur Blvd	13,600	64.9	13,500	64.8	0.0	1	No
	MacArthur Blvd to SR 73	24,200	68.6	25,100	68.7	0.2	1	No
	East of SR 73	35,400	68.9	35,800	69.0	0.0	1	No
Ford Road	West of MacArthur Blvd	11,300	64.9	11,400	64.9	0.0	1	No
	East of Jamboree Rd	11,300	64.9	11,100	64.8	-0.1	1	No

Table 4.11-9: Future Traffic Noise Levels								
Roadway	Roadway Segment	Future Without Project		Future With Project		Change	Increase Threshold?	Significant impact?
		ADT	dBA CNEL at 100 feet from Roadway Centerline	ADT	dBA CNEL at 100 feet from Roadway Centerline			
Bonita Canyon Drive	MacArthur Blvd to San Miguel Dr	37,600	70.1	38,200	70.2	0.1	1	No
San Joaquin Hills Road	Jamboree Rd to Santa Cruz Dr	23,400	68.3	24,200	68.4	0.1	1	No
	Santa Cruz Dr to Santa Rosa Dr	15,500	66.6	15,200	66.6	-0.1	1	No
	Santa Rosa Dr to MacArthur Blvd	25,600	68.8	25,600	68.8	0.0	1	No
	San Miguel Dr to Marguerite Ave	21,500	67.9	21,700	67.9	0.0	1	No
	Marguerite Ave to Spyglass Hill Rd	18,200	67.9	18,200	67.9	0.0	1	No
	East of Spyglass Hill Rd	18,700	68.1	19,500	68.3	0.2	1	No
	West of Newport Coast Dr	17,300	67.8	17,700	67.9	0.1	1	No
Santa Barbara Drive	Jamboree Rd to Newport Center Dr	14,600	64.9	15,400	65.2	0.2	1	No
Santa Cruz Drive	San Joaquin Hill Rd to Newport Center Dr	12,400	61.7	12,900	61.9	0.2	1	No
Santa Rosa Drive	San Joaquin Hill Rd to Newport Center Dr	10,900	60.2	10,500	60.1	-0.2	1	No
Avocado Avenue	San Miguel road to Pacific Coast Highway	15,300	65.1	15,300	65.1	0.0	1	No
Superior Avenue	17th St to Placentia Ave	17,900	63.3	18,300	63.4	0.1	1	No
	Placentia Ave to Hospital Rd	22,300	65.6	23,100	65.7	0.2	1	No
	Hospital Rd to Pacific Coast Highway	18,300	64.7	19,300	64.9	0.2	1	No
Balboa Boulevard	Pacific Coast Highway to 32nd St	21,200	63.2	21,600	63.3	0.1	1	No
Marguerite Avenue	South of San Joaquin Hills Rd	11,300	62.6	11,500	62.7	0.1	1	No
	North of Pacific Coast Highway	5,800	56.0	5,800	56.0	0.0	2	No
Placentia Avenue	Superior Ave to Hospital Rd	9,000	61.5	9,700	61.8	0.3	1	No
	West of Superior Ave	15,300	63.9	15,300	63.9	0.0	1	No

Notes:
ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level.
Source: Based on traffic data within the *Housing, Land Use and Circulation Elements Transportation Analysis*, prepared by Urban Crossroads, 2023. Refer to Appendix E for traffic noise modeling assumptions and results.

It should be noted that the traffic noise analysis conservatively uses full buildout traffic data assuming all of the housing sites would be developed. Future development would be subject to General Plan Policy N 2.1, which requires noise sensitive uses in areas of 60 dBA and greater meet interior and exterior noise levels. Additionally, Policy N 2.2 requires new residential developments to include walls, berms, interior noise insulation, double-paned windows, advanced insulation systems, or other noise measures, as appropriate to meet the 45 dBA CNEL interior standard. New noise-sensitive land uses that are adjacent to major arterials and within the 65-70 dBA CNEL noise contour area are required to be indoor-oriented to reduce noise impacts on outdoor living or recreational areas. Therefore, traffic noise impacts would be less than significant with the exception of at Campus Drive from MacArthur Boulevard to Von Karman Avenue where noise impacts would be significant and unavoidable.

