4.9 NOISE

4.9.1 Introduction

This section evaluates the impacts of the proposed General Plan Update associated with noise within the City of Newport Beach. The Initial Study (Appendix A) identified the potential for the General Plan Update to result in adverse impacts resulting from: the exposure of persons to or generation of noise levels in excess of established standards and excessive groundborne vibration or noise levels; a substantial temporary, periodic, or permanent increase in ambient noise levels in the project vicinity above levels existing without the project; exposure of persons residing or working in the project area subject to a airport land use plan to excessive noise levels. Since there are no private airstrips in the vicinity of the City, the project would not expose people residing or working the project area to excessive noise levels. This effect will not be further discussed in this EIR.

Two comment letters associated with noise were received in response to the Initial Study/Notice of Preparation (IS/NOP) circulated for the General Plan Update. The John Wayne Airport (JWA) requested that the EIR address impacts of any new residential development policies that may impact the Airport Area, considering JWA's existing and future airport operations and the proximity of this subarea to the Airport. The letter requests that the EIR contain General Plan policies and/or mitigation measures be incorporated that meet specified requirements. The Airport Land Use Commission also requested the EIR contain certain General Plan policies and/or mitigation measures that would reduce impacts related to the nearby airport. Section 4.3.5 (Project Impacts, Mitigation Measures, and Proposed Policies) provides such an analysis.

4.9.2 Existing Conditions

Fundamentals of Sound and Environmental Noise

Sound is created when objects vibrate and produce pressure variations that move rapidly outward into the surrounding air. The main characteristics of these air pressure waves are amplitude, which we experience as a sound's "loudness," and frequency, which we experience as a sound's "pitch." The standard unit of sound amplitude is the decibel (dB), which is a measure of the physical magnitude of the pressure variations relative to the human threshold of perception. The human ear's sensitivity to sound amplitude is frequency-dependent, and so a modification is usually made to the decibel to account for this; A-weighted decibels (dBAs) incorporate the additional human sensitivity to a sound's frequency.

Noise is generally defined as "unwanted" sound, aspects of which can negatively affect the physiological or psychological well-being of individuals or communities. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise are the effects of distinguishable sources (e.g., an occasional aircraft or train passing, the virtually continuous roar of traffic on a major highway). Table 4.9-1 (Representative Environmental Noise Levels) lists representative noise levels for the environment.

Table 4.9-1 Representative Environmental Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	—110—	Rock Band
Jet Fly-over at 100 feet	—105—	
	—100—	
Gas Lawnmower at 3 feet	—95—	
	—90—	
	—85—	Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime	—75—	
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area	—65—	Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
	—55—	Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
	—45—	
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	—35—	
	—30—	Library
Quiet Rural Area during Nighttime	—25—	Bedroom at Night, Concert Hall (background)
	—20—	
	—15—	Broadcast/Recording Studio
	—10—	
	—5—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

SOURCE: California Department of Transportation 1998

Several quantitative indicators are commonly used to gauge the likelihood that environmental noise would have an adverse effect on a community. These indicators consider that the most disruptive aspects effect of noise are strongly associated with the average acoustical energy content of the sound over the time it occurs and/or with the time of day when the sound occurs. The indicators used in this EIR are as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise over any chosen exposure time. The L_{eq} is the constant noise level that would deliver the same acoustic energy to the ear as the actual time-varying noise over the same exposure time. L_{eq} does not depend on the time of day during which the noise occurs.
- L_{dn}, the day-night average noise level, is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for increased nighttime noise sensitivity. Because of this penalty, the Ldn would always be higher than its corresponding 24-hour L_{eq} (e.g., a constant 60 dBA noise over 24 hours would have a 60 dBA L_{eq}, but a 66.4 dBA L_{dn}).
- CNEL, the community noise equivalent level, is an L_{dn} with an additional 5 dBA "penalty" for the evening hours between 7:00 P.M. to 10:00 P.M.

Community noise exposures are typically represented by 24-hour descriptors, such as L_{dn} or CNEL. One-hour and shorter-period descriptors are useful for characterizing noise caused by short-term activities, such as the operation of construction equipment.

Community noise environments are generally perceived as "quiet" when L_{dn}/CNEL is below 45 dBA, "moderate" in the 45 to 60 dBA range, and "loud" above 60 dBA. Very noisy urban residential areas are usually around 70 dBA L_{dn}/CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA L_{dn}/CNEL. Three to 5 dBA increments to existing one-hour L_{eq}, or to the L_{dn}/CNEL, are commonly used as threshold for an adverse community reaction to a noise increase. But there is evidence that incremental thresholds in this range may not be significantly protective in areas where noise sensitive use are located and L_{dn}/CNEL is already high (i.e., above 60 dBA); in these areas limiting noise increases to 3 dBA or less is recommended.[64] Any noise intrusions that cause short-term interior levels to rise above 45 dBA at night can disrupt sleep. Eight-hour or longer exposures to noise levels greater than 85 dBA can cause permanent hearing damage.

Fundamentals of Environmental Groundborne Vibration

Vibrating objects in contact with the ground radiate energy through that medium; if a vibrating object is massive enough and/or close enough to the observer, its vibrations are perceptible. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured in vibration decibels (VdB).

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, and 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table 4.9-2.

[64] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, DOT-T-95-16, April 1995.

Table 4.9-2 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	*Human Reaction*
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

SOURCE: Federal Transit Administration 1995

Existing Noise Levels

Existing ambient daytime noise levels were measured at twenty selected locations on December 18, 2003, and December 19, 2003, in order to identify representative noise levels in various areas of the Planning Area. These locations are shown in Figure 4.9-1.

Noise levels were monitored using a Larson-Davis Model 814 precision sound level meter, which meets the standards of the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 4.9-3.

Existing 24-hour traffic noise levels have been calculated for Coast Highway and the roadways with the highest traffic volumes in the Planning Area. This task was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions.

The model was used to calculate noise levels along the Coast Highway, Jamboree Road, MacArthur Boulevard, and other busy streets in the Planning Area. The existing roadway 70 dBA, 65 dBA, and 60 dBA Ldn noise contours are shown in Figure 4.9-2, Figure 4.9-3, and Figure 4.9-4. Existing residential uses in close proximity to these highway and roadway segments are exposed to high noise levels on a regular basis. Table 4.9-4 lists the existing roadway noise levels at 100 feet from roadway centerlines.

Construction activities are a regular and on-going source of noise throughout the Planning Area. The noise levels generated by construction activities are generally isolated to the immediate vicinity of the construction site and occur during daytime hours in accordance with City regulations (discussed below). Construction activities also occur for relatively short-term periods of a few weeks to a few months and then the noise sources are removed from the construction area.

The Harbor area is a mix of residential and commercial land uses, often located in close proximity to each other. Commercial uses that generate noise include shipyards, and restaurants that create noise on a regular basis from nighttime activities. Sometimes these nighttime activities generate noise levels that disturb nearby residents when they are trying to sleep and result in complaints filed with the City Police Department. Residences throughout the Planning Area are also known to occasionally generate noise from parties that result in complaints filed with the local authorities.

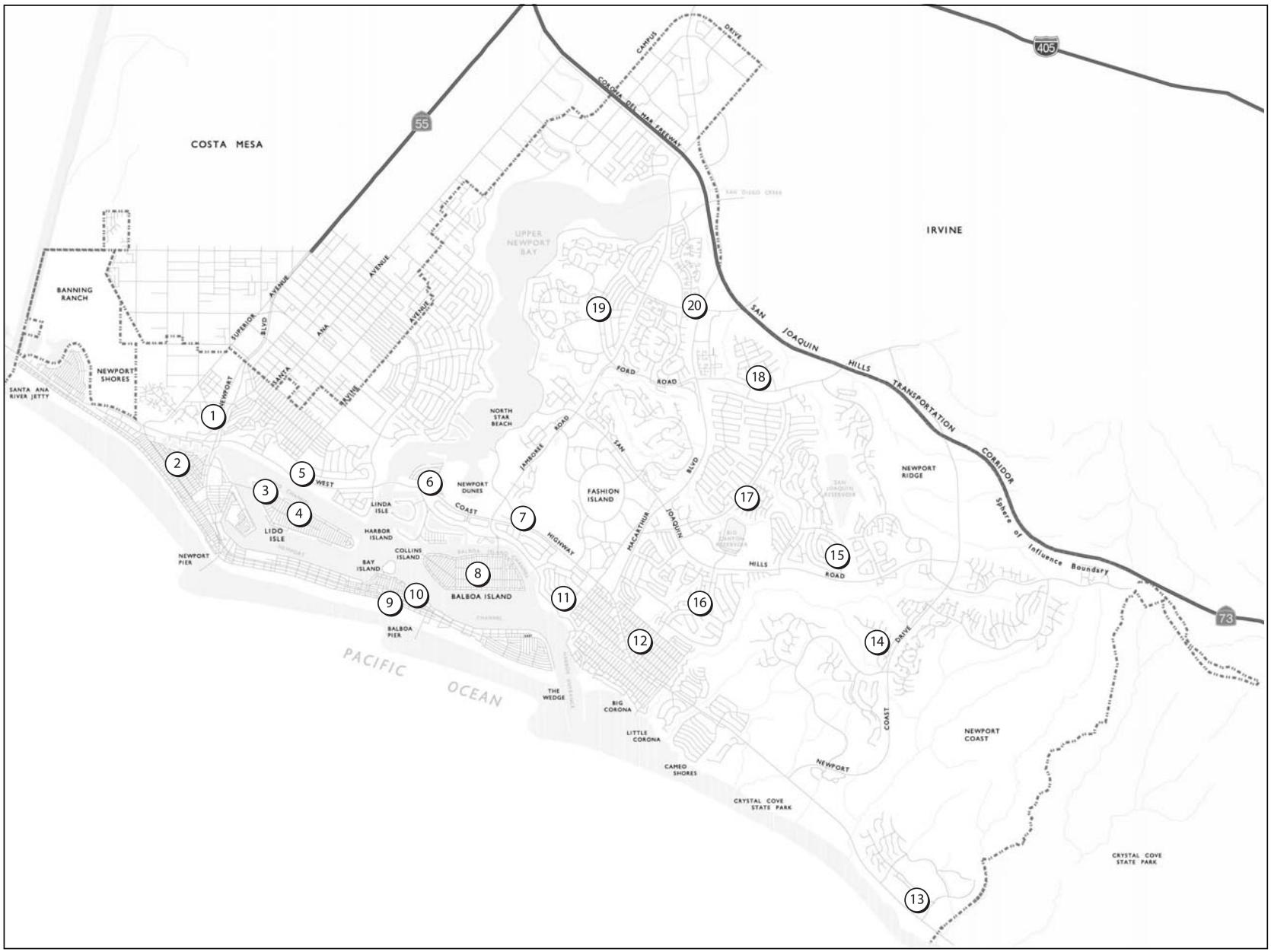

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Figure 4.9-1
NOISE MEASUREMENT LOCATIONS

Legend

City Boundary

Noise Measurement Locations

1. Hoag Hospital
2. 127 41st Street–Corner of Balboa Boulevard
3. 204 Via Antibes–Corner of Via Lido Nord
4. 601 Via Lido Nord–Corner of Via Orvieto
5. Park at Look Out Point
6. Adjacent to 331 Mayflower–Deanza Trailer Park
7. Southwest corner of Patolita Road and Bonnie Doone Terrace
8. Corner of Park Road and Onyx Road
9. 214 Coronado Road
10. End of Adams Road
11. Vacant Lot on Bayside Drive
12. Front Yard of 415 1/2 Marguerite Avenue
13. Crystal Cove Commercial Center–next to housing at south end of parking lot
14. Adjacent to Newport Beach Fire Department
15. Corner of Pt. Conception and El Capitan
16. North of Sausalito Street on Marguerite Avenue
17. Intersection of San Miguel Drive and Yacht Coquette
18. 500 yards east of MacArthur Boulevard on Bonita Canyon Drive
19. Eastbluff Drive N.E. of Vista Del Oro
20. Bison and Belcourt Drive North

Note: GIS Data Projection - CA State Plane, Zone 6, NAD83, Feet.

Sources: City of Newport Beach, General Plan, July 2003, City Boundary, May 2003, Counties, May 2003, Civic Facilities, October 2003; US Census Bureau, Other City Boundries, 2000; ESRI, Major Roads, February 2002; and EIP Associates, GIS Program, November, 2003.

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Table 4.9-3 Existing Daytime Noise Levels at Selected Locations

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L_{eq}	L_{min}	L_{max}
1. Hoag Hospital	Traffic on Newport Beach Boulevard	55.6	49.5	63.3
2. 127 41st Street—Corner of Balboa Boulevard	Traffic on Balboa Boulevard	67.4	48.0	77.9
3. 204 Via Antibes—Corner of Via Lido Nord	Traffic on Via Lido Nord	59.4	44.1	77.2
4. 601 Via Lido Nord—Corner of Via Orvieto	Traffic on Via Orvieto	58.9	41.0	75.8
5. Park at Look Out Point	Traffic on Coast Highway	61.6	53.8	82.5
6. Adjacent to 331 Mayflower—Deanza Trailer Park	Traffic on Coast Highway	58.4	45.9	70.5
7. Southwest corner of Patolita Road and Bonnie Doone Terrace	Traffic on Coast Highway	58.2	45.1	67.5
8. Corner of Park Road and Onyx Road	Traffic on Park Road	61.7	45.2	78.8
9. 214 Coronado Road	Traffic on Balboa Boulevard	63.1	48.0	77.4
10. End of Adams Road	Boating facilities	60.5	50.3	78.7
11. Vacant Lot on Bayside Drive	Traffic on Bayside Drive	59.4	42.4	69.9
12. Front Yard of 415½ Marguerite Avenue	Traffic on Marguerite Avenue	60.5	50.0	75.6
13.Crystal Cove Commercial Center—next to housing at south end of parking lot	Commercial use activities	56.0	43.0	72.4
14. Adjacent to Newport Beach Fire Department	Traffic on Newport Coast Drive	61.8	47.0	81.1
15. Corner of Pt. Conception and El Capitan	Traffic on San Joaquin Road	40.2	33.4	53.8
16. North of Sausalito Street on Marguerite Avenue	Traffic on Marguerite Avenue	66.0	41.8	82.3
17. Intersection of San Miguel Drive and Yacht Coquette	Traffic on San Miguel Drive	66.1	47.2	85.2
18. 500 yards east of MacArthur Boulevard on Bonita Canyon Drive	Traffic on Bonita Canyon Drive	64.9	53.2	75.1
19. Eastbluff Drive N.E. of Vista Del Oro	Traffic on Eastbluff Drive	62.8	47.0	73.0
20. Bison and Belcourt Drive North	Traffic on Bison	63.3	50.4	78.9

SOURCE: EIP Associates 2003: noise monitoring records are provided in the Technical Background Report

Noise levels were monitored for 15 minutes at each location on December 18 and 19, 2003.

L_{min}, the minimum instantaneous noise level experienced during the measurement period.

L_{max}, the maximum instantaneous noise level experienced during the measurement period.

Existing Noise Environment

The dominant noise sources throughout the Planning Area are transportation-related. These include automobiles, trucks, motorcycles, boats, and aircraft. Motor vehicle noise is of concern, because it is characterized by a high number of individual events, which often create a sustained noise level, and its proximity to areas sensitive to noise exposure.

Within the Planning Area, the source of freeway/highway noise is the Corona Del Mar Freeway (State Route 73). There are few residences in proximity to the State Route 73 and the existing residences in proximity to the San Joaquin Hills Transportation Corridor have already included noise mitigation measures. The major sources of motor vehicle traffic noise from surface streets are Coast Highway, Jamboree Road, and MacArthur Boulevard. Many of the newer residential uses built near the major

roadways include some noise protection features (e.g., sound barriers or grade separations). Such features are usually lacking for older residential developments.

Newport Beach has the largest small boat harbor in Southern California. Thousands of boats operate near noise-sensitive residential uses that border much of Newport Harbor. Noise associated with these boats can be a problem to these residences. Of particular concern are the charter boats, which generate engine noise and noise from the occupants, as well as use loudspeakers or live entertainment.

The JWA serves both general aviation and commercial passenger/cargo operations. Although aircraft noise can be heard throughout the Planning Area, the highest noise levels are experienced just south of the airport and are generated by aircraft departures.

Portions of the north-central part of the Planning Area are located within the 65 and 60 dBA CNEL noise contours for JWA, as shown in Figure 4.9-2.

Stationary sources of noise within the Planning Area include building mechanical equipment (e.g., air conditioners, ventilation systems, pool pumps, etc.); public address systems at schools and retail businesses; mechanical tools at commercial and industrial facilities; and outdoor social and entertainment activities (e.g., nightclub operations in the Harbor area).

4.9.3 Regulatory Setting

Various standards have been developed to address the compatibility of land uses and noise levels. The applicable standards are presented in the following discussion. Special emphasis is placed on land uses that are considered to be sensitive to high noise levels. Typical sensitive receptors include residences, schools, child care centers, hospitals, long-term health care facilities, convalescent centers, and retirement homes. Each of these land use types currently occur within the Planning Area.

Federal

The following federal regulations apply to projects as specified below:

- The Federal Highway Administration (FHWA) requires abatement of highway traffic noise for federally funded highway projects as specified in Code of Federal Regulations (23 CFR Part 772).
- The Federal Transit Administration (FTA) and Federal Railroad Administration (FRA) each recommend noise and vibration assessment/abatement for federally funded mass transit or high-speed railroad projects that would pass by residential areas.
- The U.S. Department of Housing and Urban Development (HUD) requires minimum noise insulation standards for HUD-funded housing projects as specified in Code of Federal Regulations (24 CFR Part 51, Subpart B).
- The Federal Aviation Administration (FAA) limits residential exterior or interior aircraft noise exposures to no more than 65 dBA CNEL or 45 dBA CNEL, respectively, under its FAR Part 150 Noise Compatibility Planning program for airports, which apply to the operation of JWA.

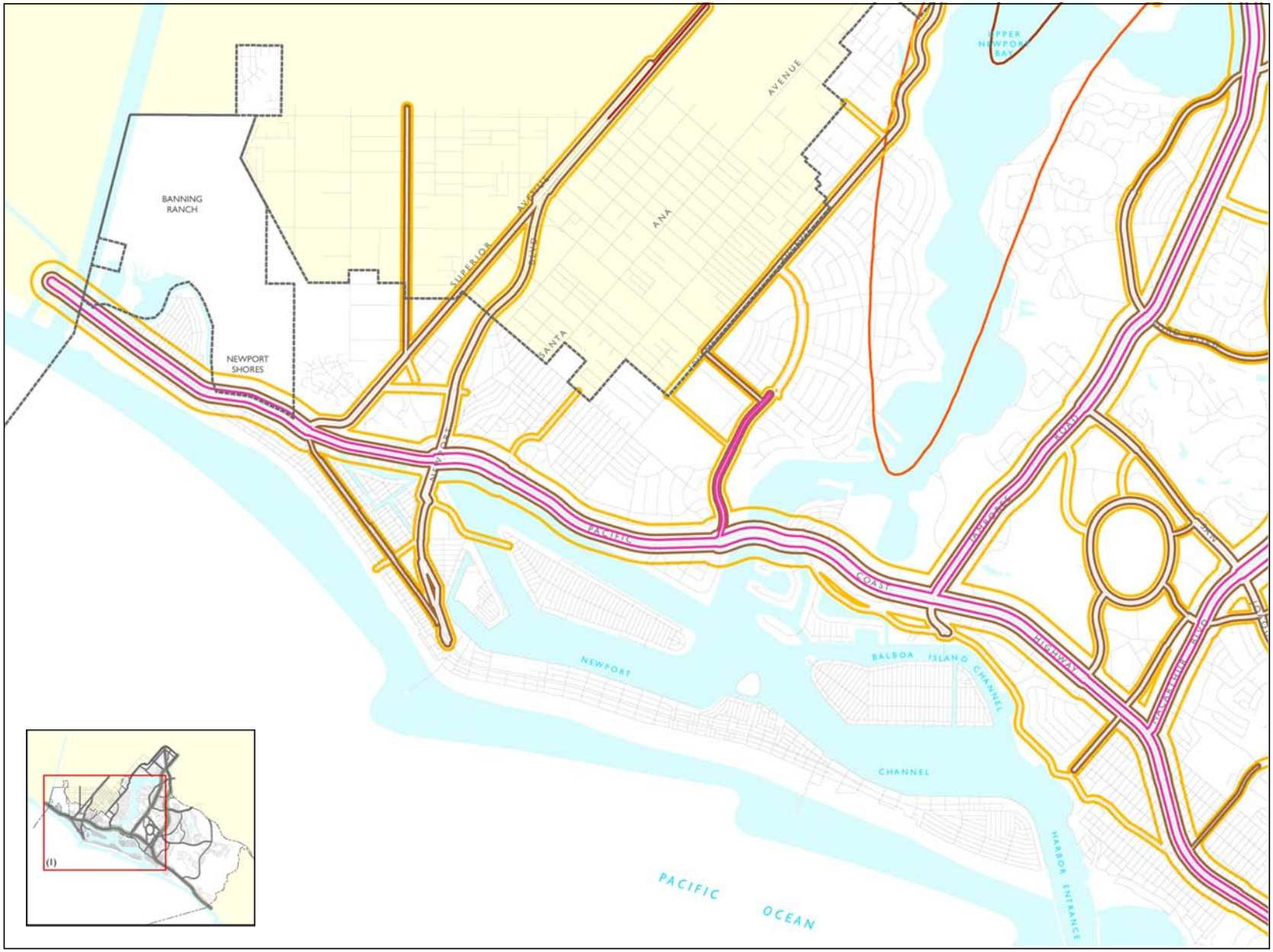

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Figure 4.9-2
EXISTING NOISE CONTOURS – WESTERN PLANNING AREA

Legend

Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

0
Miles

Sources: City of Newport Beach, Mestre Greve Associates and EIP Associates, April 17, 2006.

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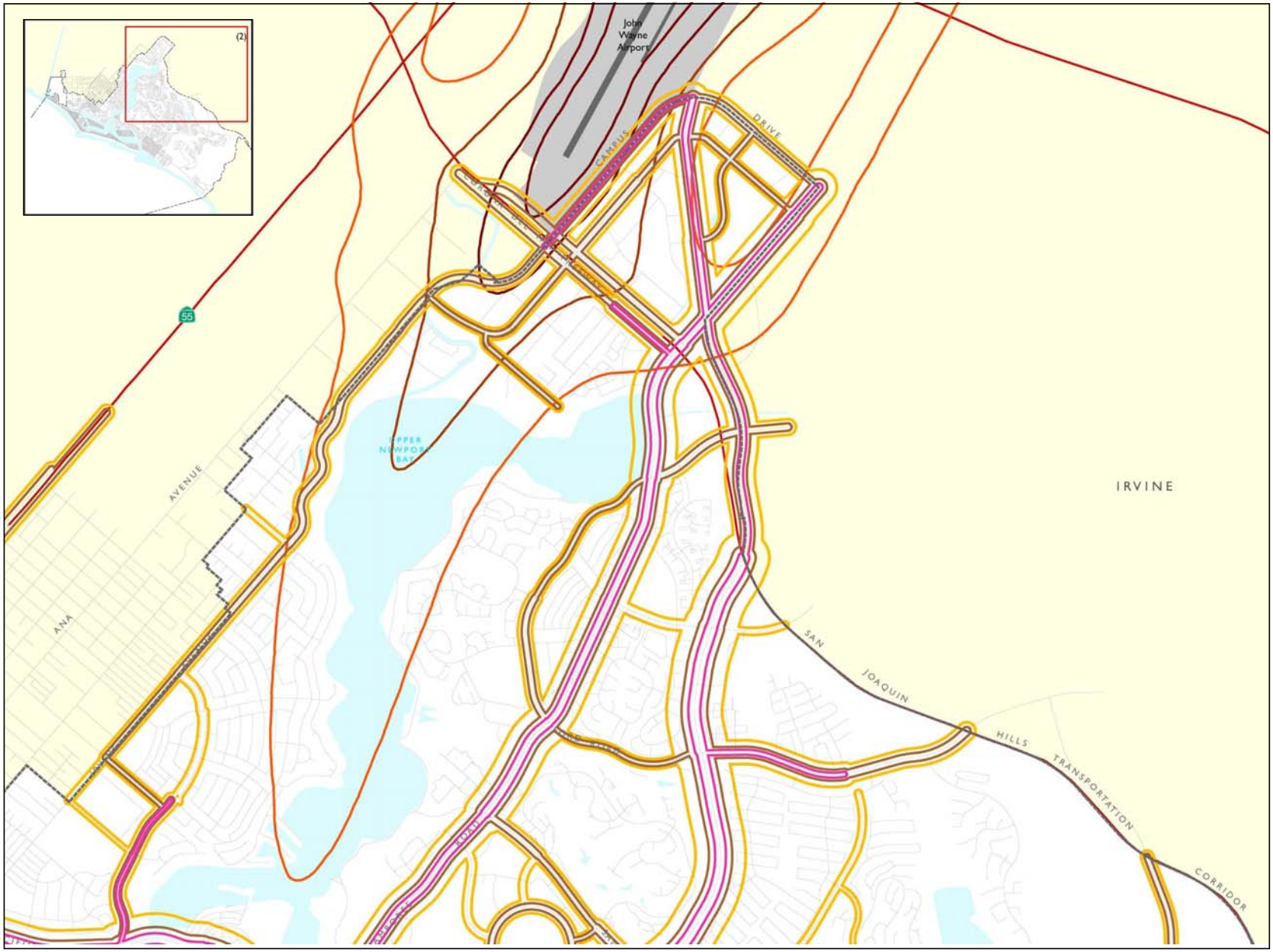
Figure 4.9-3
EXISTING NOISE CONTOURS – NORTHERN PLANNING AREA



Legend

Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

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Miles

Sources: City of Newport Beach, Mestre Greve Associates and EIP Associates, April 17, 2006.

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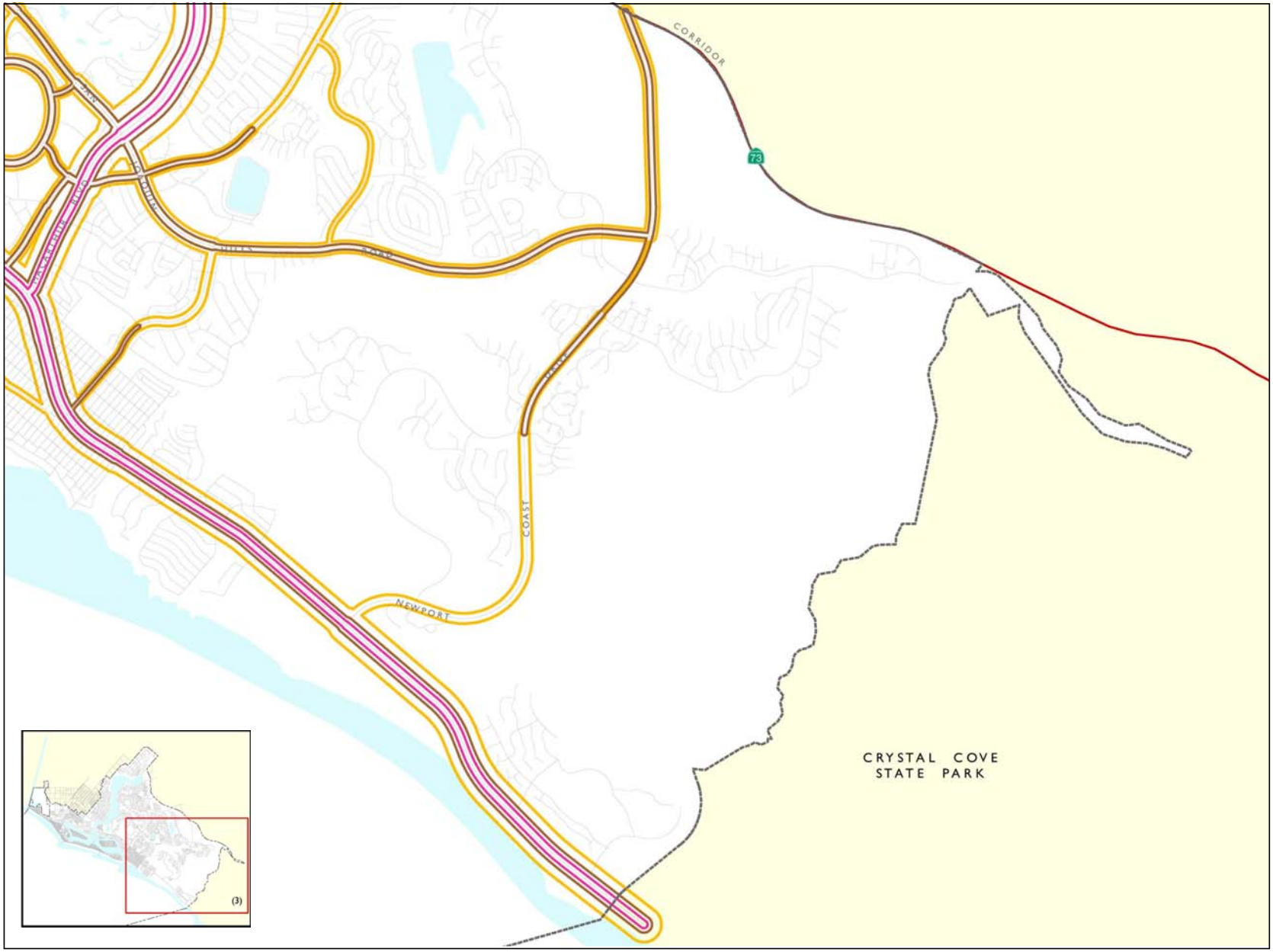

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Figure 4.9-4
EXISTING NOISE CONTOURS – EASTERN PLANNING AREA

Legend

Roadway Noise Contours

- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

0 0.25 0.5
Miles

Sources: City of Newport Beach, Mestre Greve Associates and EIP Associates, April 17, 2006.

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Table 4.9-4 Existing Roadway Noise Levels

Roadway	Roadway Segment	Reference L_{dn} at 100 Feet[a]	Distance to Noise Contour[b]		
			70 L_{dn}	65 L_{dn}	60 L_{dn}
16th Street	Irvine Avenue to Dover Drive	55.7	—	—	52
32nd Street	West of Newport Boulevard	57.7	—	—	71
Avocado Avenue	South of San Miguel Drive	62.2	—	65	140
	North of Coast Highway	61.8	—	61	132
Balboa Boulevard	South of Coast Highway	60.3	—	48	104
Bayside Drive	South of Coast Highway	60.2	—	—	103
Birch Street	Jamboree Road to Von Karman Avenue	61.0	—	54	116
	Von Karman Avenue to MacArthur Boulevard	61.9	—	63	135
	West of MacArthur Boulevard	62.2	—	65	141
	North of Bristol Street North	63.8	—	83	179
	Bristol Street North to Bristol Street South	63.0	—	73	158
	South of Bristol Street South	61.9	—	63	135
Bison Avenue	Jamboree Road to MacArthur Boulevard	61.6	—	—	128
	MacArthur Boulevard to SR-73 Freeway	61.2	—	—	121
Bonita Canyon Drive	East of MacArthur Boulevard	66.7	60	130	279
	West of SR-73 Freeway	64.8	—	98	210
Bristol Street North	West of Campus Drive	64.6	—	94	202
	Campus Drive to Birch Street	64.9	46	99	214
	East of Birch Street	64.8	45	96	207
	West of Jamboree Road	63.4	—	78	168
Bristol Street South	West of Campus Drive/Irvine Avenue	64.6	—	94	202
	Campus Drive to Birch Street	63.6	—	81	175
	East of Birch Street	63.4	—	78	168
	West of Jamboree Road	66.2	56	121	261
Campus Drive	Jamboree Road to Von Karman Avenue	62.2	—	65	141
	Von Karman Avenue to MacArthur Boulevard	63.2	—	76	163
	West of MacArthur Boulevard	65.6	51	109	235
	North of Bristol Street North	65.9	53	115	247
	Bristol Street North to Bristol Street South	66.2	56	120	258
Coast Highway	West of 15th Street	68.0	74	159	344
	Superior Avenue to Newport Boulevard	66.3	—	123	264
	Newport Avenue to Riverside Avenue	66.3	—	123	265
	Riverside Avenue to Tustin Avenue	65.5	—	108	232
	Tustin Avenue to Dover Drive	66.5	59	127	273
	Dover Drive to Bayside Drive	69.4	91	197	424
	Bayside Drive to Jamboree Road	68.9	85	183	394

Table 4.9-4 Existing Roadway Noise Levels

Roadway	Roadway Segment	Reference L_{dn} at 100 Feet[a]	Distance to Noise Contour[b]		
			70 L_{dn}	65 L_{dn}	60 L_{dn}
	Jamboree Road to Newport Center Drive	68.3	77	166	358
	Newport Center Drive to Avocado Avenue	67.1	64	138	298
	Avocado Avenue to MacArthur Boulevard	64.7	—	95	205
	MacArthur Boulevard to Goldenrod Avenue	64.9	—	98	211
	Goldenrod Avenue to Marguerite Avenue	64.6	43	94	202
	Marguerite Avenue to Poppy Avenue	64.3	—	90	193
	Poppy Avenue to Newport Coast Drive	66.1	—	119	257
	East of Newport Coast Drive	69.3	89	193	415
Dover Drive	Irvine Avenue to Westcliff Drive	57.1	—	—	65
	Westcliff Drive to 16th Street	63.4	36	79	169
	16th Street to Cliff Drive	64.0	40	86	184
	Cliff Drive to Coast Highway	64.6	44	94	204
Eastbluff Drive	West of Jamboree Road at University Drive	60.2	—	—	103
	West of Jamboree Road at Ford Road	60.7	—	—	112
Ford Road	Jamboree Road to MacArthur Boulevard	61.0	—	54	1116
Hospital Road	Placentia Avenue to Newport Boulevard	58.9	—	—	85
	East of Newport Boulevard	56.2	—	—	56
Irvine Avenue	Bristol Street South to Mesa Drive	65.7	52	112	241
	Mesa Drive to University Drive	66.3	57	123	264
	University Drive to Santa Isabel Avenue	66.6	59	128	275
	Santa Isabel Avenue to Santiago Drive	63.5	—	79	170
	Santiago Drive to Highland Drive	63.2	—	75	162
	Highland Drive to Dover Drive	63.2	—	75	162
	Dover Drive to Westcliff Drive	62.3	—	66	142
	Westcliff Drive to 16th Street	59.6	—	—	95
Jamboree Road	Campus Drive to Birch Street	68.4	78	167	361
	Birch Street to MacArthur Boulevard	69.0	86	186	400
	MacArthur Boulevard to Bristol Street North	68.4	78	167	361
	Bristol Street North to Bristol Street South	69.5	93	200	431
	Bristol Street South to Bayview Way	69.5	93	200	431
	Bayview Way to University Drive	69.5	93	200	431
	University Drive to Bison Avenue	68.5	79	171	367
	Bison Avenue to Ford Road	68.7	82	177	381
	Ford Road to San Joaquin Hills Road	69.4	92	197	425

Table 4.9-4 Existing Roadway Noise Levels

Roadway	Roadway Segment	Reference L_{dn} at 100 Feet[a]	Distance to Noise Contour[b]		
			70 L_{dn}	65 L_{dn}	60 L_{dn}
	San Joaquin Hills Road to Santa Barbara Road	68.1	75	161	347
	Santa Barbara Road to Coast Highway	67.8	72	155	334
	Coast Highway to Bayside Drive	59.6	—	—	95
MacArthur Boulevard	Campus Drive to Birch Street	67.1	64	138	298
	Birch Street to Von Karman Avenue	66.2	—	121	260
	Von Karman Avenue to Jamboree Road	66.9	63	135	290
	South of Jamboree Road	68.1	75	162	349
	North of Bison Avenue	71.7	130	279	602
	Bison Avenue to Ford Road	72.2	141	303	654
	Ford Road to San Joaquin Hills Road	71.6	127	274	590
	San Joaquin Road to San Miguel Road	68.6	81	175	377
	San Miguel Road to Coast Highway	67.7	70	152	327
Marguerite Avenue	South of San Joaquin Hills Road	58.6	—	—	81
	North of Coast Highway	53.8	—	—	39
Mesa Drive	East of Irvine Drive	61.0	—	54	116
Newport Boulevard	North of Hospital Road	67.2	65	141	304
	Hospital Road to Coast Highway	66.8	—	131	283
	Coast Highway to Via Lido	65.9	—	115	248
	Via Lido to 32nd Street	63.6	—	71	174
	South of 32nd Street	62.7	—	70	151
Newport Center Drive	North of Coast Highway	63.1	—	75	162
Newport Coast Drive	SR-73 Freeway to San Joaquin Hills Road	66.8	62	133	286
	South of San Joaquin Hills Road	66.6	-	127	274
	North of Coast Highway	65.6	-	110	236
Placentia Avenue	North of Superior Avenue	61.0	—	54	116
	Superior Avenue to Hospital Road	58.6	—	—	81
Riverside Avenue	North of Coast Highway	57.1	—	—	65
San Joaquin Hills Road	Jamboree Road to Santa Cruz Road	63.7	—	82	177
	Santa Cruz Road to Santa Rosa Road	62.1	—	64	138
	Santa Rosa Road to MacArthur Boulevard	64.9	—	98	212
	MacArthur Boulevard to San Miguel Road	64.3	—	90	194
	San Miguel Road to Marguerite Avenue	64.2	—	89	191
	Marguerite Avenue to Spyglass Hill Road	63.6	—	81	173
	Spyglass Hill Road to Newport Coast Drive	64.4	—	91	196
San Miguel Drive	North of Spyglass Hill Road	59.9	—	—	98
	South of Spyglass Hill Road	59.9	—	—	98

Table 4.9-4 Existing Roadway Noise Levels

Roadway	Roadway Segment	Reference L_{dn} at 100 Feet[a]	Distance to Noise Contour[b]		
			70 L_{dn}	65 L_{dn}	60 L_{dn}
	North of San Joaquin Hills Road	62.2	—	65	140
	San Joaquin Hills Road to MacArthur Boulevard	61.0	—	54	116
	MacArthur Boulevard to Avocado Avenue	61.6	—	60	128
	West of Avocado Avenue	58.8	—	—	84
Santa Barbara Drive	East of Jamboree Road	60.2	—	—	103
Santa Cruz Drive	South of San Joaquin Hills Road	57.9	—	—	72
Santa Rosa Drive	South of San Joaquin Hills Road	60.6	—	51	110
Santiago Drive	Tustin Avenue to Irvine Avenue	54.6	—	—	44
Spyglass Hill Road	San Miguel Drive to San Joaquin Hills Road	56.1	—	—	55
Superior Avenue	North of Placentia Avenue	62.5	—	68	147
	Placentia Avenue to Hospital Road	63.6	—	81	174
	Hospital Road to Coast Highway	64.0	—	86	184
University Drive	East of Jamboree Road	61.8	—	61	132
Via Lido	East of Newport Boulevard	55.3	—	—	—
Von Karman Avenue	Campus Drive to Birch Street	61.6	—	60	129
	Birch Street to MacArthur Boulevard	61.0	—	54	116
Westcliff Drive	Irvine Avenue to Dover Drive	60.9	—	53	115

SOURCE: EIP Associates 2003: noise contour distance calculations

[a] Distances are in feet from roadway centerline. The identified noise level at 100 feet from the roadway centerline is for reference purposes only as a point from which to calculate the noise contour distances. It does not reflect an actual building location or potential impact location.

[b] "—" Noise contour is located within the roadway lanes.

State

The following state regulations apply to the General Plan Update process and to certain projects in the Planning Area:

- The Governor's Office of Planning and Research has published guidelines for noise and land use compatibility. Each jurisdiction is required to consider these guidelines when developing its General Plan noise element and determining the acceptable noise levels within its community.

Title 24 of the California Code of Regulations establishes California Noise Insulation Standards for all new multi-family residential units, specifically an interior noise standard of 45 dBA.

Local

The City of Newport Beach has also adopted noise regulations (Chapters 10.26 and 10.28 of the Newport Beach Municipal Code) that identify specific noise restrictions, exemptions, and variances for sources of noise within the city.

- Chapter 10.26 of the Municipal Code sets internal and external noise standards, makes special provisions for HVAC and sound amplification, and sets forth enforcement procedures. It also exempts "noise sources associated with construction, repair, remodeling, demolition, or grading of any real property" as long as the construction complies with the regulations found in Section 10.28.040.
- Section 10.28.010 of the Municipal Code regulates "loud and unreasonable" noise, as defined below:

  > It is unlawful for any person or property owner to willfully make, allow, continue or cause to be made, allowed, or continued, any loud and unreasonable, unnecessary, or disturbing noise, including, but not limited to, yelling, shouting, hooting, whistling, singing, playing music, or playing a musical instrument, which disturbs the peace, comfort, quiet or repose of any area or which causes discomfort or annoyance to any reasonable person of normal sensitivities in the area, after a peace or code enforcement officer has first requested that the person or property owner cease and desist from making or continuing, or causing to make or continue, such loud, unreasonable, unnecessary, excessive or disturbing noise

- Section 10.28.040 of the Municipal Code regulates noise levels during construction, as specified below:

  > Weekdays and Saturdays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any weekday except between the hours of seven A.M. and six-thirty P.M., nor on any Saturday except between the hours of eight A.M. and six P.M.
  >
  > Sundays and Holidays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any Sunday or any federal holiday.

4.9.4 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2005 CEQA Guidelines. For purposes of this EIR, implementation of the proposed project may have a significant adverse noise impact if it would result in any of the following:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- For a project located within 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, exposure of people residing or working in the project area to excessive noise levels
- For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels

This analysis uses the City of Newport Beach General Plan's existing land use compatibility guidelines to assess the noise exposure of land uses in the project vicinity as follows:

- 60 dBA CNEL at single family residential, multi-family residential, duplexes, schools, churches, libraries, hospitals, hotels, motels, and mobile homes;
- 65 dBA CNEL at office buildings, commercial recreational uses such as amusement parks and sports clubs, and parks;
- 70 dBA CNEL at commercial retail uses, restaurants, banks, service stations, manufacturing uses and warehouses, golf courses, cemeteries and wildlife habitat.

In addition to the above compatibility guidelines, the General Plan specifies that uses that require very quiet interior noise levels, such as amphitheaters, concert halls, or auditoriums, should not be constructed without a detailed noise analysis, and that agricultural uses are compatible with all noise levels.

This analysis uses the following Federal Transit Administration's incremental traffic noise impact criteria, which becomes progressively more stringent as the baseline traffic noise levels increase. Thus, these criteria are more protective of communities with high noise exposure. As shown in Table 4.9-5, where the baseline L_{dn} is less than 60 dBA, a permanent increase in roadway traffic noise levels of 3 dBA over baseline ambient noise levels is considered to be substantial and, therefore, significant; where the baseline L_{dn} is between 60 dBA and 65 dBA, a permanent increase in roadway traffic noise levels of 2 dBA over baseline ambient noise levels is considered to be substantial and, therefore, significant; where the baseline L_{dn} is between 65 dBA and 70 dBA, a permanent increase in roadway traffic noise levels of 1 dBA over baseline ambient noise levels is considered to be substantial and, therefore, significant.

Table 4.9-5 Incremental Noise Impact Criteria for Noise Sensitive Uses (CNEL, in dBA)

Existing Noise Exposure	*Allowable Project Noise Exposure*	*Allowable Combined Noise Exposure*	*Allowable Noise Exposure Increment*
55	55	58	3
60	57	62	2
65	60	66	1
70	64	71	1
75	65	75	0

SOURCE: Federal Transit Administration 1995

This analysis uses the Federal Transit Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are given in Table 4.9-6 below.

Table 4.9-6 Groundborne Vibration and Noise Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro inch/sec)		Groundborne Noise Impact Levels (dB re 20 micro Pascals)	
	Frequent Events[1]	Infrequent Events[2]	Frequent Events	Infrequent Events
Category 1: Buildings where low ambient vibration is essential for interior operations.	65 VdB[3]	65 VdB[3]	NA[4]	NA[4]
Category 2: Residences and Buildings where people normally sleep.	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	83 VdB	40 dBA	48 dBA

SOURCE: Federal Transit Administration 1995

"Frequent Events" is defined as more than 70 vibration events per day.

"Infrequent Events" is defined as fewer than 70 vibration events per day.

This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

Vibration sensitive equipment is not sensitive to groundborne noise.

4.9.5 Project Impacts, Mitigation Measures, and Proposed Policies

Effects Not Found to Be Significant

Threshold	Would the project expose people residing or working in the project area to excessive noise levels for a project located within the vicinity of a private air strip?

As discussed in the Initial Study, there are no private airstrips in the vicinity of the City. As such, implementation of the proposed General Plan Update would not expose people residing or working the project area to excessive noise levels and would thus have ***no impact.*** No further discussion of this effect is required.

Project Impacts

Threshold	Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact 4.9-1 Implementation of the proposed General Plan Update would generate or expose persons to ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Locations throughout the City would experience changes in noise levels as a result of an increase in motor vehicle traffic, as discussed under Impact 4.9-3, below. Based on the information in the existing and future noise contour Figure 4.9-2 through Figure 4.9-7, noise levels in excess of standards

established by the City could occur where schools, libraries, health care facilities, and residential uses within the City are, and will continue to be, exposed to exterior noise levels that exceed the City's standard of 60 dBA CNEL. As shown in Table 4.9-8 (below, under the Impact 4.9-3 analysis), there are numerous roadway segments where noise levels would exceed City standards at 100 feet from the roadway centerline. The areas with the greatest potential for this to occur are those roadway segments where the 65 dBA CNEL noise contours extend beyond the roadway right-of-way. It should be noted, however, that roadway noise contours have been generated by a computer model, and may not always reflect true noise conditions at a particular location. Intervening structures or other noise-attenuating obstacles between a roadway and a receptor may reduce roadway noise levels at the receptor.

Implementation of policies under the proposed General Plan Update such as those policies associated with Goals N1 and N2 (including requiring that all remodeling/additions to structures comply with the proposed General Plan Update noise standards, requiring the use of walls, berms, interior noise insulation, double paned windows, or other noise mitigation measures in new residential or other new land uses) would reduce noise impacts to future land uses, but would do little to remediate noise effects on existing land uses. The exposure of existing land uses to noise levels in excess of City standards as a result of the future growth under the proposed General Plan is considered a ***significant*** impact.

Threshold	Would implementation of the proposed General Plan result in exposure of people to excessive groundborne vibration or noise?

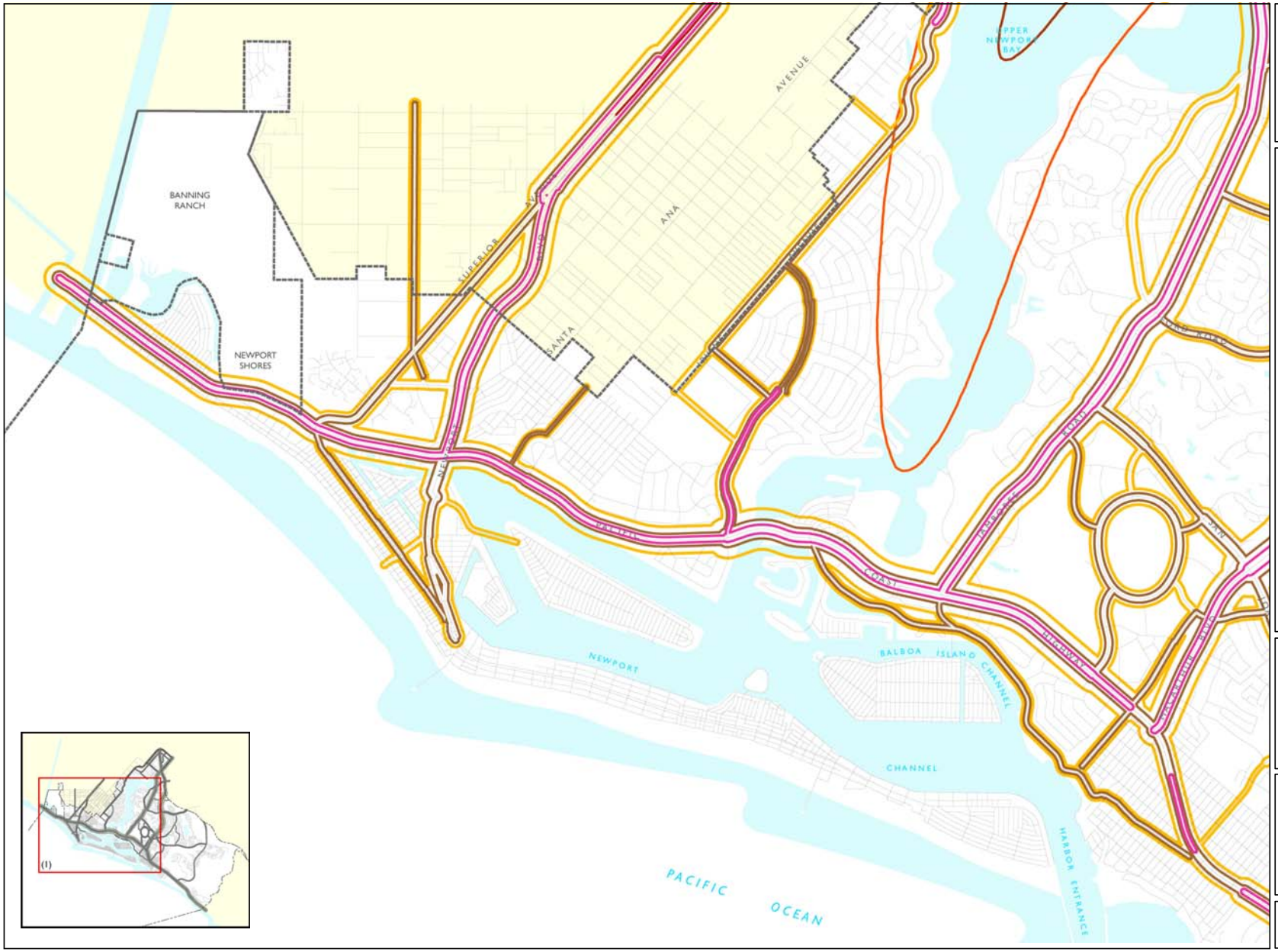
Impact 4.9-2 **Implementation of the proposed General Plan would expose persons to vibration levels generated during construction activities that would exceed 72 VdB.**

Construction activities that would occur under the proposed General Plan Update would have the potential to generate groundborne vibration. Table 4.9-7 identifies vibration levels for common types of construction equipment.

Table 4.9-7 Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB			
	25 Feet	50 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	77	75
Loaded Trucks	86	80	76	74
Jackhammer	79	73	69	67
Small Bulldozer	58	52	48	46

SOURCE: Federal Transit Administration 1995; EIP Associates 2006



CITY of NEWPORT BEACH
GENERAL PLAN UPDATE EIR

Figure 4.9-5
FUTURE NOISE CONTOURS – WESTERN PLANNING AREA

Legend

Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

N

0
Miles

Sources: City of Newport Beach, Mestre Greve Associates and EIP Associates, April 17, 2006.

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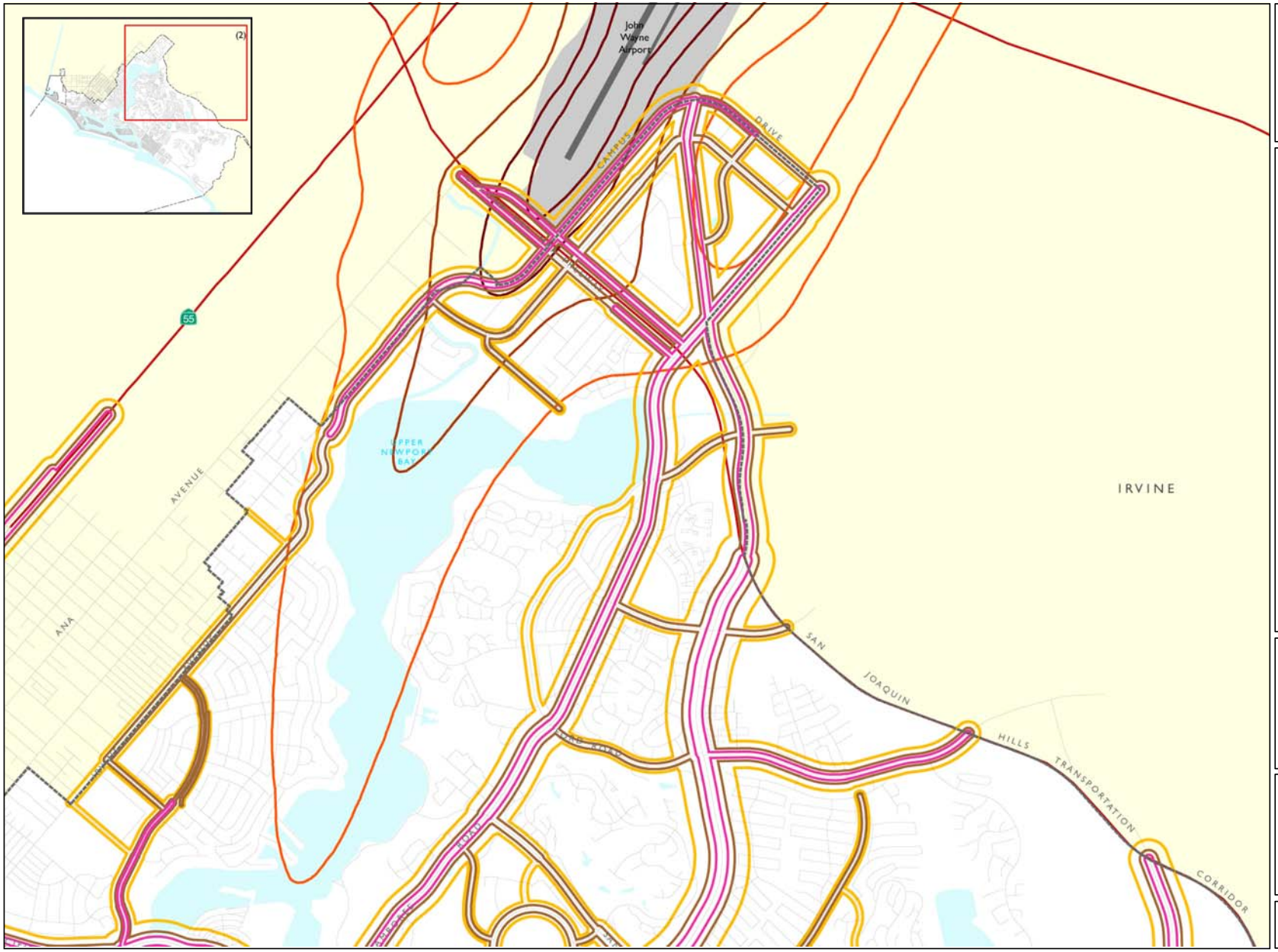

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Figure 4.9-6
FUTURE NOISE CONTOURS – NORTHERN PLANNING AREA

Legend

Roadway Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL

AELUP Noise Contours
- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

0
Miles

Sources: City of Newport Beach, Mestre Greve Associates and EIP Associates, April 17, 2006.

Project No. 10579-03

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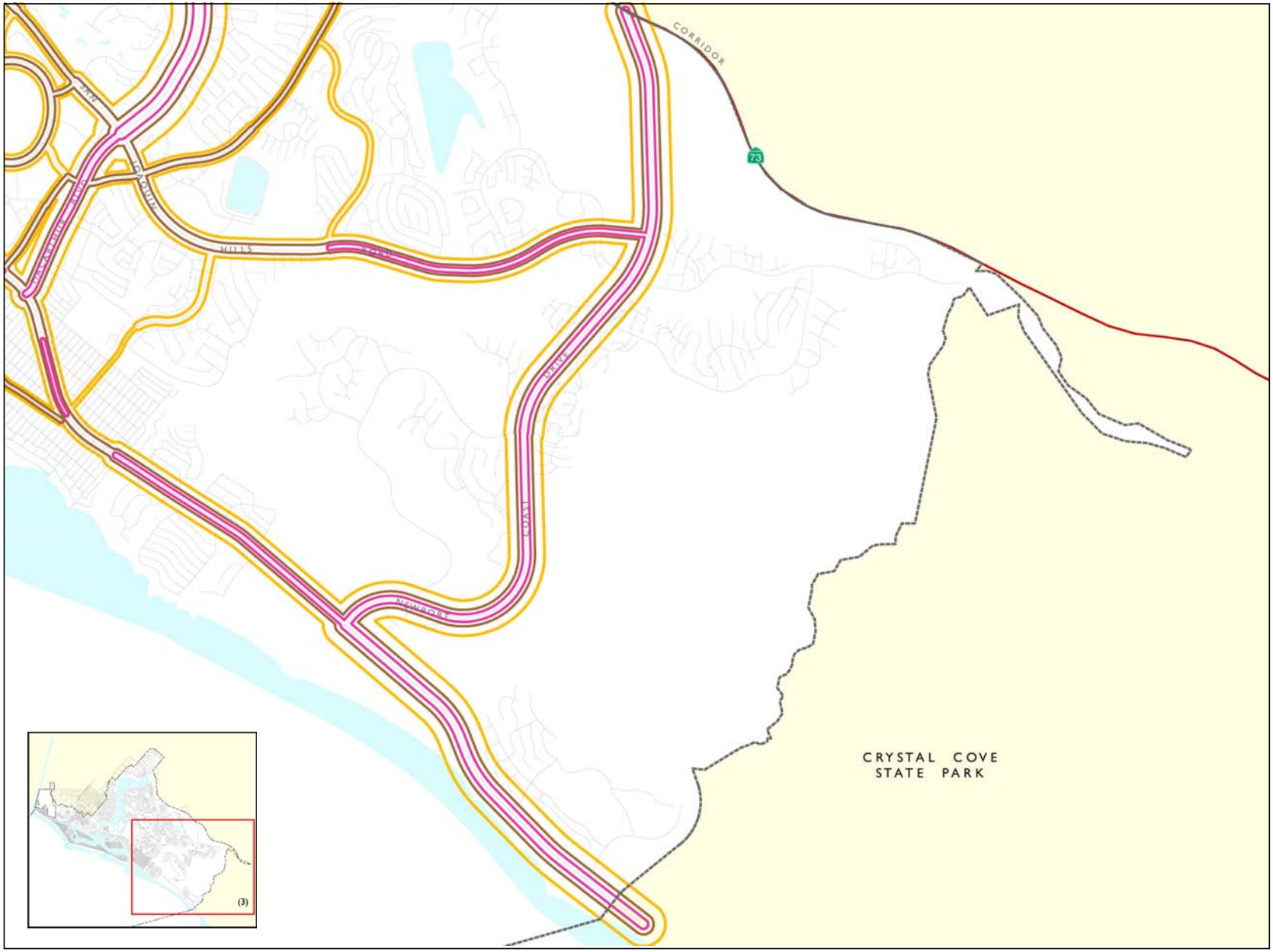
GENERAL PLAN UPDATE EIR

Figure 4.9-7
FUTURE NOISE CONTOURS – EASTERN PLANNING AREA



Legend

Roadway Noise Contours

- 70 CNEL
- 65 CNEL
- 60 CNEL
- City Boundary
- John Wayne Airport

The noise contours represent the maximum possible traffic noise levels at locations within them (i.e., they do not account for building placement or traffic speeds, nor include the attenuating effects of walls, structures, and terrain features that might intervene between the roads and any location of interest).

Sources: City of Newport Beach, Mestre Greve Associates and EIP Associates, April 17, 2006.

Project No. 10579-03

EIP ASSOCIATES

Construction activities will occur at discrete locations in the City and vibration from such activity may impact existing buildings and their occupants if they are located close enough to the construction sites. Based on the information presented in Table 4.9-7, vibration levels could be problematic if sensitive uses are located within about 100 feet of potential project construction sites, where sensitive receptors (e.g., residents, school children) would experience vibration levels that exceed the FTA's vibration impact threshold of 72 VdB. However, impacts related to construction vibration are event and location specific; these impacts would not occur citywide. If impacts occur, the only mitigation that could eliminate the vibration impact is ensuring a distance of approximately 150 feet between construction and existing sensitive receptors. Since it is not feasible to prohibit construction within 150 feet of all existing receptors, there is no feasible mitigation available for the impact. Thus, when construction vibration occurs, impacts would be ***significant***.

Threshold	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact 4.9-3 Implementation of the proposed General Plan would result in substantial permanent increases in traffic-related ambient noise levels.

Existing and future 24-hour noise levels have been calculated for individual roadway segments within the City of Newport Beach. Table 4.9-4 in the Existing Conditions section lists the existing roadway noise levels within the City; and these noise contours have also been illustrated in Figure 4.9-2, Figure 4.9-3, and Figure 4.9-4.

Table 4.9-8 lists the future roadway noise levels within the City with the implementation of the proposed General Plan; these future noise contours have also been illustrated in Figures 4.9-5, 4.9-6, and 4.9-7. The increase in roadway noise levels from existing conditions compared to future conditions, which includes regional growth and project related traffic, is also shown in Table 4.9-8. Roadway segments that would have a significant increase in noise at 100 feet from the centerline are highlighted in the table. This includes 24 roadway segments along Birch Street, Campus Drive, Coast Highway, Irvine Avenue, Jamboree Road, MacArthur Blvd, and Newport Coast Drive. Many of the affected segments are located in areas where commercial, rather than residential, development would occur. The changes in motor vehicle trips and circulation patterns would increase noise levels within the City by a maximum of 3.7 dBA CNEL, although most increases in noise would be between 1 and 3 dBA. Note that as described in Table 4.9-5, the threshold of significance of the roadway noise increase is dependent upon existing noise levels. Thus, where a roadway noise increase of 1.5 dBA CNEL may not be significant for one roadway segment, it may be significant on another, depending on the existing noise level along the roadway segment.

Roadway noise contours are generated by a computer model, and may not always reflect true noise conditions at a particular location. Intervening structures or other noise-attenuating obstacles between a roadway and a receptor may reduce roadway noise levels at the receptor. However, there would almost certainly be receptors that would experience roadway noise levels very similar to those indicated by the noise contours. While there are a number of policies in the General Plan under Goal N2 that would help mitigate the impact of traffic noise on receptors, such as Policy N 2.2—Design of Sensitive Land Uses,

or Policy N 2.6—Barrier Construction Funding, these would mostly influence noise impacts on new receptors. This is due to the fact that existing receptors cannot easily be redesigned to provide greater noise attenuation, and it is not always feasible to construct barriers between existing development and roadways. Therefore, along select roadway segments, a substantial permanent increase in ambient noise levels would result. Impacts would be ***significant***.

Table 4.9-8 General Plan Update Traffic Noise Contours

Roadway	Roadway Segment	Distance to Contour				Increase
		100	70	65	60	
16th Street	Irvine Avenue to Dover Drive	56.5	—	—	58	0.8
32nd Street	west of Newport Boulevard	57.7	—	—	71	0
Avocado Avenue	south of San Miguel Drive	61.8	—	61	132	-0.4
	north of Coast Highway	61.4	—	58	124	-0.4
Balboa Boulevard	south of Coast Highway	61.1	—	55	119	0.8
Bayside Drive	south of Coast Highway	61.0	—	54	116	0.8
Birch Street	Jamboree Road to Von Karman Avenue	63.2	—	76	163	2.2
	Von Karman Avenue to MacArthur Boulevard	63.6	—	81	174	1.7
	west of MacArthur Boulevard	64.0	—	86	184	1.8
	north of Bristol Street North	65.0	—	99	214	1.2
	Bristol Street North to Bristol Street South	63.8	—	83	179	0.8
	south of Bristol Street South	62.5	—	68	147	0.6
Bison Avenue	Jamboree Road to MacArthur Boulevard	63.0	—	74	158	1.4
	MacArthur Boulevard to SR-73 Freeway	62.8	—	71	154	1.6
Bonita Canyon Dr.	east of MacArthur Boulevard	67.5	68	146	314	0.8
	west of SR-73 Freeway	66.7	60	130	279	1.9
Bristol Street North	west of Campus Drive	65.5	50	109	234	0.9
	Campus Drive to Birch Street	66.1	55	118	255	1.2
	east of Birch Street	66.1	55	118	255	1.3
	west of Jamboree Road	64.3	—	90	195	0.9
Bristol Street South	west of Campus Drive/Irvine Drive	65.3	48	104	225	0.7
	Campus Drive to Birch Street	64.9	46	99	214	1.3
	east of Birch Street	64.8	45	96	207	1.4
	west of Jamboree Road	67.2	65	141	304	1.0
Campus Drive	Jamboree Road to Von Karman Avenue	63.8	—	83	179	1.6
	Von Karman Avenue to MacArthur Boulevard	65.5	50	108	233	2.3
	west of MacArthur Boulevard	67.4	67	145	313	1.8
	north of Bristol Street North	67.4	67	145	313	1.5
	Bristol Street North to Bristol Street South	67.5	69	148	318	1.3
Coast Highway	west of 15th Street	68.0	74	159	344	0

Table 4.9-8 General Plan Update Traffic Noise Contours

Roadway	Roadway Segment	Distance to Contour				Increase
		100	70	65	60	
	Superior Avenue to Newport Boulevard	68.0	73	158	340	1.7
	Newport Boulevard to Riverside Avenue	67.4	67	144	310	1.1
	Riverside Avenue to Tustin Avenue	66.6	59	128	275	1.1
	Tustin Avenue to Dover Drive	67.5	69	148	318	1.0
	Dover Drive to Bayside Drive	70.2	103	223	480	0.8
	Bayside Drive to Jamboree Road	69.8	98	210	453	0.9
	Jamboree Road to Newport Center Drive	69.1	87	187	402	0.8
	Newport Center Drive to Avocado Avenue	67.9	72	156	336	0.8
	Avocado Avenue to MacArthur Boulevard	65.6	—	110	237	0.9
	MacArthur Boulevard to Goldenrod Avenue	65.4	—	106	228	0.5
	Goldenrod Avenue to Marguerite Avenue	65.0	46	100	215	0.4
	Marguerite Avenue to Poppy Avenue	65.1	—	101	218	0.8
	Poppy Avenue to Newport Coast Drive	67.5	68	146	315	1.4
	east of Newport Coast Drive	70.7	112	241	520	1.4
Dover Drive	Irvine Drive to Westcliff Drive	58.0	—	34	74	0.9
	Westcliff Drive to 16th Street	63.8	39	83	179	0.4
	16th Street to Cliff Drive	64.5	43	92	199	0.5
	Cliff Drive to Coast Highway	65.2	48	103	222	0.6
Eastbluff Drive	west of Jamboree Road at University Drive	60.2	—	—	103	0
	west of Jamboree Road at Ford Road	60.7	—	—	112	0
Ford Road	Jamboree Road to MacArthur Boulevard	62.6	—	69	148	1.6
Hospital Road	Placentia Avenue to Newport Boulevard	60.1	—	—	101	1.1
	east of Newport Boulevard	58.2	—	—	76	2.0
Irvine Avenue	Bristol Street South to Mesa Drive	67.2	65	140	302	1.5
	Mesa Drive to University Drive	67.6	70	150	323	1.3
	University Drive to Santa Isabel Avenue	67.4	67	145	313	0.8
	Santa Isabel Avenue to Santiago Drive	64.0	—	86	186	0.5
	Santiago Drive to Highland Drive	63.9	—	84	182	0.7
	Highland Drive to Dover Drive	64.0	—	86	186	0.8
	Dover Drive to Westcliff Drive	63.5	—	79	170	1.2
	Westcliff Drive to 16th Street	60.0	—	—	100	0.4
Jamboree Road	Campus Drive to Birch Street	69.6	94	203	437	1.2
	Birch Street to MacArthur Boulevard	70.3	104	225	484	1.3
	MacArthur Boulevard to Bristol Street North	69.5	93	200	431	1.1
	Bristol Street North to Bristol Street South	70.0	101	217	467	0.5
	Bristol Street South to Bayview Way	70.0	101	217	467	0.5
	Bayview Way to University Drive	70.0	99	214	461	0.5
	University Drive to Bison Avenue	69.1	88	189	406	0.6
	Bison Avenue to Ford Road	69.5	93	200	431	0.8
	Ford Road to San Joaquin Hills Road	70.4	106	228	490	1.0

Table 4.9-8 General Plan Update Traffic Noise Contours

Roadway	Roadway Segment	Distance to Contour				Increase
		100	70	65	60	
	San Joaquin Hills Road to Santa Barbara Drive	69.3	90	194	419	1.2
	Santa Barbara Drive to Coast Highway	69.0	86	186	400	1.2
	Coast Highway to Bayside Drive	60.6	—	51	110	1.0
MacArthur Boulevard	Campus Drive to Birch Street	68.5	79	171	367	1.4
	Birch Street to Von Karman Avenue	67.3	66	142	305	1.1
	Von Karman Avenue to Jamboree Road	68.1	75	161	347	1.2
	south of Jamboree Road	69.6	95	204	439	1.5
	north of Bison Avenue	72.5	146	315	678	0.8
	Bison Avenue to Ford Road	72.7	151	325	701	0.5
	Ford Road to San Joaquin Hills Road	72.1	138	297	640	0.5
	San Joaquin Hills Road to San Miguel Road	68.9	84	181	391	0.3
	San Miguel Road to Coast Highway	68.4	78	167	361	0.7
Marguerite Avenue	south of San Joaquin Hills Road	59.7	—	—	96	1.1
	north of Coast Highway	55.1	—	—	47	1.3
Mesa Drive	east of Irvine Avenue	61.3	—	57	123	0.3
Newport Boulevard	north of Hospital Road	68.2	76	164	352	1.0
	Hospital Road to Coast Highway	67.8	71	153	330	1.0
	Coast Highway to Via Lido	66.7	—	131	281	0.8
	Via Lido to 32nd Street	64.3	—	90	193	0.7
	south of 32nd Street	63.5	—	79	171	0.8
Newport Center Drive	north of Coast Highway	64.0	—	85	184	0.9
Newport Coast Drive	SR-73 Freeway to San Joaquin Hills Road	69.9	98	211	454	3.1
	south of San Joaquin Hills Road	69.9	98	211	454	3.3
	north of Coast Highway	69.3	89	193	415	3.7
Placentia Avenue	north of Superior Avenue	61.0	—	54	116	0
	Superior Avenue to Hospital Road	60.6	—	51	110	2.0
Riverside Avenue	north of Coast Highway	58.0	—	34	74	0.9
San Joaquin Hills Road	Jamboree Road to Santa Cruz Road	64.2	—	89	191	0.5
	Santa Cruz Road to Santa Rosa Road	62.5	—	68	146	0.4
	Santa Rosa Road to MacArthur Boulevard	66.0	—	116	251	1.1
	MacArthur Boulevard to San Miguel Road	65.1	—	102	220	0.8
	San Miguel Road to Marguerite Avenue	65.5	—	108	232	1.3
	Marguerite Avenue to Spyglass Hill Road	65.6	—	109	236	2.0
	Spyglass Hill Road to Newport Coast Drive	66.4	57	123	266	2.0
San Miguel Drive	north of Spyglass Hill Road	61.0	—	54	116	1.1
	south of Spyglass Hill Road	61.0	—	54	116	1.1
	north of San Joaquin Hills Road	62.9	—	72	155	0.7

Table 4.9-8 General Plan Update Traffic Noise Contours

Roadway	Roadway Segment	Distance to Contour				Increase
		100	70	65	60	
	San Joaquin Hills Road to MacArthur Boulevard	62.2	—	65	141	1.2
	MacArthur Boulevard to Avocado Avenue	61.9	—	62	133	0.3
	west of Avocado Avenue	59.6	—	—	95	0.8
Santa Barbara Drive	east of Jamboree Road	61.3	—	57	123	1.1
Santa Cruz Drive	south of San Joaquin Hills Road	58.4	—	—	78	0.5
Santa Rosa Drive	south of San Joaquin Hills Road	61.6	—	60	129	1.0
Santiago Drive	Tustin Avenue to Irvine Avenue	55.4	—	—	50	0.7
Spyglass Hill Road	San Miguel Drive to San Joaquin Hills Road	57.0	—	—	63	0.8
Superior Avenue	north of Placentia Avenue	63.4	—	78	169	0.9
	Placentia Avenue to Hospital Road	62.7	—	71	152	-0.9
	Hospital Road to Coast Highway	63.6	—	81	174	-0.4
University Drive	east of Jamboree Road	62.6	—	69	148	0.8
Via Lido	east of Newport Boulevard	56.2	—	—	56	0.9
Von Karman Avenue	Campus Drive to Birch Street	63.0	—	73	158	1.4
	Birch Street to MacArthur Boulevard	62.5	—	68	147	1.5
Westcliff Drive	Irvine Avenue to Dover Drive	60.9	—	53	115	0
SR-55	north of SR-73	78.5	367	790	1702	NA
	22nd Street to 19th Street	76.7	278	600	1292	NA
SR-73	SR-55 to Campus Drive	77.0	295	634	1367	NA
	Jamboree Road to University Drive	75.6	237	510	1099	NA
	Bonita Canyon Road to Newport Coast Dr	77.0	295	634	1367	NA
	east of Newport Coast Dr	76.8	283	609	1313	NA

SOURCE: EIP Associates 2005: plan update contour distance calculations

[a] Distances are in feet from roadway centerline. The identified noise level at 100 feet from the roadway centerline is for reference purposes only as a point from which to calculate the noise contour distances. It does not reflect an actual building location or potential impact location.

[b] "—" Noise contour is located within the roadway lanes.

NA – Not Available.

Threshold	Would the project cause substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact 4.9-4 Implementation of the proposed General Plan Update could expose persons to substantial temporary or periodic ambient noise increases.

Under the proposed General Plan, the primary source of temporary or periodic noise within the City would be construction activity and maintenance work. This involves both construction-site activity and the transport of workers and equipment to and from the construction sites. Proposed General Plan

Update Policy N 4.6 would help reduce impacts related to construction noise by limiting the hours of maintenance or construction activity in or adjacent to residential areas. 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 General Plan Update, it is anticipated that construction noise would be introduced in areas of the City where it did not previously exist.

Construction activities would be an ongoing occurrence in the City and, in particular cases, could occur in close proximity to noise-sensitive uses. Although the proposed General Plan Update limits construction activities to specific days of the week and hours of the day, construction equipment generates high noise levels, as shown in Table 4.9-9 and may not always be reducible to the levels specified in the City Noise Ordinance. Section 10.26.035 of the Municipal Code (Exemptions), exempts "noise sources associated with construction, repair, remodeling, demolition, or grading of any real property." Section 10.26.035 also states that construction noise should fall under the provisions of Section 10.28 of the Code (Loud and Unreasonable Noise). Thus, construction noise is not subject to the noise standards in the Municipal Code, but only during limited hours of the day and days of the week. In sum, existing and future construction noise levels at individual construction sites may not substantially differ, but previously unexposed areas could experience new sources of construction noise. Both existing and future noise would be exempt from the City code and when construction noise occurs, impacts would be considered ***less than significant***.

Table 4.9-9 Noise Ranges of Typical Construction Equipment

Equipment	*Noise Levels in dBA L_{eq} at 50 Feet*[1]
Front Loader	85
Trucks	88
Cranes (moveable)	83
Cranes (derrick)	88
Concrete Vibrator	76
Pneumatic Impact Equipment	85
Jackhammers	88
Pumps	76
Generators	81
Air Compressors	81
Concrete Mixers	85
Concrete Pumps	82
Back Hoe	80
Impact Pile Driving (peaks)	101
Scraper/Grader	89
Paver	89

SOURCE: Federal Transit Administration 1995

1. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Other sources of noise that occur on a periodic or temporary basis include the operation of neighborhood or commercial landscape maintenance equipment, street and parking lot maintenance vehicles, loudspeakers, alarm systems, and automobiles and motorcycles with modified exhaust systems. Noise from these uses may be dealt with on a case-by-case basis through enforcement of the City Noise Ordinance provisions. This impact would be ***less than significant***.

Threshold	Would the project expose people residing or working in the project area to excessive noise levels for a project located within 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?

Impact 4.9-5 Implementation of the proposed General Plan Update would expose sensitive receptors in proximity to the John Wayne Airport to excessive noise levels.

As shown in Figure 4.9-5, the 60 and 65 dBA CNEL noise contour for JWA extends into Newport Beach. However, according to Section 3.2.3 of the Airport Environs Land Use Plan (AELUP) prepared for JWA, only areas with noise levels above 65 dB CNEL would be considered "High Noise Impact Zones" and would warrant restrictions on land uses. Table 1 of the AELUP specifies that airport noise levels up to 65 CNEL are "normally consistent" for all uses except residential uses. For residential uses, Table 1 specifies that residential uses are "normally consistent" up to 60 dB CNEL and "conditionally consistent" between 60 and 65 dB CNEL. Residences could still be developed in the "conditionally consistent" zone as long as interior noise levels can be shown to be no higher than 45 dB CNEL. This is also consistent with Policy N 3.2 of the Noise Element of the proposed General Plan Update, which requires that any residential or sensitive noise uses to be located within the 60 dBA or 65 dBA CNEL airport noise contour maintain an interior noise level of 45 dBA CNEL. Policies N 3.1 and N 3.2 would ensure new development is compatible with the noise environment by using the airport noise contour maps as guides to future planning and development decisions and require that any residential or sensitive noise uses be located within the 60 dBA or 65dBA CNEL airport noise contour maintain an interior noise level of 45 dBA CNEL, respectively. Policy N 3.4 states that the City will oppose any attempt to modify existing noise restrictions regarding the airport. These policies would ensure that residential uses would achieve interior noise levels of 45 dBA, consistent with City standards. Thus, impacts on interior noise levels at new land uses in the vicinity of the airport would be ***less than significant***. However, as residences could be developed within the 65 dBA CNEL noise contour, exterior noise would exceed allowable noise levels for residential areas. This would occur only if, consistent with Policy LU 6.15.24, the City makes appropriate findings for an override to allow residential development within the 65 dBA CNEL. In these areas, impacts on exterior noise levels at new land uses in the vicinity of the airport would be ***significant***.

Cumulative Impacts

The geographic context for the analysis of cumulative noise impacts is the Planning Area. Noise and vibration from localized sources, such as construction sites, HVAC equipment, etc., decreases rapidly

with distance from those sources, and so it is very unlikely that noise and vibration from sources distributed throughout the City would be additive to a cumulatively significant degree.

Cumulative development (which is similar to the development discussed above under Impact 4.9-2) in the City of Newport Beach would result in the exposure of people to or the generation of excessive groundborne vibration, due to the localized nature of vibration impacts. As there is no feasible mitigation for this impact, cumulative impacts to traffic noise would be ***significant and unavoidable***.

Future construction in the City of Newport Beach is not expected to result in a cumulatively significant impact in terms of substantial temporary or periodic increases in ambient noise levels as a result exemptions for "Loud and Unreasonable Noise" in the City's Municipal Code. Other sources of cumulative noise sources would be regulated by the City's Noise Ordinance provisions in the Municipal Code. Therefore, the proposed General Plan Update's cumulative impact is ***less than significant***.

The anticipated growth in traffic noise, in contrast, is an inherently cumulative phenomenon. The traffic data used for the noise analysis included traffic from all anticipated future developments in the City and region. As noted above, development under the proposed General Plan along with regional growth would result in a cumulatively significant permanent increase in the ambient noise level along the 24 roadway segments within the City identified in Table 4.9-8. As discussed in Impact 4.9-3, most of the proposed General Plan policies would mitigate noise at new receptors, but existing receptors would not be able to have roadway noise mitigated to acceptable levels in all cases. As there is no feasible mitigation for this impact, cumulative impacts to traffic noise would be ***significant and unavoidable***.

As discussed in Impact 4.9-5, impacts on interior noise levels at new land uses in the vicinity of the airport would be ***less than significant*** and the cumulative impacts related to the airport land use plan would be ***less than significant***. However, as residences could be developed within the 65 dBA CNEL noise contour, exterior noise would exceed allowable noise levels for residential areas. This would occur only if, consistent with Policy LU 6.15.24, the City makes appropriate findings for an override to allow residential development within the 65 dBA CNEL. In these areas, cumulative impacts on exterior noise levels at new land uses in the vicinity of the airport would be ***significant and unavoidable***.

Proposed General Plan Policies

For most impacts identified in this section, implementation of policies within the Noise Element of the proposed General Plan Update would reduce effects of prospective growth within the City. The policies that are applicable to the proposed project are included below.

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

Policy N 1.1 Field Surveys for New Development

Require that all proposed projects are compatible with the noise environment through use of Table N2, and enforce the interior and exterior noise standards shown in Table N3. Proposed projects located in areas projected to be

exposed to a CNEL of 60 dBA and higher, as shown on Figure N5, shall *(a)* conduct a field survey to determine the existing levels of noise exposure and *(b)* project the levels that would result from the Plan's projected traffic increases as may be modified from those depicted on Figure N5 by existing building locations, topography, and traffic speed. Based on these findings, require that the project meet interior and exterior noise standards.

Policy N 1.2 Remodeling and Additions of Structures

Require that all remodeling and additions of structures comply with the noise standards shown in Table 3 of the Noise Element.

Policy N 1.3 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 1.4 Infill Projects

Allow a higher 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.

Policy N 1.5 New Exterior Noise Level Standards

Consider a higher exterior noise level standard for residential portions of mixed-use developments of 65 dBA CNEL, provided that the interior standard of 45 dBA CNEL is met.

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 sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in CNEL, as shown in the table below.

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

Goal N 2 Minimization of Transportation-Related Noise—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 N 1.1, 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, or other noise mitigation measures, as appropriate, in the design of new residential or other new noise sensitive land uses that are adjacent to major roads. Application of the Noise Standards in Table N3 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 (10:00pm-7:00am) noise standards.

Policy N 2.4 Interagency Coordination to Enforce Standards

Encourage the enforcement of State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and Newport Beach Police Department.

Policy N 2.5 Boating Activities

Enforce compliance of all boating activities with the noise standards defined in the Municipal Code.

Policy N 2.6 Barrier Construction Funding

Establish a program to secure funding for the construction of noise barriers to protect private outdoor yard areas along arterial roadways where existing homes are exposed to noise levels above the City noise standards and develop a priority program for the construction of such barriers. A potential source of

such funding may be a fee for new projects, which generate new traffic within the City, as well as road improvement funds where road improvements are made. The amount of these fees should be proportional to the amount of the new traffic that is caused by the new project. It should be recognized that noise barriers will not always be feasible mitigation to roadway noise. Noise barriers are most feasible for single family homes where the rear yards are adjacent to the roadway. The feasibility of other situations should be evaluated on a case by case basis.

Goal N 3 Compatibility with JWA—Protection of the quality of life of Newport Beach residents from noise impacts associated with air carrier operations at JWA.

Policy N 3.1 New Development

Ensure new development is compatible with the noise environment by using the airport noise contour maps as guides to future planning and development decisions.

Policy N 3.2 Sensitive Noise Uses

Require that any residential or sensitive noise uses to be located within the 60 dBA or 65 dBA CNEL airport noise contour maintain an interior noise level of 45 dBA CNEL.

Policy N 3.3 Airport Contours

Use noise level contours based on the most likely estimate of future airport contours, rather than on assumptions of less likely future operations in determining allowable uses, to the maximum extent allowed by law.

Policy N 3.4 Existing Noise Restrictions

Oppose any attempt to modify the existing noise restrictions, including the existing curfew and the General Aviation Noise Ordinance, unless the modifications benefit City residents.

Policy N 3.5 Additional Facilities at JWA

Oppose any attempt to construct a second air carrier runway including the acquisition of land necessary to provide required separation of the existing air carrier runway and any proposed facility.

Policy N 3.6 Existing Level of General Aviation Operations

Support any plan or proposal that maintains, and oppose any plan or project that proposes any significant changes to the existing level of general aviation operations and general aviation support facilities.

Policy N 3.7 Remote Monitoring Systems

Support preservation or enhancement of the existing remote monitoring systems (RMS) and the public reporting of the information derived from the RMS.

Policy N 3.8 Meeting Air Transportation Demand

Support means of satisfying some of Orange County's air transportation demand at facilities other than JWA.

Policy N 3.9 JWA Amended Settlement Agreement

Take all steps necessary to preserve and protect the validity of the JWA Amended Settlement Agreement, including: (Imp 19.3)

- Oppose, or seek protection from any federal legislative or regulatory action that would or could affect or impair the County's ability to operate JWA consistent with the provisions of the JWA Amended Settlement Agreement or the City's ability to enforce the Amended Settlement Agreement.
- Approving amendments of the JWA Settlement Agreement to ensure continued validity provided the amendments do not impair the quality of life of Newport Beach residents.
- Continuing to monitor possible amendment of the Airport Noise and Capacity Act of 1990 as well as various FAA Regulations and Advisory Circulars that relate to aircraft departure procedures.

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, 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 4.2 New Uses

Require that new uses such as restaurants, bars, entertainment, parking facilities, and other commercial uses where large numbers of people may be present adjacent to sensitive noise receptors obtain a use permit that is based on compliance with the noise standards in Table N3 and the City's Municipal Code.

Policy N 4.3 New Commercial Developments

Require that new commercial developments abutting residentially designated properties be designed to minimize noise impacts generated by loading areas,

parking lots, trash enclosures, mechanical equipment, and any other noise generating features specific to the development to the extent feasible.

Policy N 4.4 Limiting Hours of Recreational Activities

Limit hours when recreational activities in parks and the harbor can take place.

Policy N 4.5 Sound-Amplifying Equipment

Regulate the use of sound-amplifying equipment through the City's Municipal Code.

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.

Policy N 4.7 Nuisances

Regulate the control of nuisances, such as residential party noise, boat party noise, private fireworks and barking dogs, through the City's Municipal Code.

Policy N 4.8 Mechanized Landscaping Equipment

Regulate the use of mechanized landscaping equipment.

Goal N 5 Minimization of Construction Noise—Minimized excessive construction-related noise.

Policy N 5.1 Limiting Hours of Activity

Enforce the limits on hours of construction activity.

Mitigation Measures

No feasible mitigation measures are available to fully mitigate Impact 4.9-2 (construction vibration). As discussed in Impact 4.9-2, the only mitigation that could eliminate the vibration impact is ensuring a distance of approximately 150 feet between construction and existing sensitive receptors. Since it is not feasible to prohibit construction within 150 feet of all existing receptors, there is no feasible mitigation available to reduce the impact to ***less-than-significant*** levels.

No feasible mitigation measures are available to fully mitigate Impact 4.9-3 (increased ambient noise levels), although Policy N 1.2, which requires structural upgrades to comply with Noise Element standards, and Policy N 2.6, which funds noise barrier construction where existing homes are exposed to high noise levels, would reduce noise impacts to the uses to which they are applied. However, erecting noise barriers to shield existing homes from roadway noise would not be feasible, from an aesthetic or economic standpoint, in all cases.

Similarly, no feasible mitigation measures are available to fully mitigate Impact 4.9-3 (noise in exceedance of City standards), although Policy N 2.2, which requires noise walls, berms, interior insulation, etc. to protect new noise-sensitive uses near roadways, should be given special urgency in relation to such uses proposed along the road segments identified as those where significant noise increases are expected.

Level of Significance After Policies/Mitigation Measures

Development under the General Plan would not be exposed to excessive noise from the JWA once new General Plan Update policies are implemented. Receptors that would fall under the airport's 60 dB or 65 dB CNEL noise contours would be required to be consistent with the General Plan. Policies N.3.1 and N.3.2 of the General Plan would ensure that new uses are compatible and achieve appropriate interior noise levels of 45 dB CNEL or less. Policy N 3.4 would ensure that future changes associated with the JWA would be minimized and would not result in adverse effects to receptors. The impact would be ***less than significant***.

As stated in Impact 4.9-2, construction in the City of Newport would create noise levels that could exceed Municipal Code standards. However, the Municipal Code specifically exempts construction activities from having to comply with the standards, and moreover, the Code both limits construction to daytime hours and prohibits excessive construction noise. Therefore, construction noise impacts would be ***less than significant***.

Construction activities would produce groundborne vibration as well as noise. Construction would occur within 100 feet of existing residential development. This would expose the residences to vibration levels in excess of the 72 VdB threshold of significance. There are no mitigation measures available that would ensure that the threshold would not be exceeded in all cases, and there are no General Plan policies that would mitigate the vibration impact. Consequently, this would be a ***significant and unavoidable*** impact.

As discussed in Impact 4.9-4 and Impact 4.9-5, new development that would result from adoption of the proposed General Plan and regional growth would create noise that would affect new and existing receptors. Most of this noise would be produced by increased traffic on local roads. Many of the proposed General Plan policies, especially those associated with Goal N-2—Transportation Noise would reduce this impact. However, these policies would benefit new receptors more than existing receptors. Existing receptors may still be subjected to new noise levels that are both in excess of General Plan noise standards, and represent permanent and substantial increases. Consequently, even with the proposed General Plan policies to mitigate noise, this would constitute a ***significant and unavoidable*** impact.

4.9.6 References

California Department of Transportation (Caltrans). 1998. Technical Noise Supplement, Caltrans, October.

EIP Associates. 2002. Federal Transit Administration (see FTA citation below; EIP added the calculations for vibration at distance greater than 25 feet, this is why there is a joint citation).

Federal Transit Administration (FTA). 1995. *Transit Noise and Vibration Impact Assessment*, DOT-T-95-16, April.

Newport Beach, City of. 2004. *General Plan Technical Background Report*. Prepared by EIP Associates, June.

Urban Crossroads. 2006. *City of Newport Beach General Plan Transportation Study, Newport Beach, California*, 22 March.