

4.12 NOISE

This section analyzes potential noise impacts associated with the worst-case assumptions for noise associated with buildout of the 2010 General Plan Update Study Area and is summarized from the *Noise Assessment for the Rancho Cucamonga General Plan Update, City of Rancho Cucamonga* (Noise Assessment) prepared by Mestre Greve Associates (February 2010) included in Appendix G to this PEIR. This section provides background information on noise and community noise assessment criteria; presents existing noise levels in the project area; and examines noise impacts that would potentially occur during construction and operation of future development and redevelopment under the proposed 2010 General Plan Update.

Noise Criteria and Definitions

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dB higher than another is judged to be twice as loud; and 20 dB higher four times as loud; and so forth. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud).

Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. Community noise levels are measured in terms of the A-weighted decibel (dBA).

Sound levels decrease as a function of distance from the source as a result of wave divergence, atmospheric absorption and ground attenuation. As the sound wave form travels away from the source, the sound energy is dispersed over a greater area, thereby dispersing the sound power of the wave. Atmospheric absorption also influences the levels that are received by the observer. A greater distance traveled results in a greater influence and resultant fluctuations. The degree of absorption is a function of the frequency of the sound as well as the humidity and temperature of the air. Turbulence and gradients of wind, temperature and humidity also play a significant role in determining the degree of attenuation. Intervening topography can also have a substantial effect on the effective perceived noise levels.

Noise has been defined as unwanted sound and it is known to have several adverse effects on people. From these known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. This criteria is based on such known impacts of noise on people as hearing loss, speech interference, sleep interference, physiological responses and annoyance.

Noise Assessment Metrics

The description, analysis and reporting of community noise levels around communities is made difficult by the complexity of human response to noise and the myriad of noise metrics that have been developed for describing noise impacts. Each of these metrics attempts to quantify noise levels with respect to community response. Most of the metrics use the A-Weighted noise level to quantify noise impacts on humans. A-Weighting is a frequency weighting that accounts for human sensitivity to different frequencies.

Noise metrics can be divided into two categories: single event and cumulative. Single-event metrics describe the noise levels from an individual event such as an aircraft fly over or perhaps a heavy equipment pass-by. Cumulative metrics average the total noise over a specific time period, which is typically one or 24 hours for community noise problems. For this project, a cumulative noise metrics assessment was used.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on man, (2) the variety of noises found in the environment, (3) the variations in noise levels that occur as a person moves through the environment, and (4) the variations associated with the time of day. They are designed to account for the known health effects of noise on people described previously. Based on these effects, the observation has been made that the potential for a noise to impact people is dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for this observation. Two of the predominant noise scales are the Equivalent Noise Level (LEQ) and the Community Noise Equivalent Level (CNEL). These scales are described below.

LEQ is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. LEQ is the “energy” average noise level during the time period of the sample. LEQ can be measured for any time period, but is typically measured for 1-hour. This 1-hour noise level can also be referred to as the Hourly Noise Level (HNL). It is the energy sum of all the events and background noise levels that occur during that time period.

CNEL (Community Noise Equivalent Level), is the predominant rating scale now in use in California for land use compatibility assessment. The CNEL scale represents a time weighted 24-hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. The evening time period (7 PM to 10 PM) penalizes noises by 5 dBA, while nighttime (10 PM to 7 AM) noises are penalized by 10 dBA. These time periods and penalties were selected to reflect increased sensitivity to noise during these time periods.

Ldn (or DNL), the day-night scale is similar to the CNEL scale. The only difference between Ldn and CNEL is that evening noises are not penalized for the Ldn metric.

L(%) is a statistical method of describing noise which accounts for variance in noise levels throughout a given measurement period. L(%) is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example since 5 minutes is 25% of 20 minutes, L(25) (or L25) is the noise level that is equal to or exceeded for five minutes in a twenty-minute measurement period. It is L(%) that is used for most Noise Ordinance standards. For example most daytime County, State and City Noise Ordinances use an ordinance standard of 55 dBA for 30 minutes per hour or an L(50) level of 55 dBA. In other words, the Noise Ordinance states that no noise level should exceed 55 dBA for more than fifty percent of a given period.

4.12.1 RELEVANT POLICIES AND REGULATIONS

Public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise.

State

Title 24 of the *California Code of Regulations* (California Building Standards Code) requires that residential structures, other than detached single-family dwellings, be designed to prevent the intrusion of exterior noise so that the interior CNEL with windows closed, attributable to exterior sources, shall not exceed 45 dBA in any habitable room.

Local

City of Rancho Cucamonga 2010 General Plan Update

The City of Rancho Cucamonga Public Health and Safety Chapter of the 2010 General Plan Update specifies outdoor noise level limits for land uses impacted by transportation noise sources. Generally, the City requires that new developments be designed to achieve these standards.

City of Rancho Cucamonga Noise Ordinance

Noise standards for the City of Rancho Cucamonga are currently under review by the City and are proposed to be modified with approval of the proposed 2010 General Plan Update and certification of this PEIR. According to the proposed 2010 General Plan Update, the City will review the noise standards contained in the City of Rancho Cucamonga Development Code and revise these standards to reflect the general noise/land use compatibility guidelines identified in the draft Public Health and Safety Chapter of the proposed 2010 General Plan Update. The proposed 2010 General Plan Update proposes to replace the current noise standards with the new guidelines. Due to these proposed changes, the City's noise ordinance contained in the City of Rancho Cucamonga Development Code is used in determining levels of significance for noise in this PEIR.

A noise ordinance is designed to control unnecessary, excessive and annoying sounds from stationary (non-transportation) noise sources. Noise ordinance requirements cannot be applied to mobile noise sources such as heavy trucks when traveling on public roadways. Federal and State laws preempt control of mobile noise sources on public roads. Noise ordinance standards typically apply to industrial and commercial noise sources impacting residential areas. They are also applicable to noise generated at parks and schools impacting residential areas. The City of Rancho Cucamonga's Municipal Code prohibits the production of excessive noise, and will be applied to future development within the City and SOI to determine potential noise impacts.

General Residential and Commercial Exterior Noise Standards

Section 17.02.120 of the City of Rancho Cucamonga's municipal code sets limits on the exterior noise levels that would be tolerated. Noise ordinance limits are specified using the "Basic Noise Level" as its reference criteria. The municipal code defines the Basic Noise Level as "the acceptable noise level within a given district." The City's exterior noise standard puts restrictions on the duration of noises of various magnitudes. The noise ordinance sets the following time limits on noise sources in all residential and commercial districts. All of these restrictions apply to each noise source.

- a. Basic Noise Level for a cumulative period of not more than 15 minutes in any one hour; or
- b. Basic Noise Level plus 5 dBA for a cumulative period of not more than 10 minutes in any one hour; or
- c. Basic Noise Level plus 14 dBA for a cumulative period of not more than 5 minutes in any one hour; or
- d. Basic Noise level plus 15 dBA at any time.

Restrictions are summarized in Table 4.12-1 in terms of L%, and the maximum duration in any given hour. If the noise source is impulsive or simple tone, the noise standard for each of the L% categories is 5 dBA less than what it is for noise sources that are neither impulsive nor pure tone.

**TABLE 4.12-1
CITY OF RANCHO CUCAMONGA EXTERIOR NOISE STANDARDS**

	L25	L16.7	L8.3	Lmax
Noise Level Limit*	BNL	BNL+5 dBA	BNL+14 dBA	BNL+15 dBA
Noise Level Limit (impulse or pure tone)	BNL- 5 dBA	BNL	BNL+9 dBA	BNL+10 dBA
Maximum allowable time in any 1-hour period that the noise level can exceed the noise level limit	15 minutes	10 minutes	5 minutes	Never Allowed
BNL=Basic Noise Level (dBA) * Noise is neither impulsive nor pure tone L25, L16.7, and L8.3 represent L% values. See above for the definition of L% Source: Mestre Greve Associates 2010c.				

The noise ordinance exempts certain activities from the standard. These activities include City or school approved activities that take place between 7 AM and 10 PM, outdoor gatherings with a temporary use permit granted by the City, mechanical warning devices that operate within any hour no longer than 30 minutes after they start, and construction activities that abide by the restrictions, as specified.

Residential Noise Standards

The City has adopted performance standards that are applicable in residential districts. Those standards are shown in Table 4.12-2.

**TABLE 4.12-2
CITY OF RANCHO CUCAMONGA RESIDENTIAL PERFORMANCE STANDARDS**

Location of Measurement	Maximum Allowable	
	10 PM to 7 AM	7 AM to 10 PM
Exterior	55 dBA	60 dBA
Interior	40 dBA	45 dBA
* Fully enclosed interior with windows and doors shut. Source: Municipal Code Chapter 17.08.080		

The City provides exemptions to the standard for emergency vehicles. Temporary construction activities that occur between the hours of 6:30 AM and 8:00 PM, except Sundays and national holidays, are also exempt provided that all other required conditions are satisfied.

Office and Commercial Noise Standards

The City has adopted standards that are applicable in office and commercial districts. Table 4.12-3 shows the maximum allowable exterior noise levels that can be generated by commercial and office activities.

**TABLE 4.12-3
CITY OF RANCHO CUCAMONGA COMMERCIAL PERFORMANCE STANDARDS**

Location of Measurement	Maximum Allowable	
	7 AM to 10 PM	10 PM to 7 AM
Lmax (Exterior)	65 dBA	60 dBA
Source: Mestre Greve Associates 2010c.		

In addition to the maximum noise levels tolerated by the City, the ordinance also requires that loading and unloading that occurs between 10 PM and 7 AM not cause a noise disturbance in residential areas.

Industrial Noise Standards

The City has adopted noise standards that are applicable to industrial districts. The ordinance categorizes industrial districts into three categories. Classes A, B and C represent the industrial park, general industrial and heavy industrial categories, respectively. Table 4.12-4 shows the maximum noise levels that are tolerable in each of the three industrial districts.