Stationary Noise Sources

Operational stationary noise sources (e.g., heating, ventilation, and air conditioning [HVAC]) are anticipated to increase incrementally from increased residential development as a result of the proposed Project. Due to the variability and details for future individual residential developments, quantifying long-term stationary noise impacts from the proposed Project is not feasible. Depending on how development proceeds (i.e., individual housing developments would occur over time dependent upon market demand, economic, and planning considerations, among other factors), future residential development could generate noise levels that exceed the City's noise standards at adjacent sensitive receptors. However, long-term stationary noise levels would be reduced through implementation of General Plan Policies N 1.1, N 1.4, N 4.1, and N 4.5. In addition, future development would be required to comply with City, State and federal guidelines concerning noise abatement and insulation standards. This would ensure that noise levels at the housing sites and surrounding areas are maintained within acceptable standards that prevent excessive disturbance, annoyance, or disruption.

The noise standards outlined in Municipal Code Section 10.26.025 (Exterior Noise Standards) and Section 10.26.030 (Interior Noise Standards) would be relied upon to evaluate noise impacts from stationary sources at future residential developments. Following individual development and design review and compliance with the City's noise standards, as well as General Plan policies, the Project's impacts from stationary noise sources would be less than significant.

Impact Summary: **Significant and Unavoidable Impact.** Construction and stationary source operational noise would be less than significant following individual design review and compliance with the City's noise standards, as well as Newport Beach General Plan policies. Operational stationary source noise would not exceed the City's standards and impacts would be less than significant. However, Project implementation would result in a significant increase along one roadway segment (Campus Drive between MacArthur Boulevard and Von Karman Avenue) in traffic noise levels under the current City of Newport Beach standards of significance for noise increases. Therefore, where residential development would occur along this roadway segment, traffic noise impacts would be significant and unavoidable.

Threshold 4.11-2: Would the Project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction

Future construction activities for new residential development under the proposed Project would require the use of heavy equipment, power tools, generators, and other vibration sources. Construction activities can generate varying degrees of groundborne vibration, depending on the construction procedure and equipment used. Construction equipment operations would generate vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located near a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). Groundborne vibrations from construction activities rarely reach levels that damage structures. The FTA has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) is conservative even for sustained pile driving. Pile driving levels often exceed 0.2 inch/second at distances of 50 feet, and 0.5 inch/second at 25 feet without any apparent damage to buildings. **Table 4.11-10: Typical Vibration Levels for Construction Equipment** identifies anticipated vibration velocity levels (in/sec) for standard types of construction equipment based on distance from the receptor.

Table 4.11-10: Typical Vibration Levels for Construction Equipment		
Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 50 feet (inches/second)
Large bulldozer	0.089	0.031
Loaded Trucks	0.076	0.027
Small Bulldozer	0.003	0.001
Auger/drill rigs	0.089	0.031
Jackhammer	0.035	0.012
Pile Driver	0.644	0.228
Vibratory hammer	0.035	0.012

Notes:
 1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018. Table 12-2.
 2. Calculated using the following formula:
 $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$
 where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
 PPV (ref) = the reference vibration level in in/sec from FTA *Transit Noise and Vibration Impact Assessment Manual*, Table 12-2.
 D = the distance from the equipment to the receiver
 Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

