

5.8 NOISE

This section of the DSSEIR compares the potential noise impacts of the 2012 Modified Project to those of the 2011 Approved Project. It reviews the fundamentals of sound; reviews federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing off-site receptor locations; evaluates potential noise impacts associated with the 2012 Modified Project as compared to the 2011 Approved Project; and recommends additional mitigation measures, where necessary, to reduce noise impacts of the 2012 Modified Project. This evaluation uses procedures and methodologies as specified by the California Department of Transportation (“Caltrans”) and the Federal Highway Administration (“FHWA”). This section is based, in part, on the following technical studies:

- *Heritage Fields Project 2012 General Plan Amendment / Zone Change Noise Impact Analysis*, Urban Crossroads, June 14, 2012 (the "Noise Study").
- *Heritage Fields Project 2012 General Plan Amendment / Zone Change Traffic Impact Analysis*, Urban Crossroads, June 21, 2012 (the "Traffic Study").

These studies are included as Appendix G and I to this DSSEIR, respectively.

5.8.1 Environmental Setting

Terminology/Noise Descriptors

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.”

The following are brief definitions of terminology used in this section:

- Sound. A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- Noise. Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- Decibel (“dB”). A unitless measure of sound on a logarithmic scale.
- A-Weighted Decibel (“dBA”). An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- Equivalent Continuous Noise Level (“ L_{eq} ”). The mean of the noise level averaged over the measurement period, regarded as an average level.
- Day-Night Level (“ L_{dn} ”). The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

5. Environmental Analysis

NOISE

- Community Noise Equivalent Level (“CNEL”). The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the levels occurring during the period from 7:00 PM to 10:00 PM and 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

Characteristics of Sound

When an object vibrates, it radiates part of its energy as acoustical pressure in the form of a sound wave. Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The normal range of human hearing extends from approximately 0 dBA to 140 dBA.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Because of the physical characteristics of noise transmission and of noise perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 5.8-1 presents the subjective effect of changes in sound pressure levels.

Table 5.8-1
Decibel Changes, Loudness and Energy Loss

Sound Level Change	Relative Loudness	Acoustic Energy Loss
0 dBA	Reference	0%
-3 dBA	Barely Perceptible Change	50%
-5 dBA	Readily Perceptible Change	67%
-10 dBA	Half as Loud	90%
-20 dBA	1/4 as Loud	99%
-30 dBA	1/8 as Loud	99.9%

Source: *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch, June 1995.

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. This phenomenon is known as spreading loss. Generally, sound levels from a point source will decrease by 6.0 dBA for each doubling of distance. Sound levels for a highway line source vary differently with distance because sound pressure waves propagate along the line and overlap at the point of measurement. A closely spaced, continuous line of vehicles along a roadway becomes a line source and produces a 3.0 dBA decrease in sound level for each doubling of distance. However, experimental evidence has shown that where sound from a highway propagates close to "soft" ground (e.g., plowed farmland, grass, crops, etc.), a more suitable drop-off rate to use is not 3.0 dBA but rather 4.5 dBA per distance doubling (FHWA 2010).

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level during that period can be obtained. The L_{eq} is the most common parameter associated with such measurements. The L_{eq} metric is a single-number noise descriptor that represents the average sound level over a given period of time. For example, the L_{50} noise level is the level that is exceeded 50 percent of the

5. Environmental Analysis

NOISE

time. This level is also the level that is exceeded 30 minutes in an hour. Similarly, the L_{02} , L_{08} and L_{25} values are the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet-time noise levels in a 24-hour noise descriptor called the CNEL or L_{dn} .

Effects of Noise Exposure

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. Physical damage to human hearing can occur with prolonged exposure to noise levels higher than 85 dBA. High ambient or background noise levels are widespread and generally more concentrated in urban areas than in less developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Table 5.8-2 shows the typical noise levels emitted by common noise sources.

Table 5.8-2
Typical Noise Levels and Their Subjective Loudness and Effects

Common Outdoor Activities	Common Indoor Activities	A-Weighted Noise Level (dBA)	Subjective Loudness	Effects of Noise	
Threshold of Pain		140	Intolerable or deafening	Hearing Loss	
Near Jet Engine		130			
		120			
Jet Flyover at 1,000 feet	Rock Band	110			
Loud Auto Horn		100	Very Noisy		Speech Interference
Gas Lawn Mower at three feet		90			
Diesel Truck at 50 feet at 50 mph	Food Blender at 3 feet	80			
Noisy Urban Area, Daytime	Vacuum Cleaner at 10 feet	70	Loud	Sleep Disturbance	
Heavy Traffic at 300 feet	Normal speech at 3 feet	60			
Quiet Urban Daytime	Large Business Office	50	Moderate		No Effect
Quiet Urban Nighttime	Theater, Large Conference Room (background)	40			
Quiet Suburban Nighttime	Library	30	Faint		
Quiet Rural Nighttime	Bedroom at Night, Concert Hall (background)	20			
	Broadcast/Recording Studio	10	Very Faint	No Effect	
Lowest Threshold of Human Hearing	Lowest Threshold of Human Hearing	0			

Source: Noise Technical Supplement by Caltrans, October 1998.

5. Environmental Analysis

NOISE

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is described as the velocity and the rate of change of the speed is described as the acceleration. Each of these descriptors can be used to correlate vibration to building damage, and acceptable equipment vibration levels.

During construction of a development project, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may experience annoyance due to noise generated from vibration of a structure or items within a structure. This type of vibration is best measured in velocity and acceleration.

The three main wave types of concern in the propagation of groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation (known as retrograde elliptical).
- Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.
- Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

The peak particle velocity ("PPV") or the root mean square ("RMS") velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak of the vibration signal and RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage.

The units for PPV velocity is normally inches per second (in/sec). Often, vibration is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV and RMS velocity levels are in in/sec and all vibration levels are in dB relative to one microinch per second (abbreviated as VdB). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Human-made vibration problems are, therefore, usually confined to short distances (500 feet or less) from the source.

Construction operations generally include a wide range of activities that can generate groundborne vibration. In general, blasting and demolition of structures generate the highest vibrations. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at distances within 200 feet of the vibration sources. Heavy trucks can also generate groundborne

5. Environmental Analysis

NOISE

vibrations, which vary depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, etc., all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration of normal traffic on streets and freeways with smooth pavement conditions. Trains generate substantial quantities of vibration due to their engines, steel wheels, and heavy loads.

Regulatory Setting

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. The City regulates noise through the City of Irvine Municipal Code, Chapter 2, Noise (Sections 6-8-201 through 6-8-209), also known as the City's Noise Ordinance, discussed below. Potential noise impacts were evaluated based on the City of Irvine Municipal Code and General Plan, FHWA methodology, and Federal Transit Administration ("FTA") methodology to determine whether a significant adverse noise impact would result from the construction and operation of the 2012 Modified Project as compared to the 2011 Approved Project.

State of California Noise Requirements

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise insulation standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to "limit the exposure of the community to excessive noise levels."

In addition, CEQA requires that all known environmental effects of a project be analyzed, including environmental noise impacts. Under CEQA, a project has a significant impact if the project exposes people to noise levels in excess of thresholds, which can include standards established in the local general plan or noise ordinance.

State of California Building Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

5. Environmental Analysis

NOISE

City of Irvine

Land Use Compatibility Criteria

The noise standards specified in the Noise Element of the City of Irvine General Plan are a guideline to evaluate the acceptability of the noise levels generated by traffic flow. These standards are used for assessment of long-term traffic-related noise impacts on land uses. The City uses the state's land use compatibility standards shown below in Table 5.8-3 to determine the compatibility of a proposed land use based on the exterior noise environment.

Based on these standards, the City has developed policies to ensure land use compatibility when placing new land uses. The City uses an exterior noise level of 65 dBA CNEL as the critical criterion for assessing the compatibility of residential land uses with noise sources. The City requires that, for new residential land uses, the noise levels in the exterior areas considered by the City to be noise sensitive not exceed 65 dBA CNEL. In addition, the City requires that commercial developments not exceed an indoor noise level of 55 dBA CNEL and that residential developments not exceed an indoor noise level of 45 dBA CNEL with windows closed, which is based on the California Building Code.

Table 5.8-3
State of California Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dBA			
	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+
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+	–

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

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.

Transportation-Related Noise Standards

To control transportation-related noise, the Noise Element of the City of Irvine General Plan establishes guidelines, listed in Table 5.8-4, below, for acceptable community noise levels. The City of Irvine General Plan provides specific noise level standards for all land use categories that are used to regulate traffic-related noise level impacts (from noise sources such as arterial roads, freeways, airport and railroads). For

5. Environmental Analysis

NOISE

noise-sensitive uses that contain habitable dwellings, the Noise Element establishes both exterior and interior noise level standards.

Table 5.8-4
City of Irvine Interior and Exterior Noise Standards

Land Use Categories		Energy Average (dBA CNEL)	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single family Multi-Family	45 ³ / 55 ⁴	65 ⁷
	Mobile Home	–	65 ⁵
Commercial/Industrial	Hotel, motel, transient lodging	45	65 ⁶
	Commercial, retail, bank, restaurant	55	–
	Office building, professional office, research & development	50	–
	Amphitheater, concert hall, auditorium, meeting hall	45	–
	Gymnasium (Multipurpose)	50	–
	Health Clubs	55	–
	Manufacturing, warehousing, wholesale, utilities	65	–
Institutional	Hospital, school classroom	45	–
	Church, library	45	65
Open Space	Parks	45	–

Source: Table F-1 of the City of Irvine General Plan Noise Element.