**TABLE 4.12-4
CITY OF RANCHO CUCAMONGA INDUSTRIAL PERFORMANCE STANDARDS**

Location of Measurement	Class A (Industrial Park)	Class B (General Industrial)	Class C (Heavy Industrial)
Lmax (Exterior)	65 Ldn	75 Ldn	85 Ldn
Lmax (Interior)	60 Ldn*	65 Ldn*	65 Ldn ¹
* Structure occupied by more than one use 1. Where use is within 200 feet of a residential zone Source: Mestre Greve Associates 2010c.			

Construction Noise Standards

Under item 4 of the Special Provisions paragraph in Chapter 17.02.120 of the Municipal Code, noise generated by construction activities are allowed only if construction takes place between 6:30 AM and 8:00 PM on weekdays or Saturdays. Noise from construction would never be allowed on Sundays or national holidays. In addition to these time-of-day and day-of-week restrictions, construction would only be allowed if the construction noise levels also conform to all conditions specified by the general standards, where the basic noise level that is 65 dBA. This means that all construction noise has to be such that the L25 is less than 65 dBA, its L16.7 is less than 70 dBA, its L8.3 is less than 79 dBA, and its Lmax is less than 80 dBA in order for there to be no construction noise impacts.

Property Maintenance Noise Standards

Under item 6 of the Special Provisions paragraph in Chapter 17.02.120 of the Municipal Code, noise that results from the maintenance of real property is permitted, provided the activities take place between the hours of 8 AM and 8 PM on any day except Sunday or between the hours of 9 AM and 8 PM on Sunday.

Animal Noise Standards

Chapter 6.02.0.40 of the Municipal Code sets limits on animals that habitually make noise. The ordinance puts restriction on animals from allowing them to “make any other loud noise in such a manner at any time, day or night, as to cause general annoyance or discomfort to a neighboring inhabitant.”

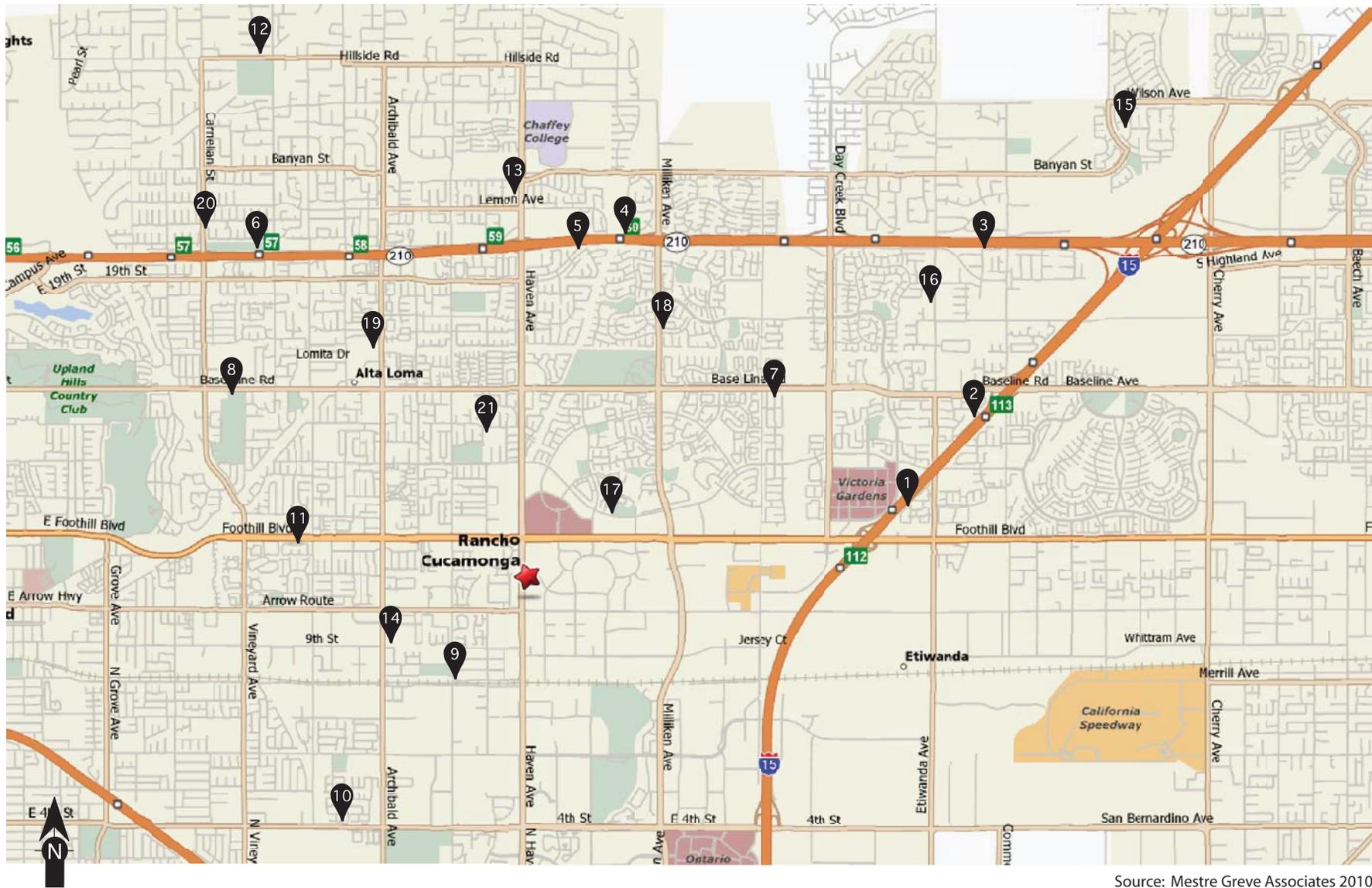
4.12.2 EXISTING CONDITIONS

Existing Noise Measurements

Noise measurements were taken to record the actual existing noise levels (as opposed to the modeled existing noise levels) at various locations throughout the City. The noise measurements represent a snapshot of the current noise environment within the City.

A noise measurement survey of the City was conducted to determine the location of noise measurement sites that would provide a noise profile of the City. Several criteria were used in the site selection process including, but not limited to, the proximity of a measurement site to sensitive land uses as well as its proximity to significant noise generators. Several of the significant noise generators within the City are the SR-210, I-15, Base Line Road, and Foothill Boulevard. This was due to the very high volume of automobile and truck traffic at these freeways and roadways. To provide noise measurement coverage of the area, measurement sites were chosen within the confines of the City and its SOI. After the site selection process was over, a series of short-term noise measurements were taken at the chosen sites.

Twenty-one short-term noise measurements were taken within the City and its SOI, over a three-day period from July 7 to July 9, 2009 between 8:30 AM and 3:00 PM. The measurement site locations are listed below in Table 4.12-5 and shown in Exhibit 4.12-1, Noise Measurement Locations.



Source: Mestre Greve Associates 2010

Noise Measurement Site Locations

Exhibit 4.12-1

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**TABLE 4.12-5
EXISTING NOISE MEASUREMENT LOCATIONS**

Site Number	Existing Location
1	Inside apartment complex, central location, adjacent to the I-15 freeway
2	Colonial Drive and Bungalow Way, on sidewalk, adjacent to I-15 Freeway
3	Mueller Court and Dicarlo Place, on sidewalk, adjacent to SR-210 Freeway
4	Near end of walking path, off of Silversun Court, adjacent to SR-210 Freeway
5	Ring Avenue, north tip of cul-de-sac, on sidewalk, next to SR-210 Freeway
6	Beryl Park, west of tennis courts, at edge of soccer field, next to SR-210 Freeway
7	Fennel Road, end of cul-de-sac, near Base Line Road
8	Redhill Community Park, (Base Line Road and Vineyard), north of shuffle board area
9	North side of Humboldt Avenue, near cul-de-sac, on dirt
10	Glenaire Court, end of cul-de-sac, near complex entrance on Golden Oak Road
11	On sidewalk inside complex, between Lion Street and Hellman Avenue, on Foothill Boulevard
12	Intersection of Hillside Road and Buckthorn Avenue, on grass at north-east side
13	Between sidewalks in complex, near Haven Avenue, about 390 feet north of Lemon Avenue
14	On school ground, next to Archibald Avenue, near playground
15	In park, near intersection of Santa Ynez Place and Hickcox Lane, on playground pad
16	On walking trail, west side of Etiwanda Avenue, between Victoria Street and Carnesi Drive
17	Walking path, Church Street, between Ralph M. Lewis Park and Jamboree complex
18	Genova Road, end of cul-de-sac, between cul-de-sac and Milliken Avenue
19	On sidewalk, in complex near entrance from Archibald Avenue, south of Monte Vista Street
20	Intersection of Carnelian Street and Somerset Drive, north-east corner, on sidewalk
21	On school ground, next to Palo Alto Street, at bus entrance, near Center Avenue and Palo Alto Street

Source: Mestre Greve Associates 2010c.

Measurement data for the 21 existing locations are contained below in Table 4.12-6.

**TABLE 4.12-6
EXISTING NOISE MEASUREMENTS**

Site Number	Leq	Lmax	Lmin	L8.3	L50	L90
1	67.9	73.7	59.1	70.5	67.	63.5
2	66.2	73.7	61.7	67.5	65.5	63.5
3	62.2	77.0	57.0	63.0	61.0	59.5
4	72.3	78.4	66.4	73.5	72.0	70.0
5	56.6	72.6	51.2	58.0	55.5	53.5
6	60.0	64.2	56.4	61.5	59.5	58.0
7	53.0	68.8	40.0	56.5	49.5	44.5
8	57.5	72.7	45.8	60.5	55.0	49.5
9	67.8	93.2	46.1	62.0	58.5	54.0
10	52.9	71.0	42.7	56.0	50.0	46.0
11	60.8	73.8	46.4	64.5	58.5	52.5
12	64.3	89.0	39.0	65.5	48.0	41.0
13	56.9	76.5	44.3	60.5	54.0	48.0
14	69.7	84.3	52.2	72.5	68.0	60.0
15	48.9	64.0	43.2	51.5	46.0	44.0
16	53.1	68.8	38.6	58.0	43.0	40.0
17	60.7	69.8	45.6	65.0	58.5	51.0
18	65.9	79.4	43.4	70.5	61.5	51.0
19	59.1	70.6	41.8	62.5	57.0	48.5
20	68.7	84.1	47.2	72.5	66.0	55.5
21	47.9	64.5	38.2	50.5	41.5	40.0

Source: Mestre Greve Associates 2010c.

