4.11 NOISE

The following section identifies, describes, and evaluates potential land use conflicts related to environmental noise as well potential vibration-related effects associated with the proposed project. This section begins with a description of the general characteristics of noise, followed by a discussion of the applicable Federal, State, and local noise regulations. A qualitative analysis of potential noise-related effects associated with the proposed project's development is provided in this section. Mitigation measures to avoid, eliminate, or reduce noise impacts to a less than significant level are also provided where appropriate. The analysis contained in this section is based in part on a comprehensive Noise Impact Study contained in Appendix L (LSA Associates, Inc. August 2006). The noise study examines existing ambient noise conditions and project-related impacts.

4.11.1 Existing Setting

Sensitive Land Uses in the Project Vicinity. The existing residences along Avalon Avenue to the southwest of the project site are approximately 150 feet from the on-site project activity areas located within the project's drive aisles and parking areas. The nearest existing and/or future homes to the north are across State Route 62 (SR-62) and across Paxton Road, which merges with SR-62 on the north side of the property site. The closest distance to these homes on the north from the project site is approximately 200 feet. Construction and operation on the project site would result in potential noise impacts to the nearest sensitive uses described above.

Overview of the Existing Noise Environment. The primary existing noise sources in the project area are transportation facilities. Traffic on Avalon Avenue, Paxton Road, Sunnyslope Drive, SR-62, and other local streets is the dominant source of ambient noise.

4.11.2 Existing Policies and Regulations

State Regulations

California Code of Regulations (Section 3501). This Section established the State Noise Insulation Standards, which limit the interior noise level exposure within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings. This State Standard indicates that interior noise levels attributable to exterior noise sources shall not exceed 45 dB (CNEL or L_{dn}) in any habitable room.

Local Regulations

Town of Yucca Valley Noise Ordinance. The Town of Yucca Valley has adopted Development Code Noise Standards as the Town criteria for assessing the compatibility of residential land uses with transportation-related noise sources. Development Code Section 85.020510 establishes an interior noise standard of 45 dBA CNEL and a conditional exterior standard of 65 dBA CNEL for residential uses.

An exterior noise level of up to 65 dBA CNEL is permitted if the exterior areas are substantially mitigated with a noise barrier of at least six feet in height and the interior noise exposures do not exceed 45 dBA CNEL with windows and doors closed. If windows and doors are required to be closed to achieve an acceptable interior noise level, then the use of air conditioning or mechanical ventilation would be required. An exterior noise level of up to 75 dBA CNEL is permitted for commercial uses.

The Town of Yucca Valley Development Code contains noise control for stationary sources as listed in Table 4.11.A for exterior areas of residential and other noise-sensitive receivers.

Table 4.11.A – Town of Yucca Valley Stationary Source Noise Standards

Land Use	Noise Level (L_{dn})	Time Period
Residential	55 dBA	7:00 a.m. to 10:00 p.m.
	50 dBA	10:00 p.m. to 7:00 a.m.
Professional Services	55 dBA	Anytime
Other Commercial	60 dBA	Anytime
Industrial	70 dBA	Anytime

Source: Town of Yucca Valley Development Code

The following are excerpts from the Town of Yucca Valley Development Code that pertain to noise standards within the Town.

No person shall operate or cause to be operated any source of sound at any location or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed:

a. The noise standard for that receiving land use for a cumulative period of more than thirty (30) minutes (L_{50}) in any hour; or

b. The noise standard plus 5 dBA for a cumulative period of more than fifteen (15) minutes (L_{25}) in any hour; or

c. The noise standard plus 10 dBA for a cumulative period of more than five minutes (L_8) in any hour; or

d. The noise standard plus 15 dBA for a cumulative period of more than one (1) minute (L_2) in any hour; or

e. The noise standard plus 20 dBA for any period of time.

If the measured ambient level exceeds any of the first four noise limit categories above, the allowable noise exposure standard shall be increased to reflect said ambient noise level. If the ambient noise level exceeds the fifth noise level limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels stated above shall be reduced by 5 dBA.

Construction activities are exempted if they occur between the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday, and are prohibited on Sundays and federal holidays.

4.11.3 Thresholds of Significance

A project would normally have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the Town's noise criteria. Additionally, according to CEQA Guidelines *Appendix G*, the proposed project would result in significant noise impacts if the project would 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;
- 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; and/or
- For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

Methodology. Evaluation of noise impacts associated with a proposed project typically includes the following:

- Determine the short-term construction noise impacts on off-site noise-sensitive uses;
- Determine the long-term traffic noise impacts on off-site noise-sensitive uses;
- Determine the long-term stationary source noise impacts on off-site noise-sensitive uses; and
- Determine the required mitigation measures to reduce long-term on- and off-site noise impacts.

Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times as much acoustic energy as one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single-point source, sound levels decrease approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases 4.5 dBA for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a five dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10- dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The Town of Yucca Valley uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short duration noise impacts such as on-site operational noise from an auto service center or truck delivery, are specified in terms of maximum levels denoted by L_{max}, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Groundborne Vibration. Groundborne vibration levels were compared to the groundborne noise and vibration criteria established by the Federal Transit Administration (FTA) because the Town of Yucca

Valley does not have any regulations related to vibration. Vibration levels were also compared to vibration thresholds that would damage structures. The groundborne vibration and noise criteria were obtained from the FTA's Transit Noise and Vibration Impact Assessment (FTA, April 1995). Although the FTA's groundborne noise and vibration criteria are prepared for railroads, vibration thresholds were used to predict community annoyance from other sources. Vibration levels generated by construction equipment were also compared with the FTA's Human Response to Different Levels of Groundborne Noise and Vibration to predict community annoyance.

Table 4.11.B shows the FTA's groundborne vibration and noise impact criteria. The table shows groundborne vibration and noise level thresholds that would result in community annoyance for each land use category. There are different vibration and noise level thresholds between frequent and infrequent events. A frequent event is defined as more than 70 events per day, and an infrequent event is defined as less than 70 events per day. The frequent and infrequent event criteria are based on a community response equivalent. Typically a frequent event at lower levels would evoke the same response as an infrequent event at higher levels. For example, as shown in Table 4.11.B, frequent vibration events at 72 VdB would generate the same community response as infrequent vibration events at 80 VdB for residential land uses.

Table 4.11.B – 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[1] Events	**Infrequent[2] Events**	**Frequent[1] Events**	**Infrequent[2] Events**
Category 1: Buildings where low ambient vibration is essential for interior operations	65 VdB[3]	65 VdB[3]	–	–
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

1 "Frequent Events" is defined as more than 70 events per day.
2 "Infrequent Events" is defined as fewer than 70 events per day.
3 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. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
Source: Federal Transit Administration, 1995.

According to the Federal Transit Administration, U.S. Department of Transportation, a vibration velocity level of 65 VdB or above would be perceptible, while a level of 72–80 VdB may cause residential annoyance. A vibration velocity of 95–100 VdB would result in potential building damage. A vibration velocity of 75 VdB, with noise levels of a low frequency of 35 dBA and a midfrequency of 50 dBA, is the threshold of annoyance for humans.

Psychological and Physiological Effects of Noise. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 decibels, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 130 decibels, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 140 decibels would result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less developed areas. Table 4.11.B lists "Definitions of Acoustical Terms," and Table 4.11.C shows "Common Sound Levels and Their Sources." Table 4.11.D shows "Land Use Compatibility for Exterior Community Noise" recommended by the California Department of Health, Office of Noise Control.