Interpretation:

¹ Interior environment excludes bathrooms, toilets, closets and corridors.

² Limited to private yard of single family homes, multifamily private patio or balcony served by a means of exit from inside, mobile home park, hospital patio, park's picnic area, school's playground, and hotel and motel recreation areas.

³ Noise requirement with closed windows. Mechanical ventilation system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of the Uniform Building Code.

⁴ Noise level with open windows, if they are used to meet natural ventilation requirement.

⁵ Exterior noise level such that interior noise level will not exceed 45 dB CNEL.

⁶ Except those areas affected by aircraft noise.

⁷ Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

For noise-sensitive residential uses, the Noise Element requires that exterior noise levels not exceed 65 dBA CNEL for outdoor living areas and that interior noise levels not exceed 45 dBA CNEL. Noise-sensitive exterior uses are limited to the private yards of single-family homes, multi-family private patios or balconies served by a means of exit from inside, mobile home parks, hospital patios, park picnic areas, school playgrounds, and hotel and motel recreation areas. Multi-family developments with balconies that do not meet the 65 dBA CNEL exterior noise level standard are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

Nontransportation/Stationary Source Noise Standards

The City's Noise Ordinance (Irvine Municipal Code, Title 6 [Public Works], Division 8 [Pollution], Chapter 2 [Noise]) (adopted in 1975 and revised in February 2005) establishes the maximum permissible noise level from a stationary source that may intrude into adjoining property. Section 6-8-204 (General Provision) of the City's Noise Ordinance establishes noise level standards for various land use categories

5. Environmental Analysis

NOISE

affected by stationary noise sources. For residential properties, the exterior noise level shall not exceed 55 dBA during daytime hours (7:00 AM to 10:00 PM) and shall not exceed 50 dBA during the nighttime hours (10:00 PM to 7:00 AM) for more than 30 minutes in any hour. For events with shorter duration, these noise levels are adjusted upwards accordingly, as shown in Table 5.8-5.

Table 5.8-5
City of Irvine Exterior Noise Standards by Noise Zone

Noise Zone	Time Interval	Noise Standard (L_{eq})				
		L_{50}	L_{25}	L_8	L_2	L_{max}
Zone 1: hospitals, libraries, churches, schools, and residential properties	7:00 AM to 10:00 PM	55	60	65	70	75
	10:00 PM to 7:00 AM	50	55	60	65	70
Zone 2: professional office and public institutional	Anytime	55	60	65	70	75
Zone 3: commercial, excluding professional office	Anytime	60	65	70	75	80
Zone 4: industrial	Anytime	70	75	80	85	90

Source: City of Irvine, Municipal Code, Title 6, Division 8, Chapter 2, Noise.

Noise standards shall be reduced by five dB for impact, or predominant tone noise or for noises consisting of speech or music. In the event that the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.

Maintenance of property may exceed the noise standards, so long as maintenance activities that exceed the noise limits in Table 5.8-5 are restricted to the hours of 7:00 AM through 7:00 PM Monday through Friday or 9:00 AM through 6:00 PM Saturdays.¹ In addition, the City further restricts the maximum noise levels of leaf blowers and hours of use to 8:00 AM through 5:00 PM Monday through Friday and 9:00 AM through 5:00 PM on Saturdays.²

Commercial Deliveries/Pickups

Commercial deliveries or pickups for commercial properties that share a property line with any residential property are required to limit the hours of delivery/pickup service to 7:00 AM through 10:00 PM daily, as outlined in the City's Noise Ordinance.³

Construction Noise Standards

The City's Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. Section 6-8-205.A (Special Provisions) of the Municipal Code states that construction activities and agricultural operations may occur between the hours of 7:00 AM and 7:00 PM Monday through Friday, and 9:00 AM to 6:00 PM on Saturdays. No construction shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or authorized representative. Trucks, vehicles, and equipment that are making or involved with deliveries, loading, or transfer of materials, equipment service, or maintenance of any devices or appurtenances for or within any construction project in the City are also subject to these prohibitions.

¹ *Id.* Section 6-8-205B.

² *Id.*, Section 6-8-205C.

³ *Id.* Section 6-8-205A.

Noise Standard Exemptions

The City's Noise Ordinance also determines what specific activities are exempt from the noise provisions. Section 6-8-205.D of the Municipal Code states that activities lawfully conducted on public parks, public playgrounds, and public or private school grounds are exempt from the Noise Ordinance's provisions.

5.8.2 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the City has determined that a project would normally have a significant effect on the environment if the project would result in:

- N-1 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.
- N-2 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- N-3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- N-4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- N-5 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, expose people residing or working in the project area to excessive noise levels.
- N-6 For a project within the vicinity of a private airstrip, expose people residing or working the project area to excessive noise levels.

Chapter 8, *Impacts Found Not to Be Significant*, substantiates the City's determination in the Initial Study for the 2012 Modified Project (Appendix A to this DSSEIR), that the following impacts would not be significant for the 2012 Modified Project, as compared to the 2011 Approved Project: N-2, N-5 and N-6. The City determined that those impacts were sufficiently analyzed in the 2011 Certified EIR and that implementation of the changes proposed by the 2012 Modified Project would not change the conclusions of the 2011 Certified EIR with respect to those impacts.

Therefore, Impacts N-2, N-5 and N-6 will not be addressed further in this section.

City of Irvine Thresholds

Noise Compatibility

The noise standards specified in the City's Noise Element are used to evaluate the acceptability of the noise levels under the thresholds stated above. Based on the noise compatibility criteria, the City has developed policies and guidelines to ensure land use compatibility when placing new land uses. The City requires that the exterior areas for new residential land uses not exceed 65 dBA CNEL. The City also requires that new commercial developments achieve an indoor impact noise standard of 55 dBA CNEL, and that new residential developments achieve an indoor impact noise standard of 45 dBA CNEL with windows closed, which is based on the California Building Code.

5. Environmental Analysis

NOISE

Stationary Source Noise

The City's Noise Ordinance establishes the maximum permissible noise level that may intrude into an adjoining property or dwelling unit (see Table 5.8-5, above).

Substantial Increase in Traffic Noise Levels

The traffic noise thresholds used by the City are based on human tolerance to noise and are widely used for assessing traffic noise impacts. In general, people tend to compare intruding noise to the existing background noise. If the new noise is readily identifiable or considerably louder than the background noise level, it has the potential to be objectionable or annoying (Caltrans 2009). Consequently, the noise threshold for an increase in traffic noise levels is based on the potential for traffic noise to become considerably louder than the ambient noise level. In general, noise levels must increase by 10 dBA in order to double ambient noise levels. An increase of 5 dBA is readily perceptible to the public and a 3 dBA increase is barely perceivable to the average healthy human ear (Caltrans 2009).

Consistent with the noise analysis in the 2003 OCGP EIR, the Environmental Noise Assessment prepared for the 2011 Certified EIR identified a traffic noise screening analysis threshold of 1.5 dBA for all project-related traffic noise level increases where the resulting noise levels would be in excess of 65 dBA. Therefore, the 2011 Certified EIR required further analysis if any project-related traffic noise level increased more than 1.5 dBA within residential areas (2011 SEIR, Section 5-7, *Noise*, p. 5.7-29). Although changes in noise levels of 3 dBA are considered "barely perceptible," the 2011 Certified EIR utilized this 1.5 dBA noise level screening threshold to be conservative. For consistency, the 1.5 dBA screening threshold was also used in the noise technical report prepared by Urban Crossroads for the 2012 Modified Project (see Appendix G of this DSSEIR) that has been used for the analysis in this section.

5.8.3 The 2011 Approved Project

The 2011 Approved Project includes 4,894 residential units, approximately 6,585,000 square feet of non-residential uses and associated infrastructure within the Approved Project Site. Of the non-residential uses, 5,312,564 square feet are located within the Heritage Fields Development Districts and the balance of 1,273,030 square feet within the Great Park, County Parcels and other areas.

Operational Mobile-Source Noise

The 2011 Certified EIR concluded that no increases of 1.5 dBA or greater were projected to occur with implementation of the 2011 Approved Project and, as a result, no project or cumulative noise impacts associated with any of the roadway segments analyzed would occur.

Operational Stationary Source Noise

Project-related sources of stationary noise would include activities associated with commercial and retail uses, including parking lots, mechanical equipment, and loading/unloading activities, and activities related to residential uses, including air conditioners, yard care equipment, and outdoor activities. However, the 2011 Certified EIR concluded that no significant impacts would occur, as stationary source noise is regulated by the City through the City's Municipal Code to ensure that they are controlled to acceptable levels. Consequently, the 2011 Certified EIR concluded that the 2011 Approved Project would not result in stationary source project-level or cumulative noise impacts. Construction Noise and Vibration

As discussed in the 2011 Certified EIR, to minimize the potential construction noise impacts associated with the 2011 Approved Project and to ensure that the greatest distance between noise sources and sensitive receptors during construction activities, the project applicant or its successor will be required to implement PPPs 8-1 and 8-3 and PDF 8-1 that were set forth in the 2011 SEIR. Future projects within the Approved Project Site and other off-site projects within the vicinity of the Approved Project Site will be required to comply with the City noise regulations or those of other adjacent jurisdictions, which reduce potential impacts to a less than significant level. Therefore, 2011 Certified EIR concluded that construction-related noise impacts would be controlled within the areas close to each construction site and would therefore be unlikely to combine with noise generated from other construction sites. The 2011 Certified EIR concluded that with implementation of the existing regulations, PPPs, PDFs and mitigation measures, potential noise impacts associated with 2011 Approved Project would be reduced to a level that is less than significant.