Existing Traffic Noise Levels

Projected highway noise levels were computed using the Highway Noise Model published by the Federal Highway Administration (“FHWA Highway Traffic Noise Prediction Model,” FHWA-RD-77-108, December, 1978). The FHWA Model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the “equivalent noise level.” A computer code has been written which computes equivalent noise levels for each of the time periods used in the calculation of CNEL. Weighting these noise levels and summing them results in the CNEL for the traffic projections used. CNEL contours are found by iterating over many distances until the distances to the 55, 60, 65, and 70 CNEL contours are found. For the roadway analysis, worst-case assumptions about future motor vehicle traffic and noise levels have been made and were incorporated in the modeling effort. Specifically, no reductions in motor vehicle noise have been assumed in spite of legislation requiring quieter vehicles at the time of manufacture.

Traffic volumes and estimated speeds were used with the FHWA Model to estimate the noise levels in terms of CNEL. Soft site conditions were assumed. Existing traffic volumes for arterials utilized were obtained from the traffic study (Appendix H). The distances to the CNEL contours from the roadway centerlines are shown in Table 4.12-7. Note that the values given in the table do not take into account the effect of any noise barriers or topography that may affect ambient noise levels. Table 4.12-7 shows the major noise corridors occur along Vineyard Avenue, Haven Avenue, and Milliken Avenue. Other lesser noise corridors within the boundaries of the City are also included in the table.

**TABLE 4.12-7
MODELED EXISTING ROADWAY NOISE LEVELS**

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
19th Street					
City Border To Carnelian Street	67.8	715	332	154	71
Carnelian Street To Hellman Avenue	68.3	767	356	165	77
Hellman Avenue To Archibald Avenue	68.1	751	348	162	75
Archibald Avenue To Hermosa Avenue	67.7	698	324	150	70
Base Line Road					
City Border To Carnelian Street	69.4	910	422	196	91
Carnelian Street To Hellman Avenue	69.4	915	425	197	92
Hellman Avenue To Archibald Avenue	69.9	987	458	213	99
Archibald Avenue To Hermosa Avenue	69.6	939	436	202	94
Hermosa Avenue To Haven Avenue	70.3	1,049	487	226	105
Base Line Road					
Haven Avenue To Spruce Avenue	70.5	1,072	498	231	107
Spruce Avenue To Milliken Avenue	71.2	1,200	557	259	120
Milliken Avenue To Rochester Avenue	70.6	1,102	512	237	110
Victoria Park Lane To Etiwanda Avenue	70.4	1,071	497	231	107
Etiwanda Avenue To East Avenue	70.9	1,144	531	247	114
East Avenue To Americana Way	72.5	1,470	682	317	147
Americana Way To Cherry Avenue	71.7	1,291	599	278	129
Foothill Boulevard					
Campus Avenue To Grove Avenue	71.2	1,195	555	257	120
Grove Avenue To Baker Avenue	72.1	1,386	643	299	139
Baker Avenue To Vineyard Avenue	72.0	1,360	631	293	136
Vineyard Avenue To Hellman Avenue	71.6	1,282	595	276	128
Hellman Avenue To Archibald Avenue	71.9	1,342	623	289	134
Archibald Avenue To Hermosa Avenue	71.6	1,279	593	275	128
Hermosa Avenue To Haven Avenue	71.2	1,198	556	258	120
Haven Avenue To Spruce Avenue	72.3	1,427	662	307	143
Spruce Avenue To Milliken Avenue	72.5	1,458	677	314	146
Milliken Avenue To Rochester Avenue	73.6	1,744	809	376	174
Day Creek Boulevard To I-15 Freeway	75.1	2,198	1,020	473	220
I-15 Freeway To Etiwanda Avenue	72.3	1,415	657	305	142
Etiwanda Avenue To East Avenue	72.1	1,389	645	299	139
Arrow Highway					
Campus Avenue To Grove Avenue	64.5	431	200	93	43
Grove Avenue To Baker Avenue	67.9	723	335	156	72
Baker Avenue To Vineyard Avenue	68.9	851	395	183	85
Vineyard Avenue To Hellman Avenue	69.1	869	404	187	87
Hellman Avenue To Archibald Avenue	69.5	920	427	198	92
Archibald Avenue To Hermosa Avenue	71.4	1,239	575	267	124
Hermosa Avenue To Haven Avenue	71.6	1,288	598	277	129
Haven Avenue To Milliken Avenue	71.5	1,266	588	273	127
Milliken Avenue To Rochester Avenue	71.0	1,163	540	251	116

TABLE 4.12-7 (Continued)
MODELED EXISTING ROADWAY NOISE LEVELS

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
Rochester Avenue To Etiwanda Avenue	71.0	1,167	542	251	117
Etiwanda Avenue To East Avenue	69.3	900	418	194	90
4th Street					
Hellman Avenue To Archibald Avenue	69.4	917	426	198	92
Archibald Avenue To Hermosa Avenue	69.3	900	418	194	90
Haven Avenue To Milliken Avenue	72.5	1,459	677	314	146
Milliken Avenue To I-15 Freeway	72.6	1,496	694	322	150
Grove Avenue					
14th Street To Foothill Boulevard	63.0	341	159	74	34
Foothill Boulevard To Arrow Highway	67.9	726	337	156	73
Arrow Highway To 8th Street	68.1	746	346	161	75
Vineyard Avenue/Carnelian Street					
Lemon Avenue To SR-210 Freeway	70.2	1,035	481	223	104
SR-210 Freeway To 19th Street	71.3	1,223	568	264	122
19th Street To Base Line Road	71.6	1,285	596	277	128
Vineyard Avenue/Carnelian Street					
Base Line Road To Red Hill Country Club Drive	70.9	1,141	530	246	114
Red Hill Country Club Drive To Foothill Boulevard	72.2	1,412	655	304	141
Foothill Boulevard To Arrow Highway	71.1	1,189	552	256	119
Arrow Highway To 8th Street	70.8	1,138	528	245	114
Archibald Avenue					
Lemon Avenue To SR-210 Freeway	68.5	790	367	170	79
SR-210 Freeway To 19th Street	71.2	1,211	562	261	121
19th Street To Base Line Road	70.2	1,028	477	222	103
Base Line Road To Church Street	70.6	1,102	511	237	110
Church Street To Foothill Boulevard	70.5	1,085	504	234	109
Foothill Boulevard To Arrow Highway	71.1	1,179	547	254	118
Arrow Highway To 8th Street	71.6	1,282	595	276	128
6th Street To 4th Street	71.9	1,342	623	289	134
4th Street To Inland Empire Boulevard	71.6	1,269	589	273	127
Haven Avenue					
Lemon Avenue To SR-210 Freeway	73.4	1,694	786	365	169
SR-210 Freeway To 19th Street	72.2	1,412	655	304	141
19th Street To Base Line Road	73.4	1,694	786	365	169
Base Line Road To Church Street	72.7	1,506	699	324	151
Church Street To Foothill Boulevard	72.7	1,522	707	328	152
Foothill Boulevard To Arrow Highway	72.8	1,549	719	334	155
Arrow Highway To 8th Street	73.3	1,648	765	355	165

**TABLE 4.12-7 (Continued)
MODELED EXISTING ROADWAY NOISE LEVELS**

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
Milliken Avenue					
Banyan Street To SR-210 Freeway	69.5	926	430	199	93
SR-210 Freeway To Victoria Park Lane	72.7	1,506	699	324	151
Victoria Park Lane To Base Line Road	72.6	1,499	696	323	150
Base Line Road To Terra Vista Parkway	72.3	1,419	659	306	142
Terra Vista Parkway To Foothill Boulevard	72.3	1,433	665	309	143
Foothill Boulevard To Arrow Highway	73.2	1,641	762	354	164
Arrow Highway To 6th Street	73.7	1,753	814	378	175
6th Street To 4th Street	73.8	1,798	835	387	180
4th Street To Inland Empire Boulevard	72.9	1,573	730	339	157
Rochester Avenue					
Foothill Boulevard To Arrow Highway	70.0	998	463	215	100
Arrow Highway To 6th Street	69.3	891	414	192	89
Day Creek Boulevard					
Banyan Street To SR-210 Freeway	69.5	928	431	200	93
SR-210 Freeway To Highland Avenue	71.9	1,339	621	288	134
Etiwanda Avenue					
Victoria Street To Base Line Road	65.1	468	217	101	47
Base Line Road To Miller Avenue	68.0	731	339	157	73
Miller Avenue To Foothill Boulevard	68.1	747	347	161	75
Foothill Boulevard To Arrow Highway	70.2	1,024	475	221	102
Arrow Highway To City Boundary	70.3	1,052	488	227	105
East Avenue					
Victoria Street To Base Line Road	65.6	507	236	109	51
Base Line Road To Miller Avenue	65.6	512	238	110	51
Americana Way					
North of Base Line Road	59.6	203	94	44	20
South of Base Line Road	61.5	272	126	59	27
Beach Avenue					
Cherry Avenue To I-15 Freeway	67.8	711	330	153	71
I-15 Freeway To SR-210 Freeway	68.1	742	344	160	74
I-15 Freeway					
Wilson Avenue To SR-210 Freeway	78.0	3,425	1,590	738	342
SR-210 Freeway To Base Line Road	78.8	3,838	1,781	827	384
Base Line Road To Foothill Boulevard	79.3	4,154	1,928	895	415
Foothill Boulevard To Arrow Highway	80.6	5,099	2,367	1,099	510
Arrow Highway To San Bernardino Avenue	80.1	4,712	2,187	1,015	471

**TABLE 4.12-7 (Continued)
MODELED EXISTING ROADWAY NOISE LEVELS**

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
SR-210 Freeway					
City Border To Carnelian Street	80.6	5,106	2,370	1,100	511
Carnelian Street To Archibald Avenue	80.4	4,950	2,297	1,066	495
Archibald Avenue To Haven Avenue	80.4	4,947	2,296	1,066	495
Haven Avenue To Milliken Avenue	80.0	4,677	2,171	1,008	468
Milliken Avenue To Day Creek Boulevard	80.0	4,653	2,160	1,002	465
Day Creek Boulevard To I-15 Freeway	79.7	4,423	2,053	953	442
† From roadway centerline RW – Noise contour falls within roadway right-of-way. Source: Mestre Greve Associates 2010c.					