Short-term construction activities could result in groundborne vibration impacts at noise sensitive receptors within the City depending on the site location, duration of construction activities, and equipment used at the construction site. Similar to noise, groundborne vibration rapidly attenuates with distance. Groundborne vibration would primarily impact vibration sensitive land uses (e.g., nonengineered timber and masonry buildings) located adjacent to or within the vicinity of individual project sites. Based upon the vibration velocity levels provided in the table, vibration velocities from typical heavy construction equipment operations that could be used during construction activities range from 0.003 to 0.089 inch-per-second PPV at 25 feet from the activity source (and up to 0.644 PPV if pile

driving activities were to occur). Therefore, vibration velocities from typical heavy construction equipment operations at 25 feet from the activity source would not exceed the FTA's 0.2 inch/second threshold, except for pile driving activities. Also, vibration velocities from pile driving activities at 50 feet from the activity source would exceed the 0.2 the inch/second threshold (**Table 4.11-10**). Therefore, construction-related activities that involve pile driving and occur 50 feet from a vibration sensitive land use (i.e., non-engineered timber and masonry buildings) could exceed the 0.2 the inch/second threshold. Therefore, the Project has the potential to expose persons or structures to, or generate excessive groundborne vibration or groundborne noise levels. To lessen potential vibration-related impacts to adjacent sensitive uses, Mitigation Measure (MM) NOI-1 requires a preconstruction survey of all buildings within a 50-foot radius of proposed construction activities that involve pile driving, and that alternative methods be utilized. With implementation of **MM NOI-1**, construction vibration impacts would be less than significant.

Operations

Residential uses are not expected to generate excessive groundborne vibration or groundborne noise, and the proposed Project does not include changes related to industrial or commercial uses (e.g., airports, waste facilities, etc.) that would generate ongoing groundborne vibration. Future development under the proposed Project would not involve railroads or heavy truck operations, and therefore would not result in vibration impacts at surrounding uses. Therefore, operational activities associated with future residential development from the proposed Project would be less than significant.

Impact Summary: **Less Than Significant Impact With Mitigation.** MM NOI-1 is required to ensure construction vibration impacts are reduced to a less than significant level. Operational vibration impacts would be less than significant.

Threshold 4.11-3: **For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?**

There are housing sites located within the 65-70 dBA CNEL noise contour for John Wayne Airport (**Figure 4.11-1**). With respect to noise, Land Use Policy 3.2.1 notes that "Within the boundaries of the AELUP, any land use may be found Inconsistent with the AELUP which; (1) Placed people so that they are affected adversely by aircraft noise..."² AELUP Section 3, Table 1 (Limitations on Land Use Due to Noise) identifies single-unit and multi-unit residential uses are "normally consistent" below 65 dBA CNEL; "conditionally consistent" for the 60 dBA to 65 dBA CNEL noise contour; and "normally inconsistent" for the 65 dBA to 70 dBA CNEL noise contour. However, residential uses are not outright prohibited. Instead, Section 3.2.3 of AELUP requires residential uses be developed with advanced insulation systems to bring the sound attenuation to no more than 45 dB interior. In addition, residential uses within the 65 dBA CNEL noise contour area are required to be "indoor-oriented" to preclude noise impingement on outdoor living areas.

General Plan Noise Element policies N.1.2, N 1.5, N 1.5A, N 2.2, N 3.1, N 3.2, and LU 6.15.3 only allow for residential and noise-sensitive development within the 65-70 dBA CNEL noise contour for John Wayne Airport if the City determines that the housing sites wholly within the contour would be required to satisfy

² The standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is hereby established to be a community noise equivalent level of 65 decibels. California Code of Regulations, Title 21. Public Works. Division 2.5. Division of Aeronautics (Department of Transportation). Chapter 6. Noise Standards, Article 1. General. [View Document - California Code of Regulations \(westlaw.com\)](#).

its 6th Cycle RHNA mandate. The City's 6th Cycle RHNA allocation is 4,845 housing units , including 1,456 very low-income units and 930 low-income units. As previously noted, this Program EIR conservatively analyzes a total development capacity of 9,914 units to address future "no net loss".