5.8.4 Environmental Impacts of the 2012 Modified Project

Methodology

The following section outlines the methods and procedures used to model and analyze the future off-site noise environment and potential impacts of the 2012 Modified Project.

FHWA Traffic Noise Prediction Model

The roadway noise impacts from vehicular traffic were projected using a computer program that replicates the FHWA Traffic Noise Prediction Model- FHWA-RD-77-108 ("FHWA Model"). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level ("REMEL"). Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial); the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway); the total average daily traffic ("ADT"); the travel speed; the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume; the roadway grade; the angle of view (e.g., whether the roadway view is blocked); the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping); and the percentage of total ADT that flows each hour throughout a 24-hour period.

Table 5.8-6 presents the FHWA Traffic Noise Prediction Model roadway parameters used in the noise analysis of the 2012 Modified Project. Soft site conditions were used to develop the noise level contour boundaries. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.

Table 5.8-7 presents the hourly traffic flow distributions (vehicle mixes) used for the noise analysis of the 2012 Modified Project. The vehicle mixes provide the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Traffic Noise Prediction Model based on roadway types. The City roadway mix is based on the typical vehicle mix data published on December 14, 1993, by the County of Orange Land Use/Noise Compatibility Manual.

5. Environmental Analysis

NOISE

Table 5.8-6
Roadway Parameters

<i>Location</i>	<i>Roadway Classification</i>	<i>Number of Lanes</i>	<i>Right of Way (Feet)</i>	<i>Vehicle Speed (MPH)</i>
Irvine ¹	Local Collector	2	56	35
	Secondary Arterial	4	114	50
	Primary Highway	4	116	55
	Major Highway (6 lanes)	6	140	60
	Major Highway (8 lanes)	8	154	65
Other ²	Collector	2	66	40
	Secondary	4	80	45
	Primary Arterial	4	100	50
	Major Arterial	6	120	55
	Principal	8	140	60

Source: Noise Study prepared by Urban Crossroads, Inc., June 2012 (see Appendix G of this DSSEIR).

Notes: MPH = miles per hour

¹ Road classifications and design speeds based on City Standard Plans dated March 19, 2009.

² The other jurisdictions include Aliso Viejo, Laguna Hills, Laguna Woods, Lake Forest, Mission Viejo, Orange, Orange County, and Tustin.

Table 5.8-7
Hourly Traffic Flow Distribution¹

<i>Motor Vehicle Type</i>	<i>Daytime (7 AM to 7 PM)</i>	<i>Evening (7 PM to 10 PM)</i>	<i>Nighttime (10 PM to 7 AM)</i>	<i>Total % Traffic Flow</i>
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

Source: Noise Study prepared by Urban Crossroads, Inc., May 2012 (see Appendix G of this DSSEIR).

¹ Hourly traffic flow distribution data published by the County of Orange Land Use/Noise Compatibility Manual, December 1993.

Off-Site Traffic Noise Prediction Model Inputs

The City's General Plan Buildout Post-2030 average daily traffic volumes used for the off-site traffic-noise prediction model, as shown in Table 5.8-8, were provided by the Traffic Impact Analysis prepared by Urban Crossroads, Inc. for the 2012 Modified Project (see Appendix I of this DSSEIR, Table 6-2). Table 5.8-8 below provides the average daily traffic volumes used in the noise analysis for the 2011 Approved Project, and compares that baseline scenario to the 2012 Modified Project. As described in Chapter 3, *Project Description*, of this DSSEIR, 2012 Modified Project Option 1 includes Community Commercial and Multi-Use north of Trabuco Road with Residential south of Trabuco Road in District 1 South. The 2012 Modified Project Option 2, will include Residential north of Trabuco Road, with Community Commercial, Multi-Use, and Residential south of Trabuco Road in District 1 South.

5. Environmental Analysis

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
1. Ada	s/o Barranca Pkwy.	Primary Highway Irvine	Irvine	2.2	2.8	2.8
2. Alicia Pkwy.	n/o Trabuco Rd.	Major Arterial	Mission Viejo	38.7	38.8	38.8
3. Alicia Pkwy.	s/o Trabuco Rd.	Major Arterial	Mission Viejo	42.8	43.0	43.0
4. Alicia Pkwy.	s/o Jeronimo Rd.	Major Arterial	Mission Viejo	59.3	59.7	59.7
5. Alicia Pkwy.	n/o Muirlands Bl.	Major Arterial	Mission Viejo	59.8	60.1	60.1
6. Alicia Pkwy.	b/w I-5 NB Ramps and Muirlands Bl.	Major Arterial	Mission Viejo	65.8	66.0	66.0
7. Alicia Pkwy.	s/o I-5 SB Ramps	Major Arterial	Laguna Hills	53.3	53.3	53.3
8. Alicia Pkwy.	s/o Paseo de Valencia	Major Arterial	Laguna Hills	46.0	45.9	45.8
9. Alicia Pkwy.	s/o Moulton Pkwy.	Major Arterial	Laguna Hills	44.6	44.5	44.5
10. Aliso Creek Rd.	e/o El Toro Rd.	Primary Arterial	Aliso Viejo	18.5	18.5	18.5
11. Alton Pkwy.	w/o Culver Dr.	Major Highway Irvine	Irvine	26.9	27.2	27.2
12. Alton Pkwy.	e/o Culver Dr.	Primary Highway Irvine	Irvine	28.9	29.3	29.3
13. Alton Pkwy.	e/o W. Yale Loop	Primary Highway Irvine	Irvine	27.9	28.2	28.2
14. Alton Pkwy.	e/o Lake Rd.	Primary Highway Irvine	Irvine	26.2	26.4	26.4
15. Alton Pkwy.	e/o Creek Rd.	Primary Highway Irvine	Irvine	25.3	25.4	25.4
16. Alton Pkwy.	w/o Jeffrey Rd.	Primary Highway Irvine	Irvine	30.2	30.3	30.3
17. Alton Pkwy.	b/w Jeffrey Rd. and Royal Oak	Primary Highway Irvine	Irvine	23.6	23.7	23.7
18. Alton Pkwy.	b/w Royal Oak and Valley Oak	Primary Highway Irvine	Irvine	21.1	21.2	21.1
19. Alton Pkwy.	w/o Sand Canyon Av.	Major Highway Irvine	Irvine	21.0	21.1	21.0
20. Alton Pkwy.	e/o Sand Canyon. Av.	Major Highway Irvine	Irvine	31.9	32.0	32.0

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
21. Alton Pkwy.	e/o Laguna Canyon Rd.	Primary Highway Irvine	Irvine	19.1	19.3	19.3
22. Alton Pkwy.	b/w Pacifica and Banting	Primary Highway Irvine	Irvine	20.1	20.4	20.4
23. Alton Pkwy.	w/o Meridian	Primary Highway Irvine	Irvine	17.7	17.8	17.8
24. Alton Pkwy.	b/w Meridian and ICD	Major Highway Irvine	Irvine	18.0	17.9	17.9
25. Alton Pkwy.	b/w Enterprise and Gateway Bl.	Major Highway Irvine	Irvine	37.2	37.5	37.4
26. Alton Pkwy.	b/w Enterprise and I-5 NB Ramps	Major Highway Irvine	Irvine	51.7	52.0	52.0
27. Alton Pkwy.	b/w I-5 NB Ramps and Technology Dr. W	Major Highway Irvine	Irvine	53.5	53.9	53.9
28. Alton Pkwy.	b/w Technology Dr. W and Ada	Major Highway Irvine	Irvine	39.8	40.7	40.7
29. Alton Pkwy.	e/o Ada	Major Highway Irvine	Irvine	35.3	35.5	35.5
30. Alton Pkwy.	w/o Marine Wy.	Major Highway Irvine	Irvine	36.7	37.3	37.4
31. Alton Pkwy.	e/o Technology	Major Highway Irvine	Irvine	36.9	37.3	37.4
32. Alton Pkwy.	s/o Barranca Pkwy./Muirlands Bl.	Major Highway Irvine	Irvine	35.9	37.3	37.3
33. Alton Pkwy.	n/o Barranca Pkwy./Muirlands Bl.	Major Highway Irvine	Irvine	42.7	41.9	42.0
34. Alton Pkwy.	s/o Jeronimo Rd.	Major Highway Irvine	Irvine	42.7	41.9	42.0
35. Alton Pkwy.	n/o Jeronimo Rd.	Major Highway Irvine	Irvine	39.0	38.2	38.2
36. Alton Pkwy.	s/o Toledo Wy.	Major Highway Irvine	Irvine	31.5	30.7	30.8
37. Alton Pkwy.	n/o Toledo Wy.	Major Highway Irvine	Irvine	31.4	30.1	30.1
38. Alton Pkwy.	s/o Irvine Bl. / Trabuco Rd.	Major Highway Irvine	Irvine	33.1	33.4	33.4
39. Alton Pkwy.	n/o Irvine Bl.	Major Highway Irvine	Irvine	40.0	40.9	40.9