Existing Aircraft Noise Levels

The closest major airport to Rancho Cucamonga is the LA/Ontario International Airport, which is located to the south of the City. At its closest distance, the LA/Ontario International Airport is approximately one mile from the City of Rancho Cucamonga’s southern border. According to most recent noise contour (4th Quarter 2007 at Los Angeles World Airports), the proposed 2010 General Plan Update Study Area is well outside the LA/Ontario International Airport’s 65 dBA CNEL noise contour. Aircraft noise does not significantly impact the City of Rancho Cucamonga.

Existing Railroad Noise Levels

The Alameda Corridor East is the main east/west rail line passing through San Bernardino County. The rail line serves about 140 trains per day. The Alameda Corridor East does not pass through the City of Rancho Cucamonga; rather, it exists approximately 4,400 feet south of the City of Rancho Cucamonga’s southern border. The modeled train noise impact to the City of Rancho Cucamonga is estimated to be less than 65 CNEL.

Metrolink and BNSF trains also pass through the City of Rancho Cucamonga via two railroad tracks that are parallel and adjacent to 8th Street. Metrolink trains run on one of the tracks, and BNSF trains run on the other track. Currently, there are a total of 38 Metrolink trains that pass through the City of Rancho Cucamonga on a daily basis. The majority of the scheduled train operations occur during the daytime hours (7 AM to 7 PM), with less than one third of the total daily operations occurring during the evening and nighttime periods. It is estimated that roughly 2 BNSF freight trains run through the City during daytime hours. The noise level near the railroad tracks depends upon a number of train-related factors, with the absence or presence of train horn noise being one such factor. Trains blow their horns when approaching railroad crossings, so at a given constant distance away from the railroad tracks, those portions along the railroad track that are near railroad crossings tend to be louder than other portions of the railroad tracks that are farther away from railroad crossings. The modeled existing CNEL noise level due to both Metrolink and BNSF train operations along the railroad tracks near railroad crossings can be as high as 81.6 dBA at 50 feet from the center of the two tracks. At other portions along the railroad track away from the railroad crossings, it is estimated that the CNEL noise level is as low as 67.1 dBA at 50 feet from the tracks.

4.12.3 THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are derived from the Environmental Checklist Form included as Appendix G of the CEQA Guidelines. The proposed 2010 General Plan Update would have a potentially significant adverse impact related to noise if it would:

- Threshold 4.12a** Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Threshold 4.12b** Expose people or structures to or generation of excessive groundborne vibration or groundborne noise levels;
- Threshold 4.12c** Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Threshold 4.12d** Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Threshold 4.12e** 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 two miles of a public airport or public use airport; and/or
- Threshold 4.12f** Expose people residing or working in the project area to excessive noise levels, for a project within the vicinity of a private airstrip.

For purposes of analysis, the City's noise ordinance contained in the City of Rancho Cucamonga Municipal Code is used in determining levels of significance for noise impacts in this PEIR. This analysis has gone further and has also identified any noise increases of 1 dB or greater as being potentially significant when they impact a sensitive land use, such as a residential area.

4.12.4 GENERAL PLAN GOALS AND POLICIES

A number of goals and policies in the proposed 2010 General Plan Update address noise issues. Implementation of these goals and policies and their corresponding implementation actions would reduce noise impacts to existing and future developments. These include:

PS-13.1: Consider the compatibility of proposed land uses with the noise environment when preparing or revising community and/or specific plans and when reviewing development proposals. The contour map depicting future noise levels (Figure PS-10) should be used by the City as a guide to land use/noise compatibility.

Implementation Action: *Review and modify land use and zoning exhibits where possible to eliminate incompatible noise conflicts, and utilize the adopted General Plan noise maps in the development review process.*

PS-13.2: Consider noise impacts as part of the development review process, particularly the location of parking, ingress/egress/loading, and refuse collection areas relative to surrounding residential development and other noise-sensitive land uses.

Implementation Action: Continue to assess potential noise conflicts within development proposals as part of the development review process. Require noise assessments as appropriate for projects that have the potential to produce excessive or unusual noise.

PS-13.3: Consider the use of noise barriers or walls to reduce noise levels generated by ground transportation noise sources and industrial sources.

Implementation Action: Establish criteria to address the use of and design of structures proposed as noise barriers within development proposals.

PS-13.4: Require that acceptable noise levels are maintained near residences, schools, health care facilities, religious institutions, and other noise sensitive uses in accordance with the Development Code and noise standards contained in the General Plan.

Implementation Action: Utilize the preparation of noise technical studies and recommended mitigation measures for development proposals with potential noise impacts or conflicts with existing noise-sensitive uses.

PS-13.5: Limit the hours of operation at noise generating sources that are adjacent to noise-sensitive uses, wherever practical.

Implementation Action: Utilize the preparation of noise technical studies and recommended mitigation measures for development proposals with potential noise impacts or conflicts with existing noise-sensitive uses.

PS-13.6: Implement appropriate standard construction noise controls for all construction projects.

Implementation Action: Continue to enforce the City's noise regulations for construction and maintenance activities.

PS-13.7: Require all exterior noise sources (construction operations, air compressors, pumps, fans, and leaf blowers) to use available noise suppression devices and techniques to bring exterior noise levels down to acceptable levels.

Implementation Action: Continue to enforce the City's noise regulations for construction and maintenance activities.

PS-13.8: Require that mixed-use structures be designed to account for noise from adjacent uses.

Implementation Action: Utilize the preparation of noise technical studies and recommended mitigation measures for development proposals with potential noise impacts or conflicts with existing noise-sensitive uses.

PS-13.9: Provide, as appropriate, funding to monitor noise levels and investigate noise complaints.

Implementation Action: Evaluate the feasibility of providing training, personnel, and equipment to enforce noise regulations and investigate noise complaints.

PS-13.10: Provide education to the community at large about the importance of maintaining a healthy noise environment, and identify ways residents can assist in noise abatement efforts.

Implementation Action: *Provide educational materials regarding the impacts associated with noise disturbances to residents and businesses as part of a comprehensive code enforcement outreach.*

PS-13.11: Continue to work with the surrounding communities to allow for compliance with Rancho Cucamonga's land use and noise compatibility goals and objectives at the City's boundaries.

Implementation Action: *Continue to engage inter-jurisdictional review of development proposals in order to identify impacts and include mitigation.*

PS-14.1: Consult with Caltrans and other regional agencies to minimize the impact of transportation-related noise, including noise associated with freeways, major arterials, and rail lines.

Implementation Action: *Monitor residents' complaints of transportation-related noise. Take actions as deemed appropriate to address excessive noise issues with the responsible agency or rail operator.*

PS-14.2: Require development that is, or will be, affected by railroad noise to include appropriate measures to minimize adverse noise effects on residents businesses.

Implementation Action: *Monitor residents' complaints of transportation-related noise. Take actions as deemed appropriate to address excessive noise issues with the responsible agency or rail operator.*

4.12.5 STANDARD CONDITIONS OF APPROVAL

Existing regulations address stationary noise sources and their impacts on adjacent land uses. Compliance by future development and redevelopment with these standard conditions would reduce noise impacts and prevent excessive noise levels in the City. These include those Standard Conditions of Approval (SCs) listed below.

SC 4.12-1 Prior to approval of grading plans and/or prior to issuance of building permits, plans shall include a note indicating that noise-generating project construction activities shall not occur between the hours of 8:00 PM and 6:30 AM and on Sundays and national holidays. This requirement is identified under item 4 of the Special Provisions paragraph in Chapter 17.02.120 of the Municipal Code.

SC 4.12-2 Future development and redevelopment in the City shall comply with Section 17.02.120 of the City of Rancho Cucamonga's Municipal Code, which sets limits for interior and exterior noise levels.

SC 4.12-3 Future development and redevelopment in the City shall comply with Title 24 of the California Administrative Code, which requires that residential structures (other than detached single-family dwellings) be designed such that the interior community noise equivalent level (CNEL) with windows closed shall not exceed 45 A-weighted decibels (dBA) in any habitable room.

4.12.6 ENVIRONMENTAL IMPACTS

Future development and redevelopment under the proposed 2010 General Plan Update would generate new vehicle trips and stationary noise sources that could increase existing noise levels in and near the City.

Noise Levels and Vibration

- Threshold 4.12a** **Would the proposed General Plan Update expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**
- Threshold 4.12b** **Would the proposed General Plan Update expose people or structures to or generation of excessive groundborne vibration or groundborne noise levels?**
- Threshold 4.12c** **Would the proposed General Plan Update result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**
- Threshold 4.12d** **Would the proposed General Plan Update result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Construction activities for future development and redevelopment under the proposed 2010 General Plan Update and any noise-generating activities associated with the operation of future development and redevelopment would be required to meet the Noise Ordinance standards. Inability to comply with the restrictions in the Noise Ordinance and 2010 General Plan Update Noise/Land Use Compatibility standards would result in a significant impact.

Construction (Short-Term) Noise

The 2010 General Plan Update would facilitate the completion of various construction projects at numerous locations throughout the City. These projects have the potential to occur in any zoned area, including residential, commercial/office, industrial and mixed-use areas. It is premature to know when and where specific construction might occur, and therefore, potential impacts may only be addressed in a generic manner.

Construction activity generates noise that has a short-term impact on ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators, can reach high levels and have the potential to impact nearby sensitive land uses.

Every construction project that is planned within the City would be subject to the standards in the Noise Ordinance. The construction noise impacts to a particular neighborhood are dependent upon a number of factors specific to the project. Some of the factors include proximity to sensitive land use, time of day, intervening barriers, level of construction (i.e., number and type of construction equipment that is operating simultaneously), and the duration of the project's construction phase.

Worst-case examples of construction noise at 50 feet are presented in Exhibit 4.12-2, Typical Construction Equipment Noise Levels. The peak noise level for most of the equipment that

would be used during construction is in the range of 70 to 95 dBA at a distance of 50 feet. Noise levels at further distances are less.

Those projects that are planned to occur near residential or mixed-use neighborhoods tend to be at the highest risk for causing noise impacts because the distance from construction activity to sensitive land uses is least in those neighborhoods, and also because residential neighborhoods have the lowest noise standard thresholds. Without knowing the details of future projects under the proposed 2010 General Plan Update, only a rough estimate of the construction noise impacts can be made. For a typical construction project that is as close as 50 feet from residential land uses, the worst-case unmitigated peak construction noise levels would be as high as 95 dBA. The average noise levels are typically 5 to 15 dB lower than the peak noise levels, so average noise levels (Leq) at the nearest residences would be in the range of 85 dBA (Leq). These noise levels would be in excess of that which is permitted by the Noise Ordinance. Construction activity would be closer than 50 feet, in which case the noise impacts would be even greater. Projects that are farther away than 50 feet from sensitive land uses can still generate noise levels that exceed the noise standard thresholds.

The Rancho Cucamonga Noise Ordinance exempts construction noise that occurs between the hours of 6:30 AM and 8:00 PM on any day except Sundays and national holidays if the noise level does not exceed the noise level specified by Table 4.12-1, where the basic noise level used to determine the noise threshold is 65 dBA. This means that for non-impulsive noise, the L25 has to be less than 65 dBA, the L16.7 has to be less than 70 dBA, the L8.3 has to be less than 79 dBA, and Lmax has to be less than 80 dBA. Construction noise impacts may exceed one or more of these noise limits.

Policy PS-13.6 calls for noise controls during construction. Policy PS-13.7 requires mitigation of all exterior noise sources, including construction activities.

The determination of whether or not a particular project would violate the noise standards would need to be analyzed on a case-by-case basis. If any of these noise thresholds are violated for unmitigated noise levels, appropriate mitigation measures would have to be designed to bring the noise level down to an acceptable level. These include development and implementation of a noise mitigation plan for construction activities near noise sensitive receptors and designation of haul routes for construction equipment and trucks that divert construction traffic from residential areas and noise-sensitive land uses. Projects that use an inordinate amount of construction equipment, or are located close to sensitive land uses have the potential to produce noise levels that violate these noise standards; however, if a project complies with the Noise Ordinance and City Noise Standards (SC 4.12-1 through 4.12-3) and MMs 4.12-1 through 4.12-4 are implemented, construction noise impacts would be reduced to a less than significant level.

Operational (Long-Term) Noise

The proposed 2010 General Plan Update largely provides for a continuation of established land use patterns, with the exception of introducing mixed-use developments along Foothill Boulevard. In addition, intensification of uses would occur as development continues among infill sites. Increased traffic along the roadways in the City would increase the traffic noise level at land uses near the roadways experiencing the increased traffic flow.

Traffic Noise Impacts

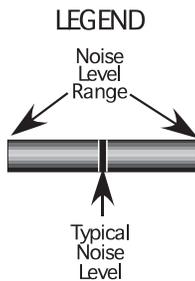
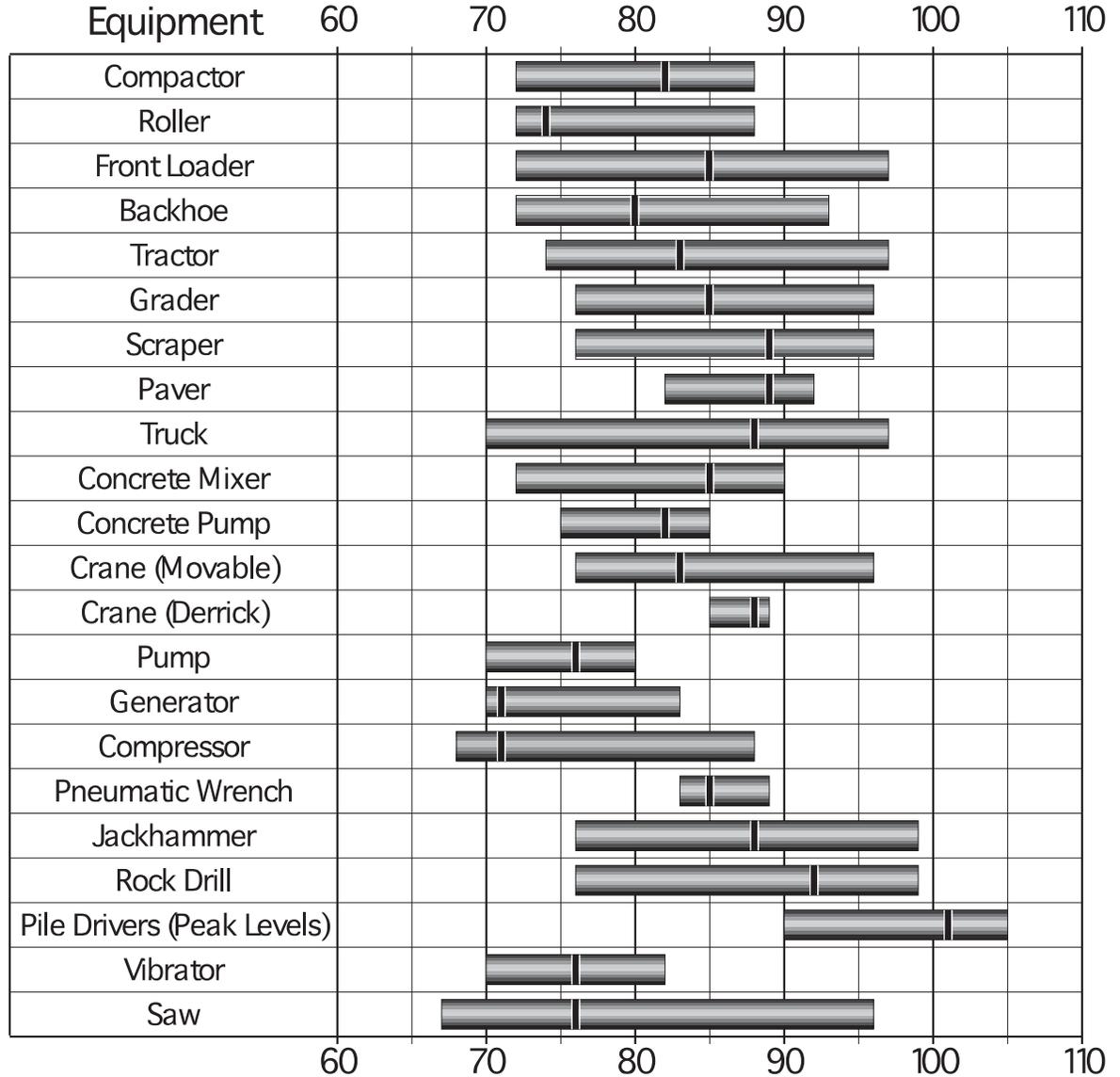
Table 4.12-8 shows the projected noise levels at buildout of the 2010 General Plan Update Study Area by 2030. These noise levels were estimated using soft site conditions. The table

shows the CNEL noise level at 100 feet from the centerline of the roadway for each of the roadway segment as well as the distance to the 55, 60, 65 and 70 CNEL noise contours. These contours do not take into account the effect of any noise barriers or topography that may reduce traffic noise levels.

**TABLE 4.12-8
FUTURE 2030 WITH PROJECT TRAFFIC NOISE LEVELS**

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
19th Street					
City Border To Carnelian Street	69.4	913	424	197	91
Carnelian Street To Hellman Avenue	69.3	899	417	194	90
Hellman Avenue To Archibald Avenue	69.2	888	412	191	89
Archibald Avenue To Hermosa Avenue	68.4	782	363	169	78
Base Line Road					
City Border To Carnelian Street	71.4	1,236	574	266	124
Carnelian Street To Hellman Avenue	70.3	1,047	486	226	105
Hellman Avenue To Archibald Avenue	70.5	1,073	498	231	107
Archibald Avenue To Hermosa Avenue	70.0	1,001	465	216	100
Hermosa Avenue To Haven Avenue	71.2	1,195	555	257	120
Haven Avenue To Spruce Avenue	71.2	1,195	555	257	120
Spruce Avenue To Milliken Avenue	72.2	1,392	646	300	139
Milliken Avenue To Rochester Avenue	71.7	1,291	599	278	129
Victoria Park Lane To Etiwanda Avenue	71.8	1,319	612	284	132
Etiwanda Avenue To East Avenue	72.2	1,402	651	302	140
East Avenue To Americana Way	72.9	1,565	726	337	156
Americana Way To Cherry Avenue	72.1	1,374	638	296	137
Foothill Boulevard					
Campus Avenue To Grove Avenue	71.7	1,303	605	281	130
Grove Avenue To Baker Avenue	72.5	1,478	686	318	148
Baker Avenue To Vineyard Avenue	72.9	1,556	722	335	156
Vineyard Avenue To Hellman Avenue	72.8	1,534	712	331	153
Foothill Boulevard					
Hellman Avenue To Archibald Avenue	73.1	1,597	741	344	160
Archibald Avenue To Hermosa Avenue	72.7	1,503	698	324	150
Hermosa Avenue To Haven Avenue	72.0	1,357	630	292	136
Haven Avenue To Spruce Avenue	73.7	1,772	823	382	177
Spruce Avenue To Milliken Avenue	73.5	1,718	797	370	172
Milliken Avenue To Rochester Avenue	74.7	2,044	949	440	204
Day Creek Boulevard To I-15 Freeway	75.5	2,342	1,087	505	234
I-15 Freeway To Etiwanda Avenue	74.7	2,049	951	441	205
Etiwanda Avenue To East Avenue	74.3	1,932	897	416	193

A-Weighted Sound Level (dBA) At 50 Feet



Typical Construction Equipment Noise Levels

Exhibit 4.12-2

Rancho Cucamonga General Plan Update

Source: Mestre Greve Associates



TABLE 4.12-8 (Continued)
FUTURE 2030 WITH PROJECT TRAFFIC NOISE LEVELS

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
Arrow Highway					
Campus Avenue To Grove Avenue	65.6	505	235	109	51
Grove Avenue To Baker Avenue	68.3	773	359	167	77
Baker Avenue To Vineyard Avenue	69.6	942	437	203	94
Vineyard Avenue To Hellman Avenue	69.8	966	449	208	97
Hellman Avenue To Archibald Avenue	70.2	1,032	479	222	103
Archibald Avenue To Hermosa Avenue	71.8	1,321	613	285	132
Hermosa Avenue To Haven Avenue	72.2	1,392	646	300	139
Haven Avenue To Milliken Avenue	72.0	1,351	627	291	135
Milliken Avenue To Rochester Avenue	72.6	1,480	687	319	148
Rochester Avenue To Etiwanda Avenue	74.8	2,099	974	452	210
Etiwanda Avenue To East Avenue	70.2	1,028	477	221	103
4th Street					
Hellman Avenue To Archibald Avenue	72.1	1,371	636	295	137
Archibald Avenue To Hermosa Avenue	72.0	1,357	630	292	136
Haven Avenue To Milliken Avenue	73.6	1,746	810	376	175
Milliken Avenue To I-15 Freeway	73.6	1,725	801	372	173
Grove Avenue					
14th Street To Foothill Boulevard	63.5	370	172	80	37
Foothill Boulevard To Arrow Highway	68.3	773	359	167	77
Arrow Highway To 8th Street	68.8	838	389	180	84
Vineyard Avenue/Carnelian Street					
Lemon Avenue To SR-210 Freeway	70.6	1,102	511	237	110
SR-210 Freeway To 19th Street	71.8	1,324	614	285	132
19th Street To Base Line Road	72.3	1,429	663	308	143
Base Line Road To Red Hill Country Club Drive	71.8	1,327	616	286	133
Red Hill Country Club Drive To Foothill Boulevard	73.1	1,600	743	345	160
Foothill Boulevard To Arrow Highway	71.8	1,321	613	285	132
Arrow Highway To 8th Street	72.0	1,354	628	292	135
Archibald Avenue					
Lemon Avenue To SR-210 Freeway	68.9	843	391	182	84
SR-210 Freeway To 19th Street	71.7	1,291	599	278	129
19th Street To Base Line Road	71.4	1,245	578	268	124
Base Line Road To Church Street	72.1	1,377	639	297	138
Church Street To Foothill Boulevard	71.5	1,266	588	273	127
Foothill Boulevard To Arrow Highway	72.3	1,429	663	308	143
Arrow Highway To 8th Street	72.5	1,467	681	316	147
6th Street To 4th Street	72.8	1,545	717	333	155
4th Street To Inland Empire Boulevard	72.4	1,441	669	310	144

TABLE 4.12-8 (Continued)
FUTURE 2030 WITH PROJECT TRAFFIC NOISE LEVELS

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
Haven Avenue					
Lemon Avenue To SR-210 Freeway	75.0	2,160	1,003	465	216
SR-210 Freeway To 19th Street	74.0	1,844	856	397	184
19th Street To Base Line Road	74.5	1,995	926	430	199
Base Line Road To Church Street	73.9	1,828	849	394	183
Church Street To Foothill Boulevard	74.3	1,932	897	416	193
Foothill Boulevard To Arrow Highway	75.3	2,258	1,048	487	226
Arrow Highway To 8th Street	75.4	2,288	1,062	493	229
Milliken Avenue					
Banyan Street To SR-210 Freeway	70.8	1,125	522	242	113
SR-210 Freeway To Victoria Park Lane	73.1	1,606	746	346	161
Victoria Park Lane To Base Line Road	73.4	1,691	785	364	169
Base Line Road To Terra Vista Parkway	73.2	1,641	762	354	164
Terra Vista Parkway To Foothill Boulevard	73.7	1,768	821	381	177
Foothill Boulevard To Arrow Highway	74.1	1,888	876	407	189
Arrow Highway To 6th Street	74.1	1,867	867	402	187
6th Street To 4th Street	74.2	1,917	890	413	192
4th Street To Inland Empire Boulevard	73.4	1,675	778	361	168
Rochester Avenue					
Foothill Boulevard To Arrow Highway	72.6	1,486	690	320	149
Arrow Highway To 6th Street	70.6	1,092	507	235	109
Day Creek Boulevard					
Banyan Street To SR-210 Freeway	69.9	987	458	213	99
SR-210 Freeway To Highland Avenue	72.3	1,427	662	307	143
Etiwanda Avenue					
Victoria Street To Base Line Road	66.5	587	272	126	59
Base Line Road To Miller Avenue	68.7	813	377	175	81
Miller Avenue To Foothill Boulevard	69.3	895	415	193	90
Foothill Boulevard To Arrow Highway	70.9	1,152	535	248	115
Arrow Highway To City Boundary	71.0	1,172	544	253	117
East Avenue					
Victoria Street To Base Line Road	67.7	698	324	150	70
Base Line Road To Miller Avenue	66.7	604	281	130	60
Americana Way					
North of Base Line Road	60.4	230	107	50	23
South of Base Line Road	62.0	292	135	63	29
Beach Avenue					
Cherry Avenue To I-15 Freeway	70.3	1,042	484	224	104
I-15 Freeway To SR-210 Freeway	70.8	1,130	524	243	113
I-15 Freeway					
Wilson Avenue To SR-210 Freeway	80.7	5,181	2,405	1,116	518
SR-210 Freeway To Base Line Road	80.9	5,327	2,472	1,148	533
Base Line Road To Foothill Boulevard	81.2	5,554	2,578	1,197	555

**TABLE 4.12-8 (Continued)
FUTURE 2030 WITH PROJECT TRAFFIC NOISE LEVELS**

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour from Centerline of Roadway (feet)			
		55 CNEL	60 CNEL	65 CNEL	70 CNEL
Foothill Boulevard To Arrow Highway	81.2	5,554	2,578	1,197	555
Arrow Highway To San Bernardino Avenue	82.1	6,375	2,959	1,373	637
SR-210 Freeway					
City Border To Carnelian Street	81.5	5,822	2,702	1,254	582
Carnelian Street To Archibald Avenue	81.5	5,865	2,723	1,264	587
Archibald Avenue To Haven Avenue	81.5	5,832	2,707	1,256	583
Haven Avenue To Milliken Avenue	81.3	5,652	2,623	1,218	565
Milliken Avenue To Day Creek Boulevard	81.3	5,705	2,648	1,229	571
Day Creek Boulevard To I-15 Freeway	81.3	5,629	2,613	1,213	563
Source: Mestre Greve Associates 2010c.					

Traffic volumes were compared in order to determine potential traffic noise increases. The traffic study (Appendix H) provided traffic volumes for both existing conditions and the projected traffic volumes for the year 2030 buildout under the proposed 2010 General Plan Update. Table 4.12-9 shows the expected incremental traffic noise level increases on adjacent roadways. The last column, "Neighborhood Impacted", identifies the land uses along roadway segments that are projected to experience a noise increase of 1 dB or more.

**TABLE 4.12-9
TRAFFIC NOISE CNEL INCREASES IN 2030**

Roadway Segment	Impact (dB)	Impacted Neighborhood
19th Street		
City Border To Carnelian Street	1.6	Residential
Carnelian Street To Hellman Avenue	1.0	Residential, Retail
Hellman Avenue To Archibald Avenue	1.1	Residential
Archibald Avenue To Hermosa Avenue	0.7	
Base Line Road		
City Border To Carnelian Street	2.0	Residential
Carnelian Street To Hellman Avenue	0.9	
Hellman Avenue To Archibald Avenue	0.5	
Archibald Avenue To Hermosa Avenue	0.4	
Hermosa Avenue To Haven Avenue	0.9	
Haven Avenue To Spruce Avenue	0.7	
Spruce Avenue To Milliken Avenue	1.0	Residential
Milliken Avenue To Rochester Avenue	1.0	Residential
Victoria Park Lane To Etiwanda Avenue	1.4	Residential
Etiwanda Avenue To East Avenue	1.3	Residential
East Avenue To Americana Way	0.4	
Americana Way To Cherry Avenue	0.4	