General Plan Noise Element Policy N 1.2 (Noise Exposure Verification for New Development) requires applicants for proposed residential or mixed-use projects that are located in areas projected to be exposed to 65-70 dBA CNEL or greater, to conduct a noise study to determine the level of exterior or interior noise attenuation needed to attain an acceptable noise exposure level.

Infill development projects in the Airport Area Focus Area would be subject to Policy N 1.5, which allows a higher (above 65 dBA CNEL) exterior noise level standard for infill projects in existing residential areas adjacent to major arterials if it can be shown that there are no feasible mechanisms to meet the exterior noise levels. The interior standard of 45 dBA CNEL shall be enforced for any new residential project or mixed-use project containing a residential component, consistent with Title 21 of the CCR. Additionally, Policy N 1.5A allows infill residential projects proximate to John Wayne Airport to have a higher exterior noise level (65-70 dBA CNEL).

Policy N 2.2 requires the use of walls, berms, interior noise insulation, double paned windows, advance insulation systems, or other noise measures, as appropriate, in the design of new residential developments to attenuate noise levels to not exceed 45 dBA CNEL interior or other new noise sensitive land uses that are adjacent to major arterials and located proximate to John Wayne Airport. Residential uses within the 65 dBA to 70 dBA CNEL noise contour area are required to be indoor-oriented (e.g., requiring typical outdoor recreational activities such as swimming pools, lounges, private patios to be enclosed) to reduce noise impacts on outdoor living or recreational areas.

Additionally, other City policies have been adopted to address potential impacts to noise-sensitive developments within noise contours. Policy N 3.2 requires developers of mixed-use land uses with a residential component or residential land uses to notify prospective tenants or buyers of aircraft noise. This policy also requires signage in outdoor common or recreational areas within mixed-use or residential developments to be posted, notifying occupants about the proximity to John Wayne Airport and the presence of operating aircraft and noise.

Municipal Code Section 20.30.080(F) (Residential Use Proximate to John Wayne Airport) also incorporates AELUP requirements. The Municipal Code allows for residential uses on parcels wholly or partially outside the John Wayne Airport 65 dBA CNEL noise contour and provides several conditions including preparation of noise studies, noise attenuation standards, separation of sensitive uses from noise generating uses within a project site, and provisions for indoor amenities for projects. The specific requirements, to allow for residential development within the 60 dBA CNEL noise contour, or higher, are as follow:

- Noise studies shall be prepared by a City-approved qualified acoustical consultant and submitted to the Community Development Director for approval prior to the issuance of any building permit;
- All new residential structures or the residential units within a mixed-use development shall be attenuated to provide an interior noise level of 45 dBA CNEL or less;
- The design of the residential portions of mixed-use projects and residential developments shall have adequate noise attenuation between adjacent uses and units (common floor/ceilings) in accordance with the California Building Code;

- New mixed-use developments shall incorporate designs with loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development;
- Use of walls, berms, interior noise insulation, double paned windows, advance insulation systems, or other noise mitigation measures, as deemed appropriate shall be incorporated in the design of new residential to bring interior sound attenuation to 45 dBA CNEL or less;
- Residential uses shall be indoor-oriented to reduce noise impingement on outdoor living areas;
- On-site indoor amenities, such as fitness facilities or recreation and entertainment facilities shall be encouraged; and
- Advanced air filtration systems for buildings shall be considered to promote cleaner air.

The Project, and any future residential development, would be required to follow all applicable General Plan policies. Therefore, Project compliance with City policies N 1.5, N 1.5A, N2.2, N3.1, N3.2, LU 6.15.3, and Municipal Code Section 20.30.080(F) would result in less than significant impacts with respect to housing development proximate to John Wayne Airport.

Impact Summary: **Less Than Significant Impact.** Project compliance with City policies N 1.5, N 1.5A, N2.2, N3.1, N3.2, LU 6.15.3, and Municipal Code Section 20.30.080(F) would result in less than significant impacts with respect to housing development proximate to John Wayne Airport.

4.11.7 Cumulative Impacts

The Project's anticipated noise and vibration-related impacts from future housing development facilitated by implementation of the 2021-2029 Housing Element, in conjunction with cumulative development in the City, would increase housing development in an already developed area, thereby resulting in increased ambient noise levels. Potential noise and vibration-related impacts would be site specific and would require evaluation on a case-by-case basis at the project level when future development is proposed as set forth in the 2021-2029 Housing Element. Each cumulative project would require separate development review by the City, which would verify compliance with the City's Noise Ordinance and address potential noise and vibration impacts and identify necessary mitigation measures, where appropriate. Future housing development in conjunction with cumulative development is not anticipated to result in significant noise and vibration impacts, or conflict with or obstruct a State or local plan, ordinance, or standards aimed at avoiding or minimizing excessive noise, following compliance with the City's Noise Ordinance. Therefore, the proposed Project would not cause a cumulatively considerable noise or vibration impact.

4.11.8 Mitigation Program

As noted, all future housing development facilitated by the Project would be subject to the City's development review process, which may include review pursuant to CEQA, and would be assessed on a case-by-case basis for potential effects concerning aesthetics. Future housing development would be subject to compliance with relevant federal, State, and local requirements including requirements set forth in the Newport Beach General Plan and Newport Beach Municipal Code.

General Plan Policies

See **Section 4.11.2: Regulatory Setting** for complete policy text.

Noise Element

- Policy N 1.1
- Policy N 1.2
- Policy N 1.3
- Policy N 1.4
- Policy N 1.5
- Policy N 1.5A
- Policy N 1.6
- Policy N 1.7
- Policy N 1.8
- Policy N 2.1
- Policy N 2.2
- Policy N 2.3
- Policy N 3.1
- Policy N 3.2
- Policy N 4.1
- Policy N 4.6
- Policy N 5.1

Land Use Element

- Policy LU 6.15.3

Mitigation Measures

MM NOI-1 To avoid impacts to vibration sensitive land uses (i.e., non-engineered timber and masonry buildings) located within a 50-foot radius of pile driving activities, prior to demolition, grading, or building permit approval, the following measures shall be specified on the Project plans and implemented during construction:

- Pile driving within a 50-foot radius of vibration sensitive land uses shall utilize alternative installation methods (e.g., pile cushioning, jetting, predrilling, cast-in-place systems, resonance-free vibratory pile drivers) such that vibration velocities from the alternative construction activity would fall below the 0.2 inch/second threshold.
- The preexisting condition of all vibration sensitive land uses within a 50-foot radius of proposed pile driving shall be documented during a preconstruction survey. The preconstruction survey shall determine conditions that exist before construction begins for use in evaluating damage caused by pile driving, if any. Fixtures and finishes susceptible to damage and within a 50-foot radius of pile driving shall be documented (photographically and in writing) prior to demolition, grading, or building permit approval. All damage shall be repaired/restored to its preexisting condition.

4.11.9 Level of Significance After Mitigation

With implementation of the mitigation program identified above, potential traffic noise impacts would remain significant and unavoidable. Impacts related to construction noise, operational stationary noise, and vibration would be less than significant on a project-specific and cumulative basis. Implementation of the mitigation program and compliance with Municipal Code Section 20.30.080(F) would also reduce impacts with respect to housing development proximate to John Wayne Airport to less than significant.

4.11.10 References

California Code of Regulations, Title 24.

California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020.

City of Newport Beach (2006). *City of Newport Beach General Plan – Noise Element*.
https://www.newportbeachca.gov/PLN/General_Plan/13_Ch12_Noise_web.pdf. Accessed
December 21, 2023.

City of Newport Beach, *Newport Beach Municipal Code*, October 10, 2023.

Department of Housing and Urban Development, *The Noise Guidebook*, 2009.

Federal Transit administration, *Transit Noise and Vibration Assessment Manual*, 2018.

Urban Crossroads, *Housing Element Transportation Analysis*, 2023.