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
40. Alton Pkwy.	n/o Commercentre	Major Arterial	Lake Forest	53.0	53.2	53.2
41. Alton Pkwy.	s/o SR-241 Ramps	Primary Arterial	Lake Forest	31.0	30.9	30.9
42. Alton Pkwy.	n/o SR-241 Ramps	Major Arterial	Lake Forest	28.0	28.1	28.0
43. Avenida Carlota	w/o Ridge Route Dr.	Primary Arterial	Laguna Hills	10.2	10.1	10.1
44. Avenida Carlota	w/o Paseo de Valencia	Primary Arterial	Laguna Hills	17.3	17.3	17.3
45. Avenida Carlota	b/w Paseo de Valencia and El Toro Rd.	Primary Arterial	Laguna Hills	36.3	36.4	36.4
46. Avenida Carlota	e/o El Toro Rd.	Primary Arterial	Laguna Hills	23.4	23.5	23.5
47. Bake Pkwy.	s/o Portola Pkwy.	Primary Arterial	Lake Forest	20.0	20.0	20.0
48. Bake Pkwy.	n/o Commercentre Dr.	Primary Arterial	Lake Forest	33.0	33.1	33.1
49. Bake Pkwy.	n/o Irvine Bl.	Primary Arterial	Lake Forest	38.0	37.9	37.9
50. Bake Pkwy.	s/o Irvine Bl.	Major Highway Irvine	Irvine	48.7	48.4	48.4
51. Bake Pkwy.	b/w Toledo Wy. and Jeronimo Rd.	Major Highway Irvine	Irvine	56.2	56.4	56.4
52. Bake Pkwy.	n/o Muirlands Bl.	Major Highway Irvine	Irvine	62.4	62.5	62.5
53. Bake Pkwy.	s/o Muirlands Bl.	Transportation Corridor Irvine	Irvine	62.0	62.0	62.0
54. Bake Pkwy.	s/o Rockfield Bl.	Major Highway Irvine	Irvine	76.6	79.3	79.3
55. Bake Pkwy.	n/o I-5 NB Ramps	Major Highway Irvine	Irvine	83.2	83.2	83.1
56. Bake Pkwy.	b/w I-5 SB Ramps and Research Dr.	Major Highway Irvine	Irvine	35.5	36.0	35.8
57. Bake Pkwy.	b/w Research Dr. and ICD	Major Highway Irvine	Irvine	17.3	17.6	17.4
58. Bake Pkwy.	s/ICD	Major Highway Irvine	Irvine	16.3	16.3	16.3
59. Bake Pkwy.	b/w Lake Forest Dr. and Ridge Route Dr.	Major Highway Irvine	Irvine	3.4	3.4	3.4
60. Bake Pkwy.	b/w Ridge Route Dr. and Laguna Canyon	Major Highway Irvine	Irvine	10.7	10.8	10.8

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
61. Barranca Pkwy.	w/o Culver Dr.	Major Highway Irvine	Irvine	27.0	27.2	27.2
62. Barranca Pkwy.	e/o Culver Dr.	Primary Highway Irvine	Irvine	31.9	32.0	32.0
63. Barranca Pkwy.	e/o W. Yale Lp.	Primary Highway Irvine	Irvine	29.0	29.2	29.2
64. Barranca Pkwy.	e/o Lake Rd.	Primary Highway Irvine	Irvine	25.9	26.0	26.1
65. Barranca Pkwy.	b/w Creek Rd. and Lyon	Primary Highway Irvine	Irvine	24.7	24.9	24.9
66. Barranca Pkwy.	w/o E. Yale Lp.	Primary Highway Irvine	Irvine	24.4	24.9	24.9
67. Barranca Pkwy.	w/o Jeffrey Rd.	Primary Highway Irvine	Irvine	27.4	27.7	27.7
68. Barranca Pkwy.	e/o Jeffrey Rd.	Primary Highway Irvine	Irvine	17.7	17.9	18.0
69. Barranca Pkwy.	w/o Sand Canyon. Av.	Primary Highway Irvine	Irvine	18.0	18.1	18.1
70. Barranca Pkwy.	e/o Sand Canyon. Av.	Primary Highway Irvine	Irvine	15.6	15.6	15.6
71. Barranca Pkwy.	e/o Laguna Canyon Rd.	Primary Highway Irvine	Irvine	14.8	14.9	14.9
72. Barranca Pkwy.	b/w Discovery and Banting	Primary Highway Irvine	Irvine	13.1	13.3	13.3
73. Barranca Pkwy.	s/o ICD	Primary Highway Irvine	Irvine	17.9	18.4	18.4
74. Barranca Pkwy.	b/w I-5 HOV Ramp and ICD	Primary Highway Irvine	Irvine	20.4	21.0	21.0
75. Barranca Pkwy.	s/o Technology	Primary Highway Irvine	Irvine	21.8	22.4	22.4
76. Barranca Pkwy.	n/o Technology	Primary Highway Irvine	Irvine	23.0	24.1	24.1

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
77. Barranca Pkwy.	e/o Ada	Primary Highway Irvine	Irvine	20.4	21.8	21.8
78. Barranca Pkwy.	w/o Marine Wy.	Primary Highway Irvine	Irvine	24.4	25.7	25.7
79. Barranca Pkwy.	w/o Alton Pkwy.	Primary Highway Irvine	Irvine	21.8	20.7	20.7
80. Barranca Pkwy	e/o Alton Pkwy.	Primary Highway Irvine	Irvine	19.3	20.4	20.4
81. Barranca Pkwy	e/o Sterling	Primary Highway Irvine	Irvine	15.4	16.1	16.1
82. Bryan Av.	w/o Jamboree Rd.	Primary Arterial	Tustin	25.3	25.3	25.3
83. Bryan Av.	e/o Jamboree Rd.	Primary Highway Irvine	Irvine	19.7	20.0	19.9
84. Bryan Av.	w/o Culver Dr.	Primary Highway Irvine	Irvine	26.4	26.7	26.8
85. Bryan Av.	e/o Culver Dr.	Primary Highway Irvine	Irvine	19.3	19.7	19.7
86. Bryan Av.	e/o Eastwood	Primary Highway Irvine	Irvine	14.0	14.2	14.2
87. Canyon View Av.	w/o Jamboree Rd.	Primary Arterial	Orange	7.4	7.2	7.2
88. Chapman Ave.	w/o Jamboree Rd.	Major Arterial	Orange	26.7	28.3	28.2
89. Chapman Ave.	e/o Jamboree Rd.	Major Arterial	Orange	41.9	41.2	41.1
90. Creek Rd.	n/o Alton Pkwy.	Local Collector Irvine	Irvine	4.4	4.3	4.4
91. Culver Dr.	s/o Portola Pkwy.	Major Highway Irvine	Irvine	25.3	25.5	25.5
92. Culver Dr.	n/o Irvine Bl.	Major Highway Irvine	Irvine	28.3	28.4	28.4
93. Culver Dr.	s/o Irvine Bl.	Major Highway Irvine	Irvine	36.3	36.7	36.7
94. Culver Dr.	n/o Bryan Av.	Major Highway Irvine	Irvine	31.8	32.2	32.2
95. Culver Dr.	s/o Bryan Av.	Major Highway Irvine	Irvine	50.7	51.3	51.3
96. Culver Dr.	n/o Trabuco Rd.	Major Highway Irvine	Irvine	51.6	52.0	51.9

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
97. Culver Dr.	s/o I-5 SB Ramps	Major Highway Irvine	Irvine	56.7	57.0	56.9
98. Culver Dr.	n/o Walnut Av.	Major Highway Irvine	Irvine	51.4	51.8	51.8
99. Culver Dr.	b/w Walnut Av. and Deerfield Dr.	Major Highway Irvine	Irvine	47.6	47.8	47.8
100. Culver Dr.	b/w Deerfield Dr. and ICD	Major Highway Irvine	Irvine	42.5	42.9	42.9
101. Culver Dr.	b/w ICD and Warner Av.	Major Highway Irvine	Irvine	45.9	46.5	46.4
102. Culver Dr.	b/w Warner Av. and Barranca Pkwy.	Major Highway Irvine	Irvine	46.4	47.2	47.2
103. Culver Dr.	n/o Alton Pkwy.	Major Highway Irvine	Irvine	50.9	51.5	51.5
104. Culver Dr.	b/w Alton Pkwy. and Main St.	Major Highway Irvine	Irvine	51.7	52.1	52.1
105. Culver Dr.	b/w Main St. and San Leandro	Major Highway Irvine	Irvine	52.4	52.6	52.6
106. Culver Dr.	b/w San Leandro and I-405 NB Ramps	Major Highway Irvine	Irvine	58.5	58.7	58.7
107. E. Yale Lp.	s/o Barranca Pkwy.	Secondary Arterial Irvine	Irvine	12.2	12.2	12.2
108. E. Yale Lp.	n/o Alton Pkwy.	Primary Highway Irvine	Irvine	11.6	11.6	11.6
109. E. Yale Lp.	s/o Alton Pkwy.	Primary Highway Irvine	Irvine	11.5	11.5	11.5
110. El Camino Real	e/o Tustin Ranch Rd.	Primary Arterial	Tustin	16.5	16.6	16.6
111. El Camino Real	e/o Jamboree Rd.	Primary Highway Irvine	Irvine	24.3	24.4	24.4
112. El Camino Real N.	s/o Bryan Ave.	Primary Highway Irvine	Irvine	7.8	7.8	7.8
113. El Toro Rd.	n/o Portola Pkwy./S. Margarita Pkwy.	Major Arterial	Lake Forest	20.0	20.0	20.0
114. El Toro Rd.	s/o Portola Pkwy./S. Margarita Pkwy.	Major Arterial	Lake Forest	43.0	42.9	42.9