Table 4.11.C – Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, 1991.

Table 4.11.D – Common Sound Levels and Their Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a few feet away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	Reference Level
Average Office	60	Quiet	½ as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ as loud
Large Transformer	45	Quiet	
Average Residence Without Stereo Playing	40	Faint	⅛ as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc. 2004.

Table 4.11.E – Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50–55	55–70	70+
Auditoriums, concert halls, amphitheaters	45–50	50–65	65–70	70+
Residential—low density single family, duplex, mobile homes	50–55	55–70	70–75	75+
Residential—multifamily	50–60	60–70	70–75	75+
Transient lodging—motels, hotels	50–60	60–70	70–80	80+
Schools, libraries, churches, hospitals, nursing homes	50–60	60–70	70–80	80+

Table 4.11.E – Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dB			
	I	II	III	IV
Actively used open spaces—playgrounds, neighborhood parks	50–67	—	67–73	73+
Golf courses, riding stables, water recreation, cemeteries	50–70	—	70–80	80+
Office buildings, business commercial and professional	50–67	67–75	75+	—
Industrial, manufacturing, utilities, agriculture	50–70	70–75	75+	—

Noise Range I—Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

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

Noise Range III—Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV—Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Office of Noise Control, California Department of Health. 1976.

4.11.4 Impacts and Mitigation Measures

For the purposes of this study, single (or peak) noise events generated by potential uses within the Specific Plan area are measured in terms of the maximum noise level (L_{max}). Peak noise includes noise generated by construction vehicles and machinery, activities within a parking lots, building machinery, and truck loading docks. The standard for peak noise analysis is contained in previously referenced Table 4.11.A. The closest sensitive use to the Specific Plan area would be existing homes located to the north and southwest. As shown in Table 4.11.A, residential uses may be exposed to peak noises of up to 75 dBA L_{max} from 7:00 a.m. to 10:00 p.m. and up to 70 dBA L_{max} from 10:00 p.m. to 7:00 a.m.

Community noise exposure is measured in terms of the community noise equivalent level (CNEL). These noises include noise generated from roadways. The standard for community noise exposure is contained in Table 4.11.E. As shown in the table, residential uses can be exposed to average weighted noise levels of up to 70 CNEL and commercial up to 75 CNEL, provided a detailed noise study is conducted and appropriate mitigation measures are implemented.

Less Than Significant Impact

The following impacts were determined to be less than significant. In each of the following issues, either no impact would occur (and, therefore, no mitigation would required) or adherence to established regulations, standards and policies would reduce potential impacts to a less than significant level.

Airport Noise

Threshold	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, would the project expose people residing or working in the project area to excessive noise levels?

The Yucca Valley Airport is located approximately one mile west of the proposed project site. It is a privately owned airstrip which has been leased on a long term to the Yucca Valley Airport District. According to the Airport Comprehensive Land Use Plan for the Yucca Valley Airport, the proposed project site is located outside of the 60 CNEL contour line for Yucca Valley Airport. Although there may be occasional aircraft flyover noise that is higher than the ambient noise level, because the proposed project is located outside of the 60 CNEL contour line for the Yucca Valley Airport, airport noise levels at the proposed project site are within normally acceptable levels, resulting in a less than significant impact.

Long-Term Traffic-Related Noise Impacts

Threshold	Would the proposed project result in a substantial permanent increase in traffic-related noise levels in the project vicinity above levels existing without the project?

It takes a doubling of the traffic volume to cause a three-decibel increase in traffic noise. Vehicular traffic trips associated with the proposed project would not result in significant traffic noise impacts on off-site sensitive uses.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along Avalon Avenue, SR-62, and other roadway segments in the project vicinity. Future traffic volumes projected in the project’s traffic study (LSA, September 2006) were used to assess the potential traffic noise impacts. A typical vehicle mix for southern California was used. The modeled 24-hour CNEL levels are shown in Tables 4.11.F, 4.11.G, 4.11.H, 4.11.I, and 4.11.J.

Table 4.11.F – Existing Vehicular Traffic Noise

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Aberdeen Drive east of SR-247/Joshua Lane	1,000	< 50*	< 50	< 50	54.2
Buena Vista Drive west of SR-247/Joshua Lane	800	< 50	< 50	< 50	53.2
Buena Vista Drive between SR-247/Joshua Lane and Yucca Mesa Road	2,300	< 50	< 50	< 50	57.8
SR-62 west of Inca Trail	19,700	57	118	252	68.8
SR-62 between Inca Trail and Pioneertown Road/Deer Trail	20,900	59	123	262	69.0
SR-62 between Pioneertown Road/Deer Trail and Sage Avenue	25,700	67	140	300	69.9

Table 4.11.F – Existing Vehicular Traffic Noise

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-62 between Sage Avenue and Joshua Lane/SR-247/Joshua Lane	25,000	66	138	295	69.8
SR-62 between Joshua Lane/SR-247/Joshua Lane and Balsa Avenue	19,900	57	119	254	68.8
SR-62 between Balsa Avenue and Avalon Avenue	18,800	55	114	244	68.6
SR-62 between Avalon Avenue and Project Access	19,000	56	115	246	68.6
SR-62 between Project Access and Project Driveway	19,000	56	115	246	68.6
SR-62 between Project Driveway and Yucca Mesa Road/Contenta Road	18,800	55	114	244	68.6
SR-62 between Yucca Mesa Road/Contenta Road and Park Boulevard	17,300	66	131	276	68.5
SR-62 east of Park Boulevard	16,900	66	129	272	68.4
Yucca Trail between Sage Avenue and Joshua Lane	8,000	< 50	< 50	92	63.2
Yucca Trail between Joshua Lane and Avalon Avenue/Palomar Avenue	8,100	< 50	< 50	92	63.3
Yucca Trail between Avalon Avenue/Palomar Avenue and Contenta Road	6,000	< 50	< 50	76	62.0
Yucca Trail/Alta Loma Drive between Contenta Road and Sunny Vista Road	3,800	< 50	< 50	56	60.0
Alta Loma Drive between Sunny Vista Road and Park Boulevard/Quail Springs Road	2,200	< 50	< 50	< 50	57.6
Alta Loma Drive east of Park Boulevard/Quail Springs Road	200	< 50	< 50	< 50	47.2
Onaga Trail west of SR-247/Joshua Lane	3,800	< 50	< 50	56	60.0
Onaga Trail east of SR-247/Joshua Lane	2,800	< 50	< 50	< 50	58.7
Inca Trail north of SR-62	200	< 50	< 50	< 50	47.2
Inca Trail south of SR-62	1,000	< 50	< 50	< 50	54.2
Pioneertown Road/Deer Trail north of SR-62	2,200	< 50	< 50	< 50	57.6
Pioneertown Road/Deer Trail south of SR-62	1,800	< 50	< 50	< 50	56.7
Sage Avenue north of SR-62	3,500	< 50	< 50	53	59.6
Sage Avenue south of SR-62	7,000	< 50	< 50	84	62.6
SR-247/Joshua Lane north of Aberdeen Drive	5,200	< 50	< 50	69	61.4
SR-247/Joshua Lane between Aberdeen Drive and Buena Vista Drive	5,700	< 50	< 50	73	61.8
SR-247/Joshua Lane between Buena Vista Drive and SR-62	10,000	< 50	76	161	65.8
SR-247/Joshua Lane between SR-62 and Yucca Trail	7,400	< 50	63	132	64.5
SR-247/Joshua Lane between Yucca Trail and Onaga Trail	5,100	< 50	< 50	104	62.9

Table 4.11.F – Existing Vehicular Traffic Noise

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-247/Joshua Lane between and Onaga Trail and Palomar Avenue	3,100	< 50	< 50	< 50	59.1
SR-247/Joshua Lane east of Palomar Avenue	1,800	< 50	< 50	< 50	56.7
Avalon Avenue north of SR-62	1,200	< 50	< 50	< 50	55.0
Avalon Avenue between SR-62 and Project Driveway	2,300	< 50	< 50	< 50	57.8
Avalon Avenue between Project Driveway and Palisades Drive	2,300	< 50	< 50	< 50	57.8
Avalon Avenue between Palisades Drive and Yucca Trail	2,100	< 50	< 50	57	60.1
Palomar Avenue between Yucca Trail and SR-247/Joshua Lane	2,500	< 50	< 50	64	60.9
Yucca Mesa Road north of Buena Vista Drive	2,400	< 50	< 50	62	60.7
Yucca Mesa Road between Buena Vista Drive and SR-62	3,700	< 50	< 50	83	62.6
Contenta Road between SR-62 and Yucca Trail	1,700	< 50	< 50	< 50	59.2
Contenta Road south of Yucca Trail	100	< 50	< 50	< 50	46.9
Sunny Vista Road north of Alta Loma Road	800	< 50	< 50	< 50	55.9
Sunny Vista Road south of Alta Loma Road	1,100	< 50	< 50	< 50	57.3
Park Boulevard north of SR-62	700	< 50	< 50	< 50	55.3
Park Boulevard between SR-62 and Alta Loma Road	2,600	< 50	< 50	66	61.0
Quail Springs Road south of Alta Loma Drive	1,600	< 50	< 50	< 50	58.9

* Traffic noise within 50 feet of roadway centerline requires site-specific analysis.
Source: LSA Associates, Inc., August 2006

Table 4.11.G – 2007 without Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Aberdeen Drive east of SR-247/Joshua Lane	1,900	< 50*	< 50	< 50	57.0
Buena Vista Drive west of SR-247/Joshua Lane	800	< 50	< 50	< 50	53.2
Buena Vista Drive between SR-247/Joshua Lane and Yucca Mesa Road	3,400	< 50	< 50	52	59.5
SR-62 west of Inca Trail	23,400	63	132	282	69.5
SR-62 between Inca Trail and Pioneertown Road/Deer Trail	24,800	66	137	293	69.8
SR-62 between Pioneertown Road/Deer Trail and Sage Avenue	30,800	75	158	339	70.7

Table 4.11.G – 2007 without Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-62 between Sage Avenue and Joshua Lane/SR-247/Joshua Lane	29,800	74	155	332	70.6
SR-62 between Joshua Lane/SR-247/Joshua Lane and Balsa Avenue	26,800	69	144	309	70.1
SR-62 between Balsa Avenue and Avalon Avenue	25,200	66	139	297	69.8
SR-62 between Avalon Avenue and Project Access	24,900	66	138	294	69.8
SR-62 between Project Access and Project Driveway	24,900	66	138	294	69.8
SR-62 between Project Driveway and Yucca Mesa Road/Contenta Road	23,800	64	134	286	69.6
SR-62 between Yucca Mesa Road/Contenta Road and Park Boulevard	20,700	73	147	311	69.3
SR-62 east of Park Boulevard	20,200	72	144	306	69.2
Yucca Trail between Sage Avenue and Joshua Lane	10,000	< 50	< 50	106	64.2
Yucca Trail between Joshua Lane and Avalon Avenue/Palomar Avenue	10,900	< 50	52	112	64.6
Yucca Trail between Avalon Avenue/Palomar Avenue and Contenta Road	8,200	< 50	< 50	93	63.3
Yucca Trail/Alta Loma Drive between Contenta Road and Sunny Vista Road	5,600	< 50	< 50	72	61.7
Alta Loma Drive between Sunny Vista Road and Park Boulevard/Quail Springs Road	3,400	< 50	< 50	52	59.5
Alta Loma Drive east of Park Boulevard/Quail Springs Road	200	< 50	< 50	< 50	47.2
Onaga Trail west of SR-247/Joshua Lane	4,700	< 50	< 50	64	60.9
Onaga Trail east of SR-247/Joshua Lane	3,100	< 50	< 50	< 50	59.1
Inca Trail north of SR-62	200	< 50	< 50	< 50	47.2
Inca Trail south of SR-62	1,100	< 50	< 50	< 50	54.6
Pioneertown Road/Deer Trail north of SR-62	2,300	< 50	< 50	< 50	57.8
Pioneertown Road/Deer Trail south of SR-62	1,900	< 50	< 50	< 50	57.0
Sage Avenue north of SR-62	3,600	< 50	< 50	54	59.8
Sage Avenue south of SR-62	9,000	< 50	< 50	99	63.7
SR-247/Joshua Lane north of Aberdeen Drive	6,400	< 50	< 50	79	62.3
SR-247/Joshua Lane between Aberdeen Drive and Buena Vista Drive	7,800	< 50	< 50	90	63.1
SR-247/Joshua Lane between Buena Vista Drive and SR-62	14,000	< 50	95	201	67.3
SR-247/Joshua Lane between SR-62 and Yucca Trail	11,500	< 50	83	176	66.4
SR-247/Joshua Lane between Yucca Trail and Onaga Trail	10,300	< 50	78	164	65.9

Table 4.11.G – 2007 without Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-247/Joshua Lane between and Onaga Trail and Palomar Avenue	5,900	< 50	< 50	75	61.9
SR-247/Joshua Lane east of Palomar Avenue	3,000	< 50	< 50	< 50	59.0
Avalon Avenue north of SR-62	1,200	< 50	< 50	< 50	55.0
Avalon Avenue between SR-62 and Project Driveway	3,500	< 50	< 50	53	59.6
Avalon Avenue between Project Driveway and Palisades Drive	3,300	< 50	< 50	51	59.4
Avalon Avenue between Palisades Drive and Yucca Trail	3,800	< 50	< 50	84	62.7
Palomar Avenue between Yucca Trail and SR-247/Joshua Lane	3,300	< 50	< 50	77	62.1
Yucca Mesa Road north of Buena Vista Drive	3,400	< 50	< 50	78	62.2
Yucca Mesa Road between Buena Vista Drive and SR-62	5,400	< 50	< 50	106	64.2
Contenta Road between SR-62 and Yucca Trail	1,900	< 50	< 50	53	59.7
Contenta Road south of Yucca Trail	200	< 50	< 50	< 50	49.9
Sunny Vista Road north of Alta Loma Road	800	< 50	< 50	< 50	55.9
Sunny Vista Road south of Alta Loma Road	1,100	< 50	< 50	< 50	57.3
Park Boulevard north of SR-62	700	< 50	< 50	< 50	55.3
Park Boulevard between SR-62 and Alta Loma Road	2,700	< 50	< 50	67	61.2
Quail Springs Road south of Alta Loma Drive	2,600	< 50	< 50	66	61.0

* Traffic noise within 50 feet of roadway centerline requires site-specific analysis.
Source: LSA Associates, Inc., August 2006

Table 4.11.H – 2007 with Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
Aberdeen Drive east of SR-247/Joshua Lane	2,100	< 50*	< 50	< 50	57.4	0.4
Buena Vista Drive west of SR-247/Joshua Lane	800	< 50	< 50	< 50	53.2	0.0
Buena Vista Drive between SR-247/Joshua Lane and Yucca Mesa Road	3,600	< 50	< 50	54	59.8	0.3
SR-62 west of Inca Trail	24,900	66	138	294	69.8	0.3
SR-62 between Inca Trail and Pioneertown Road/Deer Trail	26,200	68	142	304	70.0	0.2
SR-62 between Pioneertown Road/Deer Trail and Sage Avenue	32,500	78	164	351	70.9	0.2

Table 4.11.H – 2007 with Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-62 between Sage Avenue and Joshua Lane/SR-247/Joshua Lane	31,800	77	162	346	70.8	0.2
SR-62 between Joshua Lane/SR-247/Joshua Lane and Balsa Avenue	31,300	76	160	343	70.8	0.7
SR-62 between Balsa Avenue and Avalon Avenue	29,600	73	154	330	70.5	0.7
SR-62 between Avalon Avenue and Project Access	28,300	71	150	320	70.3	0.5
SR-62 between Project Access and Project Driveway	27,400	70	146	314	70.2	0.4
SR-62 between Project Driveway and Yucca Mesa Road/Contenta Road	26,300	68	143	305	70.0	0.4
SR-62 between Yucca Mesa Road/Contenta Road and Park Boulevard	22,200	76	153	326	69.6	0.3
SR-62 east of Park Boulevard	21,700	75	151	321	69.5	0.3
Yucca Trail between Sage Avenue and Joshua Lane	10,500	< 50	51	110	64.4	0.2
Yucca Trail between Joshua Lane and Avalon Avenue/Palomar Avenue	11,900	< 50	56	119	64.9	0.3
Yucca Trail between Avalon Avenue/Palomar Avenue and Contenta Road	9,200	< 50	< 50	100	63.8	0.5
Yucca Trail/Alta Loma Drive between Contenta Road and Sunny Vista Road	6,500	< 50	< 50	80	62.3	0.6
Alta Loma Drive between Sunny Vista Road and Park Boulevard/Quail Springs Road	4,000	< 50	< 50	58	60.2	0.7
Alta Loma Drive east of Park Boulevard/Quail Springs Road	200	< 50	< 50	< 50	47.2	0.0
Onaga Trail west of SR-247/Joshua Lane	5,200	< 50	< 50	69	61.4	0.5
Onaga Trail east of SR-247/Joshua Lane	3,100	< 50	< 50	< 50	59.1	0.0
Inca Trail north of SR-62	200	< 50	< 50	< 50	47.2	0.0
Inca Trail south of SR-62	1,100	< 50	< 50	< 50	54.6	0.0
Pioneertown Road/Deer Trail north of SR-62	2,300	< 50	< 50	< 50	57.8	0.0
Pioneertown Road/Deer Trail south of SR-62	1,900	< 50	< 50	< 50	57.0	0.0
Sage Avenue north of SR-62	3,600	< 50	< 50	54	59.8	0.0
Sage Avenue south of SR-62	9,000	< 50	< 50	99	63.7	0.0
SR-247/Joshua Lane north of Aberdeen Drive	7,200	< 50	< 50	85	62.8	0.5
SR-247/Joshua Lane between Aberdeen Drive and Buena Vista Drive	8,800	< 50	< 50	97	63.6	0.5
SR-247/Joshua Lane between Buena Vista Drive and SR-62	15,800	< 50	102	218	67.8	0.5

Table 4.11.H – 2007 with Project Scenario

Roadway Segment	ADT	Center -line to 70 CNEL (feet)	Center -line to 65 CNEL (feet)	Center -line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-247/Joshua Lane between SR-62 and Yucca Trail	11,900	< 50	85	180	66.6	0.2
SR-247/Joshua Lane between Yucca Trail and Onaga Trail	11,300	< 50	83	174	66.3	0.4
SR-247/Joshua Lane between and Onaga Trail and Palomar Avenue	6,100	< 50	< 50	76	62.0	0.1
SR-247/Joshua Lane east of Palomar Avenue	3,500	< 50	< 50	53	59.6	0.6
Avalon Avenue north of SR-62	1,200	< 50	< 50	< 50	55.0	0.0
Avalon Avenue between SR-62 and Project Driveway	7,600	< 50	< 50	88	63.0	3.4
Avalon Avenue between Project Driveway and Palisades Drive	5,900	< 50	< 50	75	61.9	2.5
Avalon Avenue between Palisades Drive and Yucca Trail	6,800	< 50	58	124	65.2	2.5
Palomar Avenue between Yucca Trail and SR-247/Joshua Lane	4,100	< 50	< 50	89	63.0	0.9
Yucca Mesa Road north of Buena Vista Drive	4,400	< 50	< 50	93	63.3	1.1
Yucca Mesa Road between Buena Vista Drive and SR-62	6,400	< 50	56	119	64.9	0.7
Contenta Road between SR-62 and Yucca Trail	1,900	< 50	< 50	53	59.7	0.0
Contenta Road south of Yucca Trail	200	< 50	< 50	< 50	49.9	0.0
Sunny Vista Road north of Alta Loma Road	800	< 50	< 50	< 50	55.9	0.0
Sunny Vista Road south of Alta Loma Road	1,100	< 50	< 50	< 50	57.3	0.0
Park Boulevard north of SR-62	700	< 50	< 50	< 50	55.3	0.0
Park Boulevard between SR-62 and Alta Loma Road	2,700	< 50	< 50	67	61.2	0.0
Quail Springs Road south of Alta Loma Drive	3,000	< 50	< 50	72	61.7	0.7

* Traffic noise within 50 feet of roadway centerline requires site-specific analysis.
Source: LSA Associates, Inc., August 2006

Table 4.11.I – 2030 without Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Aberdeen Drive east of SR-247/Joshua Lane	4,100	< 50*	< 50	59	60.3
Buena Vista Drive west of SR-247/Joshua Lane	6,300	< 50	< 50	78	62.2
Buena Vista Drive between SR-247/Joshua Lane and Yucca Mesa Road	7,600	< 50	< 50	88	63.0
SR-62 west of Inca Trail	30,300	74	156	335	70.6

Table 4.11.I – 2030 without Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-62 between Inca Trail and Pioneertown Road/Deer Trail	31,600	76	161	345	70.8
SR-62 between Pioneertown Road/Deer Trail and Sage Avenue	42,300	92	195	419	72.1
SR-62 between Sage Avenue and Joshua Lane/SR-247/Joshua Lane	42,700	92	196	421	72.1
SR-62 between Joshua Lane/SR-247/Joshua Lane and Balsa Avenue	34,000	80	169	362	71.1
SR-62 between Balsa Avenue and Avalon Avenue	35,200	82	173	370	71.3
SR-62 between Avalon Avenue and Project Access	31,300	76	160	343	70.8
SR-62 between Project Access and Project Driveway	34,500	81	170	365	71.2
SR-62 between Project Driveway and Yucca Mesa Road/Contenta Road	36,900	84	178	382	71.5
SR-62 between Yucca Mesa Road/Contenta Road and Park Boulevard	39,200	106	222	475	72.1
SR-62 east of Park Boulevard	42,200	111	233	498	72.4
Yucca Trail between Sage Avenue and Joshua Lane	14,500	< 50	63	136	65.8
Yucca Trail between Joshua Lane and Avalon Avenue/Palomar Avenue	17,700	< 50	72	155	66.7
Yucca Trail between Avalon Avenue/Palomar Avenue and Contenta Road	16,100	< 50	68	146	66.3
Yucca Trail/Alta Loma Drive between Contenta Road and Sunny Vista Road	14,300	< 50	63	135	65.7
Alta Loma Drive between Sunny Vista Road and Park Boulevard/Quail Springs Road	11,800	< 50	55	118	64.9
Alta Loma Drive east of Park Boulevard/Quail Springs Road	10,000	< 50	< 50	106	64.2
Onaga Trail west of SR-247/Joshua Lane	11,200	< 50	53	114	64.7
Onaga Trail east of SR-247/Joshua Lane	10,100	< 50	< 50	107	64.2
Inca Trail north of SR-62	5,500	< 50	< 50	71	61.6
Inca Trail south of SR-62	7,600	< 50	< 50	88	63.0
Pioneertown Road/Deer Trail north of SR-62	9,400	< 50	< 50	102	63.9
Pioneertown Road/Deer Trail south of SR-62	8,400	< 50	< 50	95	63.4
Sage Avenue north of SR-62	13,100	< 50	59	127	65.4
Sage Avenue south of SR-62	15,900	< 50	67	144	66.2
SR-247/Joshua Lane north of Aberdeen Drive	18,100	< 50	73	157	66.8
SR-247/Joshua Lane between Aberdeen Drive and Buena Vista Drive	18,500	< 50	74	160	66.9
SR-247/Joshua Lane between Buena Vista Drive and SR-62	28,000	71	149	318	70.3

Table 4.11.I – 2030 without Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
SR-247/Joshua Lane between SR-62 and Yucca Trail	20,000	58	119	254	68.8
SR-247/Joshua Lane between Yucca Trail and Onaga Trail	16,800	< 50	106	227	68.1
SR-247/Joshua Lane between and Onaga Trail and Palomar Avenue	14,300	< 50	63	135	65.7
SR-247/Joshua Lane east of Palomar Avenue	10,900	< 50	52	112	64.6
Avalon Avenue north of SR-62	4,900	< 50	< 50	66	61.1
Avalon Avenue between SR-62 and Project Driveway	9,900	< 50	< 50	105	64.1
Avalon Avenue between Project Driveway and Palisades Drive	9,200	< 50	< 50	100	63.8
Avalon Avenue between Palisades Drive and Yucca Trail	8,000	< 50	64	138	65.9
Palomar Avenue between Yucca Trail and SR-247/Joshua Lane	10,000	< 50	75	160	66.9
Yucca Mesa Road north of Buena Vista Drive	5,900	< 50	53	113	64.6
Yucca Mesa Road between Buena Vista Drive and SR-62	10,300	< 50	76	163	67.0
Contenta Road between SR-62 and Yucca Trail	7,000	< 50	59	126	65.3
Contenta Road south of Yucca Trail	4,600	< 50	< 50	96	63.5
Sunny Vista Road north of Alta Loma Road	3,000	< 50	< 50	72	61.7
Sunny Vista Road south of Alta Loma Road	5,200	< 50	< 50	104	64.0
Park Boulevard north of SR-62	4,700	< 50	< 50	97	63.6
Park Boulevard between SR-62 and Alta Loma Road	10,100	< 50	75	161	66.9
Quail Springs Road south of Alta Loma Drive	6,000	< 50	53	114	64.7

* Traffic noise within 50 feet of roadway centerline requires site-specific analysis.
Source: LSA Associates, Inc., August 2006

Table 4.11.J –2030 with Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
Aberdeen Drive east of SR-247/Joshua Lane	4,300	< 50*	< 50	61	60.5	0.2
Buena Vista Drive west of SR-247/Joshua Lane	6,300	< 50	< 50	78	62.2	0.0
Buena Vista Drive between SR-247/Joshua Lane and Yucca Mesa Road	7,900	< 50	< 50	91	63.2	0.2

Table 4.11.J –2030 with Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-62 west of Inca Trail	31,700	77	161	345	70.8	0.2
SR-62 between Inca Trail and Pioneertown Road/Deer Trail	33,100	79	166	356	71.0	0.2
SR-62 between Pioneertown Road/Deer Trail and Sage Avenue	44,000	94	200	430	72.2	0.1
SR-62 between Sage Avenue and Joshua Lane/SR-247/Joshua Lane	44,600	95	202	434	72.3	0.2
SR-62 between Joshua Lane/SR-247/Joshua Lane and Balsa Avenue	38,400	86	183	392	71.7	0.6
SR-62 between Balsa Avenue and Avalon Avenue	39,700	88	187	401	71.8	0.5
SR-62 between Avalon Avenue and Project Access	34,600	81	171	366	71.2	0.4
SR-62 between Project Access and Project Driveway	37,000	84	178	383	71.5	0.3
SR-62 between Project Driveway and Yucca Mesa Road/Contenta Road	39,400	88	186	399	71.8	0.3
SR-62 between Yucca Mesa Road/Contenta Road and Park Boulevard	40,700	109	227	487	72.2	0.1
SR-62 east of Park Boulevard	43,700	114	238	510	72.6	0.2
Yucca Trail between Sage Avenue and Joshua Lane	15,000	< 50	65	139	66.0	0.2
Yucca Trail between Joshua Lane and Avalon Avenue/Palomar Avenue	18,700	< 50	75	161	66.9	0.2
Yucca Trail between Avalon Avenue/Palomar Avenue and Contenta Road	17,100	< 50	71	152	66.5	0.2
Yucca Trail/Alta Loma Drive between Contenta Road and Sunny Vista Road	15,200	< 50	65	140	66.0	0.3
Alta Loma Drive between Sunny Vista Road and Park Boulevard/Quail Springs Road	12,400	< 50	57	122	65.1	0.2
Alta Loma Drive east of Park Boulevard/Quail Springs Road	10,000	< 50	< 50	106	64.2	0.0
Onaga Trail west of SR-247/Joshua Lane	11,700	< 50	55	118	64.9	0.2
Onaga Trail east of SR-247/Joshua Lane	10,100	< 50	< 50	107	64.2	0.0
Inca Trail north of SR-62	5,500	< 50	< 50	71	61.6	0.0
Inca Trail south of SR-62	7,600	< 50	< 50	88	63.0	0.0
Pioneertown Road/Deer Trail north of SR-62	9,400	< 50	< 50	102	63.9	0.0
Pioneertown Road/Deer Trail south of SR-62	8,400	< 50	< 50	95	63.4	0.0
Sage Avenue north of SR-62	13,100	< 50	59	127	65.4	0.0

Table 4.11.J –2030 with Project Scenario

Roadway Segment	ADT	Center-line to 70 CNEL (feet)	Center-line to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
Sage Avenue south of SR-62	15,900	< 50	67	144	66.2	0.0
SR-247/Joshua Lane north of Aberdeen Drive	18,900	< 50	75	162	67.0	0.2
SR-247/Joshua Lane between Aberdeen Drive and Buena Vista Drive	19,400	< 50	77	165	67.1	0.2
SR-247/Joshua Lane between Buena Vista Drive and SR-62	29,800	74	155	332	70.6	0.3
SR-247/Joshua Lane between SR-62 and Yucca Trail	20,500	58	121	259	68.9	0.1
SR-247/Joshua Lane between Yucca Trail and Onaga Trail	17,800	54	110	235	68.3	0.2
SR-247/Joshua Lane between and Onaga Trail and Palomar Avenue	14,500	< 50	63	136	65.8	0.1
SR-247/Joshua Lane east of Palomar Avenue	11,400	< 50	54	116	64.8	0.2
Avalon Avenue north of SR-62	4,900	< 50	< 50	66	61.1	0.0
Avalon Avenue between SR-62 and Project Driveway	13,900	< 50	62	132	65.6	1.5
Avalon Avenue between Project Driveway and Palisades Drive	11,900	< 50	56	119	64.9	1.1
Avalon Avenue between Palisades Drive and Yucca Trail	11,000	< 50	79	171	67.3	1.4
Palomar Avenue between Yucca Trail and SR-247/Joshua Lane	10,700	< 50	78	168	67.2	0.3
Yucca Mesa Road north of Buena Vista Drive	6,900	< 50	58	125	65.3	0.7
Yucca Mesa Road between Buena Vista Drive and SR-62	11,300	< 50	81	174	67.4	0.4
Contenta Road between SR-62 and Yucca Trail	7,000	< 50	59	126	65.3	0.0
Contenta Road south of Yucca Trail	4,600	< 50	< 50	96	63.5	0.0
Sunny Vista Road north of Alta Loma Road	3,000	< 50	< 50	72	61.7	0.0
Sunny Vista Road south of Alta Loma Road	5,200	< 50	< 50	104	64.0	0.0
Park Boulevard north of SR-62	4,700	< 50	< 50	97	63.6	0.0
Park Boulevard between SR-62 and Alta Loma Road	10,100	< 50	75	161	66.9	0.0
Quail Springs Road south of Alta Loma Drive	6,500	< 50	56	120	65.0	0.3

* Traffic noise within 50 feet of roadway centerline requires site-specific analysis.
Source: LSA Associates, Inc., August 2006

Tables 4.11.F through 4.11.J provide the traffic noise levels along roadways in the vicinity of the project site. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the locations where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix A of the noise study (Appendix L).

Table 4.11.H shows that there would be a noise level increase of more than 3 dBA under the 2007 with project scenario only along Avalon Avenue between SR-62 and the project driveway. However, there are no noise-sensitive uses that would be impacted by this increase, and the 70 dBA CNEL community noise exposure standard for residential uses would be confined within the right-of-way. Note that for portions of Avalon Avenue, the traffic volume with the project would increase over 300 percent. Table 4.11.J shows that, under the 2030 with project scenario, no active use area on site would be exposed to traffic noise exceeding the Town's 75 dBA CNEL community noise exposure standard for commercial uses. No mitigation measures are required.

Long-Term Operational Noise Impacts

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

During the long-term, or operational, phase of the supercenter, potential noise impacts would be created by on-site activities. These stationary sources of noise include noises associated with the auto service center, truck loading and unloading, truck movements on service driveways, parking lot activities, speakers at the drive-through fast-food restaurant, and other noise-generating activities. Such isolated peak noises are measured in dBA L_{max}, as the volume or frequency of such events is not critical and the noises are not an averaged calculation, such as the CNEL.

Auto Service Center. Noise sources from the auto service center include similar customer-generated noises as will be described subsequently plus more intense noise generators associated with auto services such as pneumatic drills, hydraulic lifts, and other equipment typically used in such operations. The auto service center is located at the southwest corner of the supercenter building (Wal-Mart Supercenter) and would project noise west across Avalon Avenue toward the existing homes.

The existing residences west of and across Avalon Avenue are located approximately 560 feet from the proposed auto service center. Based on the Noise Impact Analysis conducted for the project, peak noise levels associated with the auto service activities would range up to 80 dBA L_{max} at 50 feet. Noise attenuation from a point source would drop off at 6 dBA per doubling of the distance, resulting in a noise reduction of 21 dBA at 560 feet from the source. Therefore, the homes 560 feet from these activities would experience noise level up to 59 dBA L_{max} (80 dBA L_{max} - 21 dBA L_{max} = 59 dBA L_{max}). This range of maximum noise levels is lower than the Town's exterior noise standard of 75 dBA L_{max} during the day (7:00 a.m. to 10:00 p.m.) The range of maximum noise is also lower than the Town's exterior noise standard of 70 dBA L_{max} during the night (10:00 p.m. to 7:00 a.m.). Because, the proposed auto service center will not operate before 7:00 a.m. of after 10:00 p.m. potential nighttime noise impacts resulting from the operation of the auto service center would be eliminated. Assuming the worst-case scenario of this noise level continuing for an extended period, noise could last for as much as 15 minutes in any one hour and still be under the 60 dBA L_{25} threshold. However, it is not anticipated that this maximum noise level would last more than 15 minutes in any one hour as activities conducted within the auto service center are short in duration. Therefore, a less than significant noise impact would occur from the auto service center activity.

Truck Movements on Service Driveway. Based on typical noise measurements taken for commercial uses, pass-by of 12 loaded trucks at 50 feet, moving at 5 to 10 miles per hour (mph), generated an average of 73 dBA L_{eq}. Truck delivery to the proposed on-site commercial uses would have trucks traveling about 150 feet from the project's western boundary, or 300 feet from the nearest residences to the southwest. Slow-moving trucks, at 5 to 10 mph, would generate up to 75 dBA L_{max} when traveling and braking at 50 feet. With the effect of distance divergence (16 dBA), truck pass-by noise would be reduced to 59 dBA L_{max} or lower in the backyard of the nearest frontline residences to the southwest. This range of maximum noise levels is lower than the Town's exterior noise standards of 75 dBA L_{max} during the day (7:00 a.m. to 10:00 p.m.) and the 70 dBA L_{max} standard during the night (10:00 p.m. to 7:00 a.m.). Noise associated with trucks passing along the service driveway would not exceed the Town's noise standards at the nearest residential properties unless they occur cumulatively over 30 minutes in any hour during the daytime hours (between 7:00 a.m. and 10:00 p.m.) or cumulatively over 15 minutes during the nighttime hours (between 10:00 p.m. and 7:00 a.m.). It is not expected that such a scenario would occur for the proposed project. Residences to the north of the project site would not be exposed to noise from truck movements on the service drive exceeding 50 dBA L_{max} and would be masked by noise on SR-62 and Paxton Road.

Parking Lot Activities. The majority of the parking areas proposed on site are more than 700 feet from the nearest residences to the west, which would provide approximately 23 dBA in noise reduction when compared to the noise level measured at 50 feet from the source. In addition, proposed on-site buildings would provide shielding to the residences from most parking lot noise. Some employee parking areas are located closer to Avalon Avenue and would be approximately 300 feet from the residences to the southwest. At this distance, the noise would be reduced by 16 dBA compared with the noise level at 50 feet. As indicated in the Noise Impact Analysis conducted for the project, representative parking activities, such as employees or customers conversing and door slamming, would generate approximately 60 dBA L_{max} at 50 feet. This level of noise is much lower than that of the truck delivery and loading/unloading activities. With the noise attenuation effect from the proposed on-site building (varies depending on the location of the parking) and distance divergence (16 dBA or more), noise in the parking lot would be reduced to 44 dBA L_{max} or lower. This range of noise levels is comparable to or lower than traffic noise on Avalon Avenue. Parking lot noise is not anticipated to be a significant noise issue with respect to residences adjacent to the project site.

Other Noise-Generating Activities. The proposed project would have rooftop heating, ventilating, and air conditioning (HVAC) mechanical equipment, as well as garbage compactors on the ground floor. Although no final design is available at this time for the type and location of the rooftop mechanical units, based on average noise measurements used in the Noise Impact Analysis, rooftop HVAC units generate noise levels of approximately 62 dBA at 50 feet. The minimum distance between the residences to the southwest and a feasible rooftop equipment location is 200 feet, which would provide 12 dBA in noise attenuation by distance divergence when compared to the noise level measured at 50 feet. The edge of the building roof would provide a certain degree of noise reduction for the nearest residences to the southwest. Therefore, noise levels at the nearest residences to the west, attributable to the rooftop mechanical equipment, would be below 50 dBA. This range of noise levels is much lower than traffic noise on the Avalon Avenue and the loading/unloading and truck movement noise. No significant noise impacts are anticipated from the rooftop mechanical equipment.

Noise generated from the speakers at the drive-through fast-food restaurant would reach up to 55 dBA L_{max} at 50 feet. This level of noise would fall below the daytime and nighttime peak noise thresholds for the neighboring residential uses, resulting in a less than significant impact.

Noise associated with garbage compactors is approximately 70 dBA at six feet. It is assumed that two garbage compactors would be located at the loading docks on the west side of the proposed buildings (one at each loading dock). These compactors would be located approximately 600 feet from the nearest residences to the southwest. This distance provides approximately 40 dBA in noise attenuation when compared to the noise level measured at six feet. The noise attenuation provided by the distance divergence would reduce the noise associated with the garbage compactor to less than 30 dBA. No significant noise impacts from the garbage compactor would occur.

Interior Noise Levels

Threshold	Would the proposed project result in the 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?

As discussed previously under Long-Term Traffic-Related Noise Impacts, the project will have a less than significant impact on roadway noise levels, which are measured in dBA CNEL. Consequently, the project will have a less than significant impact associated with maintaining the Town's interior noise standard of 45 dBA CNEL at the residences located to the southwest and north of the project site.

Based on the data provided in the EPA's Protective Noise Levels (EPA 550/9-79-100, November 1979), standard homes in southern California provide at least 12 dBA of exterior to interior noise attenuation with windows open and 24 dBA with windows closed.

Therefore, homes would need to be exposed to peak exterior noise levels exceeding 99 dBA L_{max} (75 + 24 = 99 dBA) between 7:00 a.m. and 10 p.m. and 94 dBA L_{max} (70 + 24 = 99 dBA) between 10:00 p.m. and 7 a.m. to potentially have an interior noise level exceeding 75 dBA L_{max} and 70 dBA L_{max}, respectively for each time period, with windows closed. With windows open, homes would need to be exposed to exterior noise levels exceeding 87 dBA L_{max} (75 + 12 = 77 dBA) between 7:00 a.m. and 10 p.m. and 82 dBA L_{max} (70 + 12 = 82 dBA) between 10:00 p.m. and 7 a.m. to exceed the peak noise standards. Based on the above discussion, no homes to the west would be exposed to maximum noise from the project site that exceeds these levels.

Potentially Significant Impacts

The following impacts were determined to be potentially significant. In each of the following issues, a potential impact would occur and, therefore, mitigation would required.

Impact 4.11.1 Short-Term Construction Noise Impacts

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

Noise levels from grading and other construction activities for the proposed project may range up to 81 dBA L_{max} at the closest residences west of the project site for very limited times when construction occurs near the project's boundary. Construction-related noise impacts from the proposed project are potentially significant.

Short-term noise impacts would be associated with excavation, grading, and erecting of buildings on-site during construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today, but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise exposure potential causing intermittent noise annoyance (passing trucks at 50 feet would generate up to a maximum of 87 dBA L_{max}) when added to the existing background traffic volumes on adjacent roadways, construction traffic would contribute less than 1 dBA to the hourly (L_{eq}) or the daily (CNEL) noise levels.

The second type of short-term noise impact is related to noise generated during excavation, grading, and building erection on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.11.K lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor. Typical noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings.

Table 4.11.K – Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock Drills	83–99	96
Jack Hammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Dozers	77–90	85
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoe	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

Source: N*oise Control for Buildings and Manufacturing Plants*, Bolt, Beranek & Newman. 1987.

Construction of the proposed project is expected to require the use of earthmovers, bulldozers, and water and pickup trucks. This equipment would be used on the project site. Based on the information in Table 4.11.L, the maximum noise level generated by each earthmover on the proposed project site is assumed to be 88 dBA L_{max} at 50 feet from the earthmover. Each bulldozer would also generate 88 dBA L_{max} at 50 feet. The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from the active construction area.

The residences nearest to the project site are about 150 feet to the southwest of the project boundary. These residences may be subject to short-term, intermittent, maximum noise reaching 81 dBA L_{max} with the sound divergence over distance (90 – 9 = 81 dBA L_{max}), generated by construction activities on the project site. The residences to the north approximately 200 feet from the project boundary would potentially experience construction noise up to 79 dBA L_{max} with the sound divergence over distance (91 – 12 = 79 dBA L_{max}). Although this range of noise levels is similar to ambient noise from vehicular traffic in the project vicinity, construction of the proposed project would potentially result in relatively high noise levels and annoyance at the closest residences. This is considered to be a significant impact, requiring mitigation.

Mitigation Measures. The following measures were identified to ~~Adherence to the measures contained in Mitigation Measure 4.11.1A, would~~ reduce potential impacts related to short-term construction noise. ~~this issue to a less than significant level.~~

4.11.1A Construction activities are restricted within the Town to the hours of 7:00 a.m. to 10:00 p.m. Monday through Saturday ~~Sunday~~. The following measures would reduce short-term construction-related noise impacts resulting from the proposed project:

- During all project site excavation and grading on-site, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Level of Significance after Mitigation. With implementation of the identified mitigation measures, short-term construction-related noise impacts would remain significant and unavoidable.

Impact 4.11.2 Groundborne Vibration

Threshold	Would the proposed project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Groundborne vibration during construction activities would exceed the threshold of 75 VdB. Although this is a temporary impact which would occur only during the construction phase of the project, groundborne vibration impacts from the proposed project are potentially significant.

Vibration refers to groundborne noise and perceptible motion. Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernable but without the accompanying effects (e.g., shaking of a building). Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Building damage is not a factor for normal projects, with the occasional exception of blasting and pile driving during construction.

Typically, problems with groundborne vibration and noise are usually localized to areas within about 100 feet from the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 feet. Bulldozers and other heavy-tracked construction equipment generate approximately 92 VdB (vibration velocity in decibels) of groundborne vibration when measured at 50 feet, based on Transit Noise and Vibration Impact Assessment (FTA, April 1995).

This level of groundborne vibration exceeds the threshold of human perception, which is around 65 VdB. Based on the California Department of Transportation's *Transportation-Related Earthborne Vibration, Technical Advisory* (Rudy Hendricks, July 24, 1992), vibration level at 100 feet is approximately 6 VdB lower than the vibration level at 50 feet. Vibration at 200 feet from the source is more than 6 VdB lower than the vibration level at 100 feet, or more than 12 VdB lower than the vibration level at 50 feet. Every doubling of distance from 50 feet results in the reduction of the vibration level by 6 VdB; therefore, receptors at 100 and 200 feet from the construction activity may be exposed to groundborne vibration up to 86 and 80 VdB, respectively. Existing residences approximately 150 feet to the southwest of the project site would be exposed to groundborne vibration between 86 and 80 VdB and planned/proposed residences approximately 200 feet to the north would experience groundborne vibration from construction activity up to 80 VdB.

Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 decibels or more. This is an order of magnitude below the damage threshold for normal buildings. Because rubber tires and suspension systems of trucks and other on-road vehicles provide vibration isolation, it is unusual for on-road vehicles to cause groundborne noise or vibration problems. When on-road vehicles cause effects such as rattling of windows, the source is almost always airborne noise. Most problems with on-road vehicle-related vibration can be directly related to the physical condition of the particular roadway. While the proposed project would increase traffic volumes on local roadways, the condition of these roadways is a function of local maintenance. It is anticipated that revenues derived from the ongoing operation of the proposed on-site uses will be utilized by the Town for a variety municipal functions, including street maintenance. Although this range of groundborne vibration levels would result in potential annoyance at residences near the project site, they would not cause any damages to the buildings. Nevertheless, groundborne vibration would still exceed the threshold of 75 VdB. Although groundborne vibration during construction activities would be temporary, impacts from project-related groundborne vibration during construction would be significant and mitigation would be required.

Mitigation Measures. There are no mitigation measures that would reduce this impact to a less than significant level.

Level of Significance after Mitigation. This impact would remain significant and unavoidable due to the absence of any identified mitigation measure.

Impact 4.11.3 Loading/Unloading Operations

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

Noise levels from loading and unloading operations for the proposed project may exceed the noise standard during nighttime hours at the closest residences west of the project site for very limited times. Noise impacts resulting from loading/unloading operations of the proposed project are potentially significant.

Peak noises during loading/unloading activities would be generated from the truck diesel engines, exhaust systems, and brakes during low-speed gear shifting, braking activities, backing up toward the docks, dropping down the dock ramps, and while maneuvering away from the docks. These types of peak event noise sources are measured as a single event, so that the number of trucks involved in these activities over the course of an entire day is not necessary or included in the calculation. Table 4.11.L provides a typical delivery truck schedule for the proposed on-site uses.

Table 4.11.L – Delivery Truck Activity

	Deliveries per Week	Hours Idling per Delivery	No. of Hours per Day Deliveries Occur	No. of Days per Week that Deliveries Occur
Supercenter 2-axle delivery trucks	28	0.5	12	6
Supercenter semi-trailer and tanker trucks	25	0.0	12	6
Gas station two-axle delivery trucks	10	0.0	8	6
Fast-food restaurant two-axle delivery trucks	3	0.0	8	6
Total	66	–	–	–

Source: LSA Associates, Inc., 2006.

Typical noise readings from loading and unloading activities for commercial projects show a noise level of 75 dBA L_{max} at 50 feet. The residences to the southwest of the project site are more than 600 feet from the nearest loading dock. Attenuation provided by the distance divergence of 600 feet from the loading dock is 22 dBA when compared to the noise level measured at 50 feet; therefore, the loading/unloading noise would be reduced to below 53 dBA L_{max} at the nearest residences to the southwest of the project site. This range of maximum noise levels is lower than the Town's exterior noise standards of 75 dBA L_{max} during the day (7:00 a.m. to 10:00 p.m.) and 70 dBA L_{max} during the night (10:00 p.m. to 7:00 a.m.).

Cumulative maximum noise levels associated with loading and unloading activities lasting more than 30 minutes in any hour during nighttime hours (10:00 p.m. to 7:00 a.m.) would potentially exceed the Town's Noise Ordinance standards (in terms of L_{50}) at the nearest residences to the southwest of the project site. It is anticipated that loading and unloading activities by delivery trucks would occur once or twice per night on regular days and up to four times a night during holidays. For delivery trucks with refrigeration units, both engines and the refrigeration unit would be turned off once the truck is in position in the loading dock. It is not expected that the loading/unloading activity would generate the maximum noise level for more than 30 minutes in any hour during the delivery process. Adherence to Mitigation Measure 4.11.3A would ensure that no significant noise impacts resulting from nighttime truck deliveries would occur.

Additionally, traffic noise along Avalon Avenue and the future Palisade Drive (shown in Table 4.11.J to be at least 64.6 dBA CNEL at 50 feet) would mask any loading/unloading activity noise that occurs. Residences to the north of the project site would not be exposed to loading/unloading activity noise because these activities would be blocked by the proposed on-site buildings. In addition, traffic noise from SR-62 and Paxton Road would mask any noise remaining from the loading/unloading activities on the project site.

Noise associated with backup beepers may result in short but high noise levels over a few seconds, generally less than 91 dBA L_{max} at 50 feet. With the effect of distance divergence (16 dBA), backup beeper noise would be reduced to less than 75 dBA L_{max} in the backyard of the nearest frontline residences to the southwest. This range of maximum noise level is lower than the Town's exterior noise standard of 75 dBA L_{max} during the day (7:00 a.m. to 10:00 p.m.), but higher than the 70 dBA L_{max} nighttime standard (10:00 p.m. to 7:00 a.m.). Adherence to Mitigation Measure 4.11.3B would ensure that noise associated with backup beepers would not result in a significant impact.

Mitigation Measures. Adherence to the measures contained in Mitigation Measures 4.11.3A and 4.11.3B would reduce potential impacts related to this issue to a less than significant level.

4.11.3A Nighttime operation of delivery trucks shall be limited to less than 30 minutes each.

4.11.3B Nighttime operation of delivery truck beepers shall be prohibited for all on-site vehicles.

Level of Significance after Mitigation. With implementation of the identified mitigation measures, noise related to loading and unloading operations during nighttime hours would be reduced to a less than significant level.

4.11.5 Cumulative Impacts

Cumulative projects are shown in Chapter 2.0, Table 2.A and Figure 2.1. Cumulative noise impacts associated with roadway noise have been addressed based on the year 2030 traffic volumes. The increases over existing traffic volumes are attributable to cumulative development projects in the project vicinity and region. As indicated, the future roadway noise assessment concludes that there would be no significant roadway noise impacts associated with cumulative and cumulative plus project conditions.

The noise analysis contained in this section provides an assessment of short-term construction-related impacts. The Home Depot Center project (Cumulative project Y5, Table 2.A) is located adjacent and to the east of the proposed project site. This commercial development would include construction of a large home improvement store and smaller retail buildings, resulting in similar short term construction noise impacts as those identified for the proposed project. Although it is not possible to predict if this or other contiguous properties may be constructed at the same time as the proposed project and create cumulative noise impacts that would be greater than if developed at separate times, implementation of Mitigation Measure 4.11.1A would render such cumulative noise impacts less than significant. The noise analysis contained in this section also provides an assessment of on-site operational noise level impacts onto adjacent sensitive uses, both existing and future. On-site operational noises are individual noise occurrences and are not additive in nature; therefore, projects located adjacent or nearby would not, in combination with the proposed project, produce significant noise impacts to sensitive land uses from on-site operational noise with the implementation of the identified mitigation measures. Thus, no significant cumulative noise impacts would occur after implementation of the proposed mitigation measures.

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