**TABLE 4.12-9 (Continued)
TRAFFIC NOISE CNEL INCREASES IN 2030**

Roadway Segment	Impact (dB)	Impacted Neighborhood
Foothill Boulevard		
Campus Avenue To Grove Avenue	0.6	
Grove Avenue To Baker Avenue	0.4	
Baker Avenue To Vineyard Avenue	0.9	
Vineyard Avenue To Hellman Avenue	1.2	Residential
Hellman Avenue To Archibald Avenue	1.1	Residential
Archibald Avenue To Hermosa Avenue	1.1	Residential
Hermosa Avenue To Haven Avenue	0.8	
Haven Avenue To Spruce Avenue	1.4	Residential
Spruce Avenue To Milliken Avenue	1.1	Residential
Milliken Avenue To Rochester Avenue	1.0	Residential
Day Creek Boulevard To I-15 Freeway	0.4	
I-15 Freeway To Etiwanda Avenue	2.4	Residential
Etiwanda Avenue To East Avenue	2.1	Residential
Arrow Highway		
Campus Avenue To Grove Avenue	1.0	Residential
Grove Avenue To Baker Avenue	0.4	
Baker Avenue To Vineyard Avenue	0.7	
Vineyard Avenue To Hellman Avenue	0.7	
Hellman Avenue To Archibald Avenue	0.7	
Archibald Avenue To Hermosa Avenue	0.4	
Hermosa Avenue To Haven Avenue	0.5	
Arrow Highway		
Haven Avenue To Milliken Avenue	0.4	
Milliken Avenue To Rochester Avenue	1.6	Industrial, Ball Park
Rochester Avenue To Etiwanda Avenue	3.8	Office, Industrial
Etiwanda Avenue To East Avenue	0.9	
4th Street		
Hellman Avenue To Archibald Avenue	2.6	Residential
Archibald Avenue To Hermosa Avenue	2.7	Residential, Industrial
Haven Avenue To Milliken Avenue	1.2	Residential
Milliken Avenue To I-15 Freeway	0.9	
Grove Avenue		
14th Street To Foothill Boulevard	0.5	
Foothill Boulevard To Arrow Highway	0.4	
Arrow Highway To 8th Street	0.8	
Vineyard Avenue/Carnelian Street		
Lemon Avenue To SR-210 Freeway	0.4	
SR-210 Freeway To 19th Street	0.5	
19th Street To Base Line Road	0.7	
Base Line Road To Red Hill Country Club Drive	1.0	Residential
Red Hill Country Club Drive To Foothill Boulevard	0.8	

**TABLE 4.12-9 (Continued)
TRAFFIC NOISE CNEL INCREASES IN 2030**

Roadway Segment	Impact (dB)	Impacted Neighborhood
Foothill Boulevard To Arrow Highway	0.7	
Arrow Highway To 8th Street	1.1	Offices, Industrial
Archibald Avenue		
Lemon Avenue To SR-210 Freeway	0.4	
SR-210 Freeway To 19th Street	0.4	
19th Street To Base Line Road	1.2	Residential
Base Line Road To Church Street	1.5	Residential
Church Street To Foothill Boulevard	1.0	Residential, Retail
Foothill Boulevard To Arrow Highway	1.3	Residential, School, Commercial
Arrow Highway To 8th Street	0.9	
6th Street To 4th Street	0.9	
4th Street To Inland Empire Boulevard	0.8	
Haven Avenue		
Lemon Avenue To SR-210 Freeway	1.6	Retail
SR-210 Freeway To 19th Street	1.7	Residential
19th Street To Base Line Road	1.1	Residential, Retail
Base Line Road To Church Street	1.3	Residential
Church Street To Foothill Boulevard	1.6	Retail, Offices
Foothill Boulevard To Arrow Highway	2.5	Retail, Univ, Fire Depart.
Haven Avenue		
Arrow Highway To 8th Street	2.1	Commercial, Offices
Milliken Avenue		
Banyan Street To SR-210 Freeway	1.3	Residential
SR-210 Freeway To Victoria Park Lane	0.4	
Victoria Park Lane To Base Line Road	0.8	
Base Line Road To Terra Vista Parkway	0.9	
Terra Vista Parkway To Foothill Boulevard	1.4	Residential, Medical Center
Foothill Boulevard To Arrow Highway	0.9	
Arrow Highway To 6th Street	0.4	
6th Street To 4th Street	0.4	
4th Street To Inland Empire Boulevard	0.4	
Rochester Avenue		
Foothill Boulevard To Arrow Highway	2.6	Residential, Retail, Commercial, Ball Park
Arrow Highway To 6th Street	1.3	Commercial, Offices
Day Creek Boulevard		
Banyan Street To SR-210 Freeway	0.4	
SR-210 Freeway To Highland Avenue	0.4	

**TABLE 4.12-9 (Continued)
TRAFFIC NOISE CNEL INCREASES IN 2030**

Roadway Segment	Impact (dB)	Impacted Neighborhood
Etiwanda Avenue		
Victoria Street To Base Line Road	1.5	Residential, School, Historic Site
Base Line Road To Miller Avenue	0.7	
Miller Avenue To Foothill Boulevard	1.2	Residential
Foothill Boulevard To Arrow Highway	0.8	
Arrow Highway To City Boundary	0.7	
East Avenue		
Victoria Street To Base Line Road	2.1	Residential
Base Line Road To Miller Avenue	1.1	Residential
Americana Way		
North of Base Line Road	0.8	
South of Base Line Road	0.5	
Beach Avenue		
Cherry Avenue To I-15 Freeway	2.5	Residential
I-15 Freeway To SR-210 Freeway	2.7	Residential, Some Retail
I-15 Freeway		
Wilson Avenue To SR-210 Freeway	2.7	Commercial Site
SR-210 Freeway To Base Line Road	2.1	Residential, Hotel, Retail
Base Line Road To Foothill Boulevard	1.9	Residential, Retail
Foothill Boulevard To Arrow Highway	0.6	
Arrow Highway To San Bernardino Avenue	2.0	Industrial
SR-210 Freeway		
City Border To Carnelian Street	0.9	
Carnelian Street To Archibald Avenue	1.1	Residential, Retail, Park
Archibald Avenue To Haven Avenue	1.1	Residential, School, Retail
Haven Avenue To Milliken Avenue	1.2	Residential, Retail
Milliken Avenue To Day Creek Boulevard	1.3	Residential, Retail
Day Creek Boulevard To I-15 Freeway	1.6	Residential
† From Roadway Centerline N/A - Not Available Source: Mestre Greve Associates 2010c.		

The table shows that only one roadway segment would experience a noise increase that exceeds 3.0 dB over existing noise levels. That roadway segment is Arrow Highway from Rochester Avenue to Etiwanda Avenue. The land uses along this roadway segment are mainly industrial and some commercial offices, interspersed with vacant lots. There are no residential uses along this segment. The noise increase along this roadway segment is projected to be 3.8 dB, where the existing noise level is 71.0 dBA CNEL at 100 feet from the roadway centerline and the exterior noise standard for industrial uses is 75 to 85 dBA CNEL. Since there are no residential land uses or other noise sensitive receptors along this roadway segment, noise impacts are not predicted to be significant, even though the increase in noise levels would exceed 3.0 dB.

Any small noise increases (as measured on the decibel scale) in an area where the existing noise level exceeds the City's noise standards would be considered to have a significant noise

impact, while small noise increases in areas where the existing noise level does not exceed City standards would not be significant. Since it is not known what the actual CNEL noise level is at every sensitive receptor within the City, it is possible that some sensitive receptors may already be experiencing noise levels that are in excess of the limits specified by the noise ordinance standards. If that is the case, a small noise increase in those areas may cause a significant impact. For the purposes of identifying those areas that may potentially be impacted by small noise level increases, all roadway segments that are projected to experience a noise increase of 1 dB or more have been identified in Table 4.12-9 above.

There are a total of 54 roadway segments that will experience a noise increase of 1.0 dB or more. The neighborhoods surrounding 45 of the 54 roadway segments contain residential units or schools. Residential neighborhoods and schools are considered to be more sensitive than other land uses. Of the 45 roadway segments that have a sensitive receptor that is currently experiencing noise levels that are in excess of the standards, future development and redevelopment that would increase noise levels would cause a significant, adverse impact along that roadway segment. The land uses surrounding the remaining 9 roadway segments consist of office, industrial, retail, commercial, or parks. These land uses are less sensitive to small increases in noise than residential areas or schools, and, therefore, would be less likely to experience a significant adverse noise impact. As discussed previously, the existing CNEL at every sensitive receptor in the Study Area is not known; therefore, future development projects pursuant to the 2010 General Plan Update would be subject to individual environmental review. For purposes of this analysis, potential impacts are considered significant; however, implementation of MMs 4.12-5 through 4.12-7 requiring preparation of project-specific acoustical reports and adherence to the required mitigation measures identified in the reports would reduce impacts to less than significant levels.

Policy PS-14.1 calls for consultation with Caltrans and other regional agencies to minimize transportation-related noise.

Railroad Noise Impacts

Future development and redevelopment may also be located near the railroad tracks and would be exposed to noise levels exceeding City standards, according to the proposed land use. While industrial activities may not be sensitive to railroad noise, residential use and other noise-sensitive receptors (such as schools, libraries, churches, and hospitals) and certain commercial uses could be adversely affected by creating activity disturbances due to high noise levels.

Policy PS-14.2 requires mitigation of railroad noise impacts, as needed.

Development along railroads will need to prepare noise studies to determine noise exposure from train noise and incorporate measures to meet the City's standards for exterior and interior living areas. This may include site design with exterior living areas and common recreational areas on the opposite side of the tracks; noise control construction methods to reduce indoor noise levels; or provision of noise barriers.

Stationary Noise Impacts

Stationary sources from commercial and industrial developments and outdoor activities may also result in noise levels that exceed City standards and/or that adversely impact adjacent land uses. These include loading and unloading activities, outdoor maintenance activities, outdoor mechanical equipment, outdoor storage; and outdoor activities.

A number of policies in the Public Health and Safety Chapter address noise control. Policies PS-13.1 to PS-13.3 call for consideration of stationary and mobile noise sources during site planning. Policy PS-13.4 requires compliance with City standards near noise sensitive uses. Policy PS-13.5 calls for operating hour restrictions to control noise. Policy PS-13.7 requires mitigation of all exterior noise sources to acceptable levels. Policy PS-13.8 requires consideration of noise from adjacent uses. Policies PS-13.9 through PS-13.11 identify City enforcement, public education and inter-agency coordination to meet the City's noise goals.

Noise control measures to reduce stationary noise impacts would have to be implemented on a project-by-project basis, in accordance with the proposed land use and activities that would be conducted on individual development sites.

Impacts 4.12a through 4.12d: Construction activities associated with development pursuant to the 2010 General Plan Update would result in temporary increases in ambient noise levels during the various stages of construction and would have the potential to expose persons to noise levels in excess of standards established in the City's Noise Ordinance. However, compliance with SCs 4.12-1 through 4.12-3 and implementation of MMs 4.12-1 through 4.12-4 would reduce construction noise impacts to less than significant levels.

Vibration may be noticeable for short periods during construction, but it would be temporary and periodic and would not be excessive; vibration would not be a significant impact.

Future development and redevelopment under the proposed 2010 General Plan Update would lead to increases in noise levels that would affect residential uses and noise sensitive receptors. Implementation of MMs 4.12-5 through MM 4.12-7 would reduce impacts to less than significant.

Airport and Airstrip Noise

Threshold 4.12e **Would the proposed General Plan Update 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 two miles of a public airport or public use airport?**

Threshold 4.12f **Would the proposed General Plan Update expose people residing or working in the project area to excessive noise levels, for a project within the vicinity of a private airstrip?**

As discussed previously, the closest major airport to Rancho Cucamonga is the LA/Ontario International Airport, which is located to the south of the City. At its closest distance, the LA/Ontario International Airport is only one mile from the Rancho Cucamonga's southern border. According to the latest noise contour (4th Quarter 2007 at Los Angeles World Airports), the City of Rancho Cucamonga is well outside the LA/Ontario International Airport's 65 dBA CNEL noise contour, which is generally along Airport Drive at the northern boundary of the airport. With a distance of approximately one mile from the City's southern boundary to the 65-dB CNEL, noise levels in Rancho Cucamonga are not expected to be exceeding the 55 to 60 dB CNEL exterior noise standard for residential uses. Aircraft noise does not significantly impact the City of Rancho Cucamonga.

Projected noise levels from airport operations show that in year 2030 the 65-dB CNEL noise contour would move to just south of the I-10 Freeway, with the 60-dB CNEL noise contour generally along Inland Empire Boulevard, or 0.5 mile from the City's southern boundary. Thus, future residential development and redevelopment at the southern end of the City may be exposed to airport noise levels in excess of the 55 dB standard from 10 PM to 7 AM. Therefore, buildout under the proposed 2010 General Plan Update would expose people residing or working in the project area to excessive noise levels. Development at the southern edge of the City will need to prepare acoustical reports to determine noise exposure from airport noise and incorporate measures to meet the City's standards for exterior and interior living areas. This may include site design with exterior living areas and common recreational areas on the northern side of the structure; noise control construction methods to reduce indoor noise levels; or provision of noise barriers. For purposes of this analysis, potential impacts are considered significant; however, implementation of MM 4.12-8 requiring preparation of project-specific acoustical reports and adherence to the required mitigation measures identified in the reports would reduce impacts to less than significant levels.

Impacts 4.12e Development associated with buildout of the 2010 General Plan Update and 4.12f: Study Area could expose people residing or working in the southern edge of the City to excessive noise levels from airport operations. Implementation of MM 4.12-8 would reduce noise exposure to airport and aircraft noise to less than significant levels.

4.12.7 CUMULATIVE IMPACTS

Future development and redevelopment in the City and the surrounding area would add new mobile and stationary noise sources, resulting in increased noise levels. The analysis of buildout of the proposed 2010 General Plan Update included cumulative traffic volumes. Thus, noise impacts associated with the proposed 2010 General Plan Update accounts for cumulative noise impacts. Noise levels in the City currently range from 59.6 to 80.6 dB CNEL at 100 feet from the roadway centerlines. Thus, existing residential uses and noise-sensitive receptors along the roadway segments with high noise levels are exposed to noise in excess of City standards. Projected 2030 noise levels would range 60.4 to 82.1 dB CNEL at 100 feet from the roadway centerlines. Table 4.12-9 shows the increase in noise from existing conditions to the year 2030. While increases of 3.0 dB or more would not affect noise sensitive land uses, there are areas of the City that experience noise levels above standards and there are residential uses and noise sensitive receptors along major roadways that are exposed to noise levels above standards. Any increase in noise levels at roadway segments where residential uses and noise-sensitive receptors are already exposed to levels exceeding City standards would be a significant and cumulative adverse impact. While future development and redevelopment can be designed to reduce their noise exposure to meet City standards, existing developments would continue to be exposed to increasing traffic noise levels exceeding City standards. No feasible mitigation is available for this noise impact. Thus, cumulative impacts will remain significant and unavoidable.

4.12.8 MITIGATION MEASURES

MM 4.12-1 Prior to the issuance of any grading plans, the City shall condition approval of subdivisions that are adjacent to any developed/occupied noise sensitive land uses by requiring applications to submit a construction-related noise mitigation plan to the City for review and approval. The Plan shall depict the location of the construction equipment and how the noise from this equipment would be mitigated during construction of the project.

- MM 4.12-2** Construction or grading noise levels shall not exceed the standards specified in Development Code Section 17.02.120-D, as measured at the property line. Developer shall hire a consultant to perform weekly noise level monitoring as specified in Development Code Section 17.02.120. Monitoring at other times may be required by the Building Official. Said consultant shall report their findings to the Building Official within 24 hours; however, if noise levels exceed the above standards, then the consultant shall immediately notify the Building Official. If noise levels exceed the above standards, then construction activities shall be reduced in intensity to a level of compliance with the City's noise standards or construction halted.
- MM 4.12-3** The construction-related noise mitigation plan required as part of the previous noise mitigation measure shall specify that haul truck deliveries be subject to the same hours specified for construction equipment (i.e., Monday through Saturday, 6:30 AM and 8:00 PM and not allowed on Sundays and national holidays). Additionally, the plan shall denote any construction traffic haul route where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings. The construction-related noise mitigation plan shall also incorporate any other restrictions imposed by City staff.
- MM 4.12-4** If a perimeter block wall is required for a project, the wall shall be constructed as early as possible during the first phase of construction.
- MM 4.12-5** Applicants for new proposed land uses shall specify increased setbacks such that land uses do not lie within the 65 dBA CNEL overlay zone for commercial, office and sensitive uses (60 dBA CNEL for residential use). This would ensure that proposed land uses are not exposed to excessive noise from roadways, railroads and other nearby noise sources and that exterior and interior noise levels do not exceed the goals of the 2010 General Plan Update Public Health and Safety Chapter and the City's noise standards. If increased setbacks are not provided, an applicant may provide barriers between the noise source and the proposed development; site design that reduces the noise levels at exterior living areas; and/or sound insulation or specialized construction methods to block out exterior noise.

Prior to the Development Application CEQA review, a developer shall contract for a site-specific noise study for the specific project that identifies existing and projected noise levels and measures to maintain noise levels within City standards. The noise study shall be performed by an acoustic consultant experienced in such studies and the consultant's qualifications and methodology to be used in the study must be presented to City staff for consideration.

The final acoustical report shall be submitted for Planning Director review and approval prior to the issuance of building permits. The report shall discuss the level of interior noise attenuation to below 45 dBA CNEL, the building materials and construction techniques provided, and if appropriate, verify the adequacy of the mitigation measures. The building plans will be checked for conformance with the mitigation measures contained in the report.

The applicant shall submit certification from an acoustical engineer that all recommendations of the acoustical report were implemented in construction,

including measurements of interior and exterior noise levels to document compliance with City standards. Certification shall be submitted to the Building & Safety Department prior to final occupancy release of the affected homes.

Noise levels shall be monitored after construction to verify the adequacy of the mitigation measures, with noise levels monitored by actual noise level readings taken on- and off-site.

A final acoustical report shall be submitted for Planning Director review and approval prior to final occupancy release. The final report shall make a determination that the mitigation measures have reduced noise levels to below City standards, such as, residential exterior noise levels to below 60 dBA and interior noise attenuation to below 45 dBA.

MM 4.12-6 No industrial facilities shall be constructed within 500 feet of any commercial land uses or within 2,800 feet of any residential land uses without preparation of a noise analysis. This analysis shall document the nature of the industrial facility, as well as noise producing operation associated with the facility. Noise control measures shall be incorporated into the development of the facility to ensure compliance with the City's noise standards.

MM 4.12-7 Restrictions on commercial, industrial and other non-residential activities shall be imposed by the City, so as not to create any noise that would exceed exterior and interior noise standards. This may include restrictions on business operations to maintain noise levels at 60 dB or less during the hours of 10 PM until 7 AM and at 65 dB or less during the hours of 7 AM until 10 PM; establishment of set hours of operation; and regulations on loading and unloading activities such that no person shall cause the loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans, or other similar objects between the hours of 10 PM and 7 AM unless otherwise specified herein, in a manner which would cause a noise disturbance to a residential area.

MM 4.12-8 Residential developments and redevelopments at the southern edge of the City shall prepare an acoustical study to determine site exposure to airport noise and identify noise control measures that would be incorporated into the project to achieve compliance with the City's interior and exterior noise standards for residential uses. These noise control measures may include locating outdoor living areas at the northern section of the site or north of the proposed structure; enclosed common recreational areas; provision of a wall, berm or other barrier to the noise source; and sound insulation or specialized construction methods to block out exterior noise.

The acoustical report shall be submitted for Planning Director review and approval prior to the issuance of building permits. The report shall discuss the level of interior noise attenuation to below 45 CNEL, the building materials and construction techniques provided, and if appropriate, verify the adequacy of the mitigation measures. The building plans will be checked for conformance with the mitigation measures contained in the report.

The applicant shall submit certification from an acoustical engineer that all recommendations of the acoustical report were implemented in construction, including measurements of interior and exterior noise levels to document

compliance with City standards. Certification shall be submitted to the Building & Safety Department prior to final occupancy release of the affected homes.

Noise levels shall be monitored after construction to verify the adequacy of the mitigation measures, with noise levels monitored by actual noise level readings taken on- and off-site.

A final acoustical report shall be submitted for Planning Director review and approval prior to final occupancy release. The final report shall make a determination that the mitigation measures have reduced noise levels to below City standards, such as, residential exterior noise levels to below 60 dBA and interior noise attenuation to below 45 dBA.

4.12.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Noise Levels and Vibration

Less Than Significant With Mitigation.

Airport and Airstrip Noise

Less Than Significant With Mitigation.

Cumulative Impacts

Significant and Unavoidable.