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

<i>Roadway</i>	<i>Segment</i>	<i>Classification¹</i>	<i>Jurisdiction</i>	<i>2011 Approved Project (Baseline)</i>	<i>2012 Modified Project (Option1)</i>	<i>2012 Modified Project (Option2)</i>
115. El Toro Rd.	n/o Trabuco Rd.	Major Arterial	Lake Forest	22.0	22.0	22.0
116. El Toro Rd.	n/o Toledo Wy.	Principal	Lake Forest	44.0	43.7	43.8
117. El Toro Rd.	n/o Jeronimo Rd.	Principal	Lake Forest	44.0	44.0	44.1
118. El Toro Rd.	s/o Jeronimo Rd.	Principal	Lake Forest	46.0	46.0	46.0
119. El Toro Rd.	n/o Rockfield Bl.	Principal	Lake Forest	50.0	50.0	50.0
120. El Toro Rd.	b/w Rockfield Bl. and I-5 NB Ramps	Principal	Lake Forest	65.0	65.0	65.0
121. El Toro Rd.	b/w I-5 SB Ramps and Avenida Carlota	Major Arterial	Laguna Hills	44.8	44.7	44.7
122. El Toro Rd.	n/o Paseo de Valencia	Major Arterial	Laguna Hills	29.6	29.6	29.6
123. El Toro Rd.	s/o Paseo de Valencia	Major Arterial	Laguna Woods	32.9	33.0	33.0
124. El Toro Rd.	s/o Moulton Pkwy.	Major Arterial	Laguna Woods	32.4	32.2	32.2
125. El Toro Rd.	n/o Aliso Creek Rd.	Major Arterial	Laguna Woods	26.4	26.5	26.6
126. El Toro Rd.	n/o SR-73	Major Arterial	Aliso Viejo	29.9	30.1	30.1
127. El Toro Rd.	s/o SR-73	Primary Arterial	Orange County	17.8	17.8	17.8
128. Fortune Dr.	b/w Gateway Bl. and Spectrum	Primary Highway Irvine	Irvine	8.7	8.7	8.7
129. Fortune Dr.	b/w Pacifica and Spectrum	Primary Highway Irvine	Irvine	8.9	8.9	8.9
130. Gateway Bl.	w/o Fortune Dr.	Primary Highway Irvine	Irvine	7.1	7.2	7.1
131. Gateway Bl.	n/o Alton Pkwy.	Primary Highway Irvine	Irvine	1.7	1.7	1.7
132. Gateway Bl.	w/o ICD	Primary Highway Irvine	Irvine	2.7	2.8	2.8
133. Glenn Ranch Rd.	n/o Portola Pkwy.	Primary Arterial	Lake Forest	29.0	28.9	29.0
134. Glenwood Dr.	w/o Moulton Pkwy.	Primary Arterial	Aliso Viejo	11.7	11.7	11.7
135. Handy Creek Rd.	e/o Jamboree Rd.	Collector	Tustin	2.2	2.1	2.1

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
136. Harvard Av.	s/o Walnut Av.	Local Collector Irvine	Irvine	11.7	11.5	11.5
137. Harvard Av.	n/o Edinger Av.	Primary Highway Irvine	Irvine	13.2	13.1	13.1
138. Harvard Av.	b/w Edinger Av. And Paseo Westpark	Primary Highway Irvine	Irvine	15.2	15.3	15.3
139. Hubble	n/o ICD	Primary Highway Irvine	Irvine	2.0	2.0	2.0
140. Irvine Bl.	b/w Newport and Red Hill	Major Arterial	Tustin	54.7	55.5	55.5
141. Irvine Bl.	b/w Red Hill and Browning	Primary Arterial	Tustin	53.4	54.1	54.1
142. Irvine Bl.	w/o Tustin Ranch Rd.	Major Arterial	Tustin	47.8	48.2	48.3
143. Irvine Bl.	w/o Jamboree Rd.	Major Arterial	Tustin	41.9	42.2	42.2
144. Irvine Bl.	e/o Jamboree Rd.	Major Highway Irvine	Irvine	45.0	45.4	45.4
145. Irvine Bl.	b/w SR-261 Ramps	Major Highway Irvine	Irvine	43.8	44.3	44.2
146. Irvine Bl.	e/o SR-261 NB Ramps	Major Highway Irvine	Irvine	45.0	45.6	45.5
147. Irvine Bl.	w/o Culver Dr.	Major Highway Irvine	Irvine	38.4	39.0	38.9
148. Irvine Bl.	e/o Culver Dr.	Major Highway Irvine	Irvine	38.8	39.5	39.4
149. Irvine Bl.	e/o Yale Av.	Major Highway Irvine	Irvine	42.4	42.8	42.8
150. Irvine Bl.	w/o Jeffrey Rd.	Major Highway Irvine	Irvine	37.5	37.7	37.7
151. Irvine Bl.	e/o Jeffrey Rd.	Major Highway Irvine	Irvine	36.3	36.6	36.6
152. Irvine Bl.	e/o Groveland	Major Highway Irvine	Irvine	36.5	36.9	36.8
153. Irvine Bl.	e/o Sand Canyon. Av.	Major Highway Irvine	Irvine	38.9	39.5	39.4
154. Irvine Bl.	e/o SR-133 NB Ramps	Major Highway Irvine	Irvine	42.5	43.3	43.1
155. Irvine Bl.	w/o O St.	Major Highway Irvine	Irvine	36.5	37.4	37.2
156. Irvine Bl.	e/o O St.	Major Highway Irvine	Irvine	39.2	40.0	40.0
157. Irvine Bl.	w/o A St.	Major Highway Irvine	Irvine	39.6	40.4	40.5

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

<i>Roadway</i>	<i>Segment</i>	<i>Classification¹</i>	<i>Jurisdiction</i>	<i>2011 Approved Project (Baseline)</i>	<i>2012 Modified Project (Option1)</i>	<i>2012 Modified Project (Option2)</i>
158. Irvine Bl.	w/o Z St.	Major Highway Irvine	Irvine	45.3	46.4	46.4
159. Irvine Bl.	e/o Z St.	Major Highway Irvine	Irvine	47.0	48.0	48.0
160. Irvine Bl.	w/o LQ St.	Major Highway Irvine	Irvine	46.7	45.6	45.6
161. Irvine Bl.	e/o LQ St.	Major Highway Irvine	Irvine	52.5	49.4	49.4
162. Irvine Bl.	w/o Alton Pkwy.	Major Highway Irvine	Irvine	54.8	51.8	51.8
163. Irvine Bl.	e/o Alton Pkwy.	Major Highway Irvine	Irvine	43.9	42.4	42.4
164. ICD/Edinger Av.	w/o Jamboree	Major Arterial	Tustin	26.8	27.2	27.2
165. ICD/Edinger Av.	e/o Jamboree	Major Arterial	Tustin	30.2	30.3	30.3
166. ICD	e/o Hearststone Bl.	Major Highway Irvine	Irvine	25.7	26.0	26.0
167. ICD	e/o Culver Dr.	Major Highway Irvine	Irvine	26.9	26.9	26.9
168. ICD	b/w Yale Av. And Fontaine Av.	Major Highway Irvine	Irvine	28.8	28.8	28.8
169. ICD	e/o Jeffrey Rd.	Major Highway Irvine	Irvine	41.6	41.5	41.5
170. ICD	w/o Sand Canyon. Av.	Major Highway Irvine	Irvine	25.7	26.1	26.1
171. ICD	e/o Sand Canyon Av.	Major Highway Irvine	Irvine	19.4	19.5	19.5
172. ICD	b/w Laguna Canyon Rd. and Discovery	Major Highway Irvine	Irvine	17.7	17.9	17.9
173. ICD	w/o Barranca Pkwy.	Major Highway Irvine	Irvine	22.1	22.2	22.2
174. ICD	b/w Barranca Pkwy. and Gateway Bl.	Major Highway Irvine	Irvine	23.5	23.6	23.6
175. ICD	b/w Gateway Bl. and Alton Pkwy.	Major Highway Irvine	Irvine	20.9	20.9	20.9
176. ICD	b/w Alton Pkwy. and Spectrum	Major Highway Irvine	Irvine	34.7	34.9	34.8
177. ICD	b/w Pacifica and Enterprise Dr.	Major Highway Irvine	Irvine	35.1	35.1	35.0
178. ICD	b/w Enterprise and I-405 SB Ramps	Major Highway Irvine	Irvine	52.9	52.9	52.8

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
179. ICD	b/w I-405 SB Ramps and Research Dr.	Transportation Corridor Irvine	Irvine	13.3	13.4	13.4
180. ICD	b/w Research Dr. and Hubble	Major Highway Irvine	Irvine	23.8	23.8	23.8
181. ICD	b/w Hubble and Bake Pkwy.	Major Highway Irvine	Irvine	22.3	22.3	22.3
182. ICD	b/w Bake Pkwy. and Muller	Major Highway Irvine	Irvine	21.3	21.2	21.2
183. ICD	b/w Muller and Tesla	Major Highway Irvine	Irvine	20.6	20.6	20.6
184. ICD	w/o Lake Forest Dr.	Major Highway Irvine	Irvine	20.1	20.1	20.1
185. Jamboree Rd.	n/o Chapman/Santiago Cyn.	Major Arterial	Orange	20.4	21.2	21.3
186. Jamboree Rd.	s/o Chapman Av.	Major Arterial	Orange	14.1	15.2	15.3
187. Jamboree Rd.	s/o Canyon View Av.	Major Arterial	Orange	24.2	25.4	25.4
188. Jamboree Rd.	n/o Tustin Ranch Rd.	Major Arterial	Tustin	26.4	27.3	27.3
189. Jamboree Rd.	s/o Tustin Ranch Rd.	Major Arterial	Tustin	26.0	27.4	27.4
190. Jamboree Rd.	n/o Irvine Bl.	Major Arterial	Tustin	26.9	27.5	27.6
191. Jamboree Rd.	s/o Irvine Bl.	Transportation Corridor Irvine	Irvine	37.5	37.5	37.5
192. Jamboree Rd.	s/o Bryan Av.	Transportation Corridor Irvine	Irvine	39.2	39.2	39.2
193. Jamboree Rd.	b/w El Camino Real and I-5 NB Ramps	Transportation Corridor Irvine	Irvine	61.5	61.5	61.5
194. Jamboree Rd.	n/o Michelle Dr.	Transportation Corridor Irvine	Irvine	59.5	60.4	60.4
195. Jamboree Rd.	s/o Michelle Dr.	Major Highway Irvine	Irvine	58.7	58.6	58.6
196. Jamboree Rd.	n/o Edinger Av.	Transportation Corridor Irvine	Irvine	96.9	97.9	97.9
197. Jamboree Rd.	s/o Edinger Av.	Transportation Corridor Irvine	Irvine	85.6	86.6	86.6

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
198. Jeffrey Rd.	e/o SR-241 NB Ramps	Primary Highway Irvine	Irvine	4.1	3.9	3.9
199. Jeffrey Rd.	n/o Portola Pkwy.	Primary Highway Irvine	Irvine	10.9	10.9	11.0
200. Jeffrey Rd.	n/o Irvine Bl.	Major Highway Irvine	Irvine	33.7	34.1	34.0
201. Jeffrey Rd.	n/o Bryan Av.	Major Highway Irvine	Irvine	35.2	36.0	35.9
202. Jeffrey Rd.	n/o Trabuco Rd.	Major Highway Irvine	Irvine	46.5	47.0	47.0
203. Jeffrey Rd.	s/o Trabuco Rd.	Major Highway Irvine	Irvine	50.9	51.6	51.6
204. Jeffrey Rd.	b/w Roosevelt and I-5 NB Ramps	Major Highway Irvine	Irvine	68.5	69.7	69.7
205. Jeffrey Rd.	s/o Walnut Av./I-5 SB Ramps	Major Highway Irvine	Irvine	50.5	50.3	50.3
206. Jeffrey Rd.	s/o Irvine Center Drive	Major Highway Irvine	Irvine	49.5	49.6	49.5
207. Jeffrey Rd.	n/o Alton Pkwy.	Major Highway Irvine	Irvine	47.7	47.9	47.8
208. Jeffrey Rd.	b/w Quailcreek and I-405 NB Ramps	Major Highway Irvine	Irvine	57.5	57.8	57.9
209. Jeronimo Rd.	e/o Alton Pkwy.	Primary Highway Irvine	Irvine	7.3	7.3	7.3
210. Jeronimo Rd.	w/o Lake Forest Dr.	Primary Arterial	Lake Forest	12.0	12.0	11.9
211. Jeronimo Rd.	e/o Lake Forest Dr.	Primary Arterial	Lake Forest	17.0	16.9	16.9
212. Jeronimo Rd.	e/o Ridge Route Dr.	Primary Arterial	Lake Forest	15.0	14.9	15.0
213. Jeronimo Rd.	w/o Los Alisos Bl.	Primary Arterial	Lake Forest	28.0	27.8	27.8
214. Jeronimo Rd.	e/o Los Alisos Bl.	Primary Arterial	Mission Viejo	23.8	23.6	23.6
215. Jeronimo Rd.	s/o Alicia Pkwy.	Primary Arterial	Mission Viejo	25.6	25.4	25.4
216. Laguna Canyon Rd.	b/w ICD and Discovery	Primary Highway Irvine	Irvine	6.8	6.8	6.8
217. Laguna Canyon Rd.	b/w Waterworks Wy. and ICD	Primary Highway Irvine	Irvine	6.8	6.9	6.9

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
218. Laguna Canyon Rd.	n/o Alton Pkwy.	Primary Highway Irvine	Irvine	6.1	6.1	6.1
219. Laguna Canyon Rd.	s/o Alton Pkwy.	Primary Highway Irvine	Irvine	9.5	9.6	9.5
220. Laguna Canyon Rd.	n/o Quail Hill Pkwy.	Primary Highway Irvine	Irvine	7.6	7.7	7.6
221. Laguna Canyon Rd.	s/o Quail Hill Pkwy.	Primary Highway Irvine	Irvine	12.0	12.1	12.0
222. Laguna Canyon Rd.	n/o SR-73 NB Ramps	Primary Highway Irvine	Irvine	34.3	34.4	34.4
223. Laguna Hills Dr.	s/o Paseo de Valencia	Primary Arterial	Laguna Hills	24.1	24.1	24.2
224. Laguna Hills Dr.	w/o Moulton Pkwy.	Major Arterial	Aliso Viejo	30.7	30.6	30.7
225. Lake Rd.	n/o Alton Pkwy.	Local Collector Irvine	Irvine	5.8	5.8	5.8
226. Lake Forest Dr.	s/o Portola Pkwy.	Primary Arterial	Lake Forest	18.0	18.0	18.0
227. Lake Forest Dr.	s/o SR-241 SB Ramps	Primary Arterial	Lake Forest	28.0	27.6	27.5
228. Lake Forest Dr.	s/o Rancho Pkwy.	Primary Arterial	Lake Forest	36.0	36.4	36.4
229. Lake Forest Dr.	n/o Trabuco Rd.	Primary Arterial	Lake Forest	35.8	36.1	36.1
230. Lake Forest Dr.	s/o Trabuco Rd.	Major Arterial	Lake Forest	41.0	41.1	41.0
231. Lake Forest Dr.	n/o Jeronimo Rd.	Major Arterial	Lake Forest	39.0	39.6	39.5
232. Lake Forest Dr.	s/o Jeronimo Rd.	Major Arterial	Lake Forest	40.0	40.4	40.4
233. Lake Forest Dr.	n/o Muirlands Bl.	Major Arterial	Lake Forest	31.0	31.3	31.3
234. Lake Forest Dr.	n/o Rockfield Bl.	Major Arterial	Lake Forest	47.0	47.4	47.4
235. Lake Forest Dr.	b/w Rockfield Bl. and I-5 NB Ramps	Major Arterial	Lake Forest	76.0	76.5	76.5
236. Lake Forest Dr.	s/o Avenida Carlota/I-5 SB Ramps	Major Highway Irvine	Irvine	22.7	22.9	22.9
237. Lake Forest Dr.	s/o ICD	Major Highway Irvine	Irvine	12.5	12.7	12.7

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
238. Lake Forest Dr.	b/w Scientific Way and Tesla	Major Highway Irvine	Irvine	21.6	21.9	21.8
239. Lake Forest Dr.	e/o Bake Pkwy.	Major Highway Irvine	Irvine	23.5	23.8	23.7
240. Lake Forest Dr.	w/o Bake Pkwy.	Primary Highway Irvine	Irvine	22.3	22.5	22.4
241. Los Alisos Bl.	n/o Trabuco Rd.	Primary Arterial	Mission Viejo	22.6	22.6	22.6
242. Los Alisos Bl.	s/o Trabuco Rd.	Major Arterial	Mission Viejo	28.1	28.1	28.1
243. Los Alisos Bl.	e/o Muirlands Bl.	Major Arterial	Lake Forest	41.0	41.2	41.2
244. Los Alisos Bl.	w/o Muirlands Bl.	Primary Arterial	Lake Forest	36.0	36.3	36.2
245. Los Alisos Bl.	s/o Rockfield Bl./Fordview St.	Major Arterial	Lake Forest	31.0	31.0	31.0
246. Los Alisos Bl.	b/w Avenida Carlota and Paseo de Valencia	Major Arterial	Laguna Hills	25.1	25.1	25.1
247. Marine Wy.	w/o O St.	Primary Highway Irvine	Irvine	21.0	24.2	24.2
248. Marine Wy.	e/o O St.	Primary Highway Irvine	Irvine	23.8	26.8	26.8
249. Marine Wy.	w/o D St.	Primary Highway Irvine	Irvine	23.1	26.2	26.2
250. Marine Wy.	e/o D St.	Primary Highway Irvine	Irvine	20.2	23.6	23.6
251. Marine Wy	w/o Great Park Blvd East	Primary Highway Irvine	Irvine	20.5	23.9	23.9
252. Marine Wy	w/o B St	Primary Highway Irvine	Irvine	20.4	27.1	27.1
253. Marine Wy	e/o B St	Primary Highway Irvine	Irvine	19.5	20.4	20.4
254. Marine Wy.	n/o Barranca Pkwy.	Primary Highway Irvine	Irvine	22.3	21.4	21.5
255. Marine Wy.	s/o Barranca Pkwy.	Primary Highway Irvine	Irvine	14.4	13.7	13.7

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
256. Marine Wy.	n/o Rockfield Bl.	Primary Highway Irvine	Irvine	26.5	23.2	23.2
257. Marine Wy.	s/o Rockfield Bl.	Primary Highway Irvine	Irvine	20.8	23.9	23.9
258. Meridian	n/o Alton Pkwy.	Primary Highway Irvine	Irvine	1.0	1.0	1.0
259. Modjeska	n/o Irvine Bl.	Local Collector Irvine	Irvine	13.9	14.0	14.0
260. Moulton Pkwy.	e/o (s/o) Lake Forest	Major Arterial	Laguna Hills	31.5	31.5	31.4
261. Moulton Pkwy.	e/o (s/o) Ridge Route	Major Arterial	Laguna Hills	38.9	38.8	38.8
262. Moulton Pkwy.	w/o (n/o) El Toro Rd.	Major Arterial	Laguna Woods	44.1	43.9	43.9
263. Moulton Pkwy.	e/o (s/o) El Toro Rd.	Major Arterial	Laguna Woods	44.8	44.8	44.8
264. Moulton Pkwy.	b/w Glenwood/Indian Creek and Laguna Hills Dr.	Major Arterial	Aliso Viejo	41.3	41.4	41.4
265. Moulton Pkwy.	s/o Laguna Hills Dr.	Major Arterial	Aliso Viejo	30.2	30.3	30.3
266. Moulton Pkwy.	s/o Alicia Pkwy.	Major Arterial	Laguna Hills	26.2	26.1	26.1
267. Muirlands Bl.	w/o Bake Pkwy.	Primary Highway Irvine	Irvine	16.6	16.6	16.6
268. Muirlands Bl.	e/o Bake Pkwy.	Primary Arterial	Lake Forest	20.0	19.7	19.7
269. Muirlands Bl.	w/o Ridge Route Dr.	Primary Arterial	Lake Forest	27.0	26.8	26.7
270. Muirlands Bl.	e/o Ridge Route Dr.	Primary Arterial	Lake Forest	27.0	26.8	26.8
271. Muirlands Bl.	e/o El Toro Rd.	Primary Arterial	Lake Forest	29.0	28.8	28.8
272. Muirlands Bl.	s/o Los Alisos Bl.	Primary Arterial	Mission Viejo	24.4	24.2	24.2
273. Muirlands Bl.	e/o Alicia Pkwy.	Primary Arterial	Mission Viejo	19.9	19.9	19.9
274. Oak Cyn.	w/o Sand Canyon. Av.	Local Collector Irvine	Irvine	6.4	6.4	6.4
275. Orchard Hills	n/o Portola Pkwy.	Local Collector Irvine	Irvine	6.9	6.9	6.9
276. Pacifica	w/o Fortune Dr.	Primary Highway Irvine	Irvine	10.8	10.7	10.6

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
277. Pacifica	w/o (n/o) Alton Pkwy.	Primary Highway Irvine	Irvine	7.4	7.2	7.2
278. Paseo de Valencia	e/o El Toro Rd.	Primary Arterial	Laguna Hills	36.4	36.3	36.3
279. Paseo de Valencia	w/o Los Alisos Bl.	Major Arterial	Laguna Hills	31.0	30.9	30.9
280. Paseo de Valencia	e/o Los Alisos Bl.	Major Arterial	Laguna Hills	47.0	46.9	46.9
281. Paseo de Valencia	w/o Alicia Pkwy.	Major Arterial	Laguna Hills	36.1	36.4	36.4
282. Paseo de Valencia	e/o Alicia Pkwy.	Primary Arterial	Laguna Hills	14.0	14.0	14.0
283. Portola Pkwy.	w/o Jamboree Rd.	Primary Arterial	Tustin	15.5	15.8	15.8
284. Portola Pkwy.	w/o SR-261 SB Ramps	Major Highway Irvine	Irvine	25.8	26.4	26.5
285. Portola Pkwy.	e/o SR-261 NB Ramps	Major Highway Irvine	Irvine	21.4	21.9	21.9
286. Portola Pkwy.	e/o Culver Dr.	Major Highway Irvine	Irvine	22.8	23.2	23.3
287. Portola Pkwy.	w/o Jeffrey Rd.	Major Highway Irvine	Irvine	26.0	26.0	26.0
288. Portola Pkwy.	w/o Sand Canyon. Av.	Primary Highway Irvine	Irvine	27.6	27.7	27.7
289. Portola Pkwy.	e/o Sand Canyon. Av.	Primary Highway Irvine	Irvine	23.1	23.3	23.2
290. Portola Pkwy.	w/o Ridge Valley	Primary Highway Irvine	Irvine	24.4	24.6	24.5
291. Portola Pkwy.	e/o Ridge Valley	Primary Highway Irvine	Irvine	25.4	25.4	25.4
292. Portola Pkwy.	b/w Silverado and Portola Springs	Primary Highway Irvine	Irvine	27.2	27.2	27.1
293. Portola Pkwy.	e/o Portola Springs	Primary Highway Irvine	Irvine	22.9	23.5	23.5
294. Portola Pkwy.	w/o Alton Pkwy.	Primary Arterial	Lake Forest	5.0	4.6	4.6
295. Portola Pkwy.	e/o Alton Pkwy.	Major Arterial	Lake Forest	22.0	22.0	21.9
296. Portola Pkwy.	w/o Lake Forest Dr.	Major Arterial	Lake Forest	32.0	31.7	31.7
297. Portola Pkwy.	w/o Glenn Ranch Rd.	Major Arterial	Lake Forest	50.0	49.6	49.5

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
298. Portola Pkwy.	e/o Glenn Ranch Rd.	Major Arterial	Lake Forest	35.0	34.5	34.6
299. Portola Pkwy. East	s/o SR-241 SB Ramps	Major Arterial	Lake Forest	35.0	34.8	34.7
300. Portola Pkwy.	s/o Rancho Pkwy.	Major Arterial	Lake Forest	60.0	59.8	59.7
301. Portola Pkwy.	e/o El Toro Rd.	Major Arterial	Mission Viejo	50.3	50.0	50.0
302. Portola Springs	s/o Portola Pkwy.	Primary Highway Irvine	Irvine	6.6	6.4	6.4
303. Quail Hill Pkwy.	e/o Shady Canyon Dr.	Primary Highway Irvine	Irvine	19.5	19.6	19.6
304. Rancho Pkwy. S	w/o Bake Pkwy.	Primary Arterial	Lake Forest	10.0	10.2	10.2
305. Rancho Pkwy.	w/o Lake Forest Dr.	Primary Arterial	Lake Forest	30.0	29.6	29.6
306. Rancho Pkwy.	e/o Lake Forest Dr.	Primary Arterial	Lake Forest	20.0	20.0	20.0
307. Research Dr.	e/o ICD	Primary Highway Irvine	Irvine	9.0	8.9	8.9
308. Research Dr.	w/o (n/o) Bake Pkwy.	Primary Highway Irvine	Irvine	11.9	11.8	11.8
309. Research Dr.	n/o Lake Forest Dr.	Primary Highway Irvine	Irvine	12.2	12.1	12.1
310. Ridge Route Dr.	s/o Trabuco Rd.	Primary Arterial	Lake Forest	9.0	9.0	9.0
311. Ridge Route Dr.	n/o Jeronimo Rd.	Primary Arterial	Lake Forest	7.0	7.1	7.1
312. Ridge Route Dr.	s/o Jeronimo Rd.	Primary Arterial	Lake Forest	10.0	10.1	10.1
313. Ridge Route Dr.	s/o Muirlands Bl.	Primary Arterial	Lake Forest	8.0	8.1	8.0
314. Ridge Route Dr.	s/o Rockfield B.	Primary Arterial	Lake Forest	18.1	18.0	18.0
315. Ridge Route Dr.	s/o (w/o) Avenida Carlota	Primary Arterial	Laguna Hills	14.9	14.9	14.9
316. Ridge Route Dr.	s/o (w/o) Moulton Pkwy.	Primary Arterial	Laguna Hills	11.0	11.0	11.1
317. Ridge Route Dr.	e/o Bake Pkwy.	Primary Arterial	Laguna Hills	9.4	9.5	9.5
318. Ridge Valley	s/o Portola Pkwy.	Primary Highway Irvine	Irvine	10.0	9.8	9.8

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
319. Rockfield Bl.	e/o Marine Wy	Primary Highway Irvine	Irvine	6.4	n/a	n/a
320. Rockfield Bl.	e/o Sterling	Primary Highway Irvine	Irvine	5.4	n/a	n/a
321. Rockfield Bl.	w/o Bake Pkwy.	Primary Highway Irvine	Irvine	10.6	7.6	7.6
322. Rockfield Bl.	w/o Lake Forest Dr.	Primary Highway Irvine	Irvine	15.7	15.6	15.6
323. Rockfield Bl.	w/o Ridge Route Dr.	Primary Arterial	Lake Forest	24.0	24.0	23.9
324. Rockfield Bl.	e/o Ridge Route Dr.	Primary Arterial	Lake Forest	24.0	24.1	24.0
325. Rockfield Bl.	e/o El Toro Rd.	Primary Arterial	Lake Forest	20.0	20.0	20.0
326. Roosevelt	w/o Jeffrey Rd.	Primary Highway Irvine	Irvine	10.3	10.2	10.3
327. Roosevelt	e/o Jeffrey Rd.	Primary Highway Irvine	Irvine	20.4	20.8	20.8
328. Roosevelt	w/o Sand Canyon Av.	Primary Highway Irvine	Irvine	8.6	8.6	8.6
329. Sand Canyon. Av.	n/o Irvine Bl.	Primary Highway Irvine	Irvine	27.1	26.7	26.8
330. Sand Canyon. Av.	s/o Irvine Bl.	Major Highway Irvine	Irvine	32.2	31.8	31.9
331. Sand Canyon. Av.	n/o Trabuco Rd.	Major Highway Irvine	Irvine	28.1	27.9	28.0
332. Sand Canyon. Av.	s/o Trabuco Rd.	Transportation Corridor Irvine	Irvine	50.4	50.2	50.2
333. Sand Canyon. Av.	s/o Roosevelt	Transportation Corridor Irvine	Irvine	53.3	53.0	53.0
334. Sand Canyon. Av.	n/o I-5 NB Ramps	Transportation Corridor Irvine	Irvine	62.6	62.0	62.0
335. Sand Canyon. Av.	b/w I-5 SB Ramps and Burt Rd.	Major Highway Irvine	Irvine	52.5	52.9	52.9
336. Sand Canyon. Av.	b/w Burt Rd. and Oak Cyn./Laguna Cyn. Rd.	Major Highway Irvine	Irvine	53.5	53.8	53.8

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
337. Sand Canyon. Av.	n/o ICD	Major Highway Irvine	Irvine	42.8	43.2	43.2
338. Sand Canyon. Av.	s/o Waterworks Wy.	Major Highway Irvine	Irvine	38.8	38.9	38.9
339. Sand Canyon. Av.	s/o Barranca Pkwy.	Major Highway Irvine	Irvine	39.1	39.3	39.3
340. Sand Canyon. Av.	b/w Alton Pkwy. and I-405 NB Ramps	Major Highway Irvine	Irvine	41.3	41.5	41.5
341. Santa Maria Av.	s/o Moulton Pkwy.	Primary Arterial	Laguna Woods	8.9	8.9	8.9
342. Santa Maria Av.	e/o Laguna Canyon Rd.	Secondary	Laguna Woods	6.0	6.0	6.0
343. Santiago Canyon Rd.	e/o SR-241 NB Ramp	Primary Arterial	Orange	23.2	23.6	23.6
344. Scientific Wy.	s/o ICD	Primary Highway Irvine	Irvine	1.7	1.7	1.7
345. Spectrum	w/o Fortune Dr.	Local Collector Irvine	Irvine	2.9	2.9	3.0
346. Sterling	b/w Rockfield Bl and Barranca Pkwy	Local Collector Irvine	Irvine	3.8	n/a	n/a
347. Technology Dr.	e/o Barranca Pkwy.	Primary Highway Irvine	Irvine	20.7	20.8	20.8
348. Technology Dr.	w/o Barranca Pkwy.	Primary Highway Irvine	Irvine	15.8	16.0	16.1
349. Technology Dr.	e/o Laguna Canyon Rd.	Secondary Arterial Irvine	Irvine	17.2	17.1	17.1
350. Toledo Wy.	e/o Alton Pkwy.	Primary Highway Irvine	Irvine	4.7	6.3	6.3
351. Toledo Wy.	w/o Lake Forest Dr.	Primary Arterial	Lake Forest	6.0	6.2	6.2
352. Toledo Wy.	w/o Ridge Route Dr.	Secondary	Lake Forest	7.0	7.0	6.9
353. Toledo Wy.	e/o Ridge Route Dr.	Primary Arterial	Lake Forest	8.0	8.0	8.0
354. Trabuco Rd.	b/w Culver Dr. and I-5 NB Ramps	Primary Highway Irvine	Irvine	38.4	38.5	38.7
355. Trabuco Rd.	e/o I-5 NB Ramps	Primary Highway Irvine	Irvine	21.4	21.8	21.8

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
356. Trabuco Rd.	w/o Jeffrey Rd.	Primary Highway Irvine	Irvine	18.9	19.3	19.3
357. Trabuco Rd.	e/o Jeffrey Rd.	Primary Highway Irvine	Irvine	19.2	19.4	19.5
358. Trabuco Rd.	e/o Sand Canyon	Primary Highway Irvine	Irvine	25.7	25.4	25.5
359. Trabuco Rd.	e/o Bake Pkwy.	Major Arterial	Lake Forest	28.0	27.9	27.9
360. Trabuco Rd.	b/w Lake Forest Dr. and Ridge Route Dr.	Major Arterial	Lake Forest	36.0	35.7	35.7
361. Trabuco Rd.	w/o El Toro Rd.	Major Arterial	Lake Forest	40.0	39.9	39.9
362. Trabuco Rd.	e/o El Toro Rd.	Primary Arterial	Lake Forest	23.7	23.6	23.6
363. Trabuco Rd.	n/o Alicia Pkwy.	Primary Arterial	Mission Viejo	26.5	26.4	26.4
364. Trabuco Rd.	s/o Alicia Pkwy.	Primary Arterial	Mission Viejo	13.8	13.7	13.7
365. Tustin Ranch Rd.	w/o Jamboree	Major Arterial	Tustin	12.0	11.7	11.7
366. Tustin Ranch Rd.	s/o Portola Pkwy.	Major Arterial	Tustin	31.4	31.4	31.4
367. Tustin Ranch Rd.	n/o La Colina Dr.	Major Arterial	Tustin	31.4	31.3	31.3
368. Tustin Ranch Rd.	s/o Irvine Bl.	Major Arterial	Tustin	28.2	27.9	27.9
369. University Dr.	b/w I-405 SB Ramps and Michelson Dr.	Major Highway Irvine	Irvine	59.7	60.0	60.1
370. Walnut Av.	w/o Jamboree	Major Highway Irvine	Irvine	22.0	22.3	22.2
371. Walnut Av.	e/o Jamboree	Major Highway Irvine	Irvine	23.4	23.5	23.5
372. Walnut Av.	w/o Culver Dr.	Primary Highway Irvine	Irvine	25.9	26.2	26.2
373. Walnut Av.	e/o Culver Dr.	Primary Highway Irvine	Irvine	25.6	25.9	25.9
374. Walnut Av.	e/o Yale Av.	Primary Highway Irvine	Irvine	13.0	13.0	13.0
375. Walnut Av.	w/o Jeffrey Rd.	Primary Highway Irvine	Irvine	19.6	19.5	19.5

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
376. Warner Av.	w/o Paseo Westpark	Primary Highway Irvine	Irvine	10.8	10.9	10.9
377. Warner Av.	w/o Culver Dr.	Primary Highway Irvine	Irvine	10.4	10.4	10.4
378. Warner Av.	b/w Culver Dr. and W. Yale Loop	Primary Highway Irvine	Irvine	11.1	11.2	11.2
379. W. Yale Loop	s/o Barranca Pkwy.	Primary Highway Irvine	Irvine	6.4	6.5	6.5
380. W. Yale Loop	s/o Alton Pkwy.	Primary Highway Irvine	Irvine	12.3	12.3	12.3
381. Yale Av.	b/w Portola and Arborwood	Local Collector Irvine	Irvine	6.1	6.0	6.0
382. Yale Av.	b/w Park Pl. and Irvine Bl.	Primary Highway Irvine	Irvine	11.8	11.7	11.7
383. Yale Av.	n/o Bryan Av.	Primary Highway Irvine	Irvine	8.5	8.6	8.6
384. Yale Av.	n/o Trabuco Rd.	Primary Highway Irvine	Irvine	9.9	10.0	10.0
385. Yale Av.	n/o Walnut Av.	Secondary Arterial Irvine	Irvine	13.2	13.4	13.4
386. Yale Av.	s/o Walnut Av.	Primary Highway Irvine	Irvine	11.9	12.1	12.1
387. Yale Av.	b/w Deerfield Dr. and ICD	Primary Highway Irvine	Irvine	12.8	12.9	12.9
388. Yale Av.	b/w ICD and Yale Lp.	Primary Highway Irvine	Irvine	11.0	11.2	11.2
389. Thomas	n/o Muirlands Bl.	Collector	Irvine	1.5	1.6	1.5
390. Thomas	s/o Muirlands Bl.	Collector	Irvine	7.0	8.0	8.0
391. Irvine Bl.	e/o Fairbanks	Major Highway Irvine	Irvine	44.1	43.7	43.7
392. Fairbanks	e/o Alton Pkwy.	Collector	Irvine	7.0	8.1	8.1

5. Environmental Analysis

NOISE

Table 5.8-8
General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)¹

Roadway	Segment	Classification¹	Jurisdiction	2011 Approved Project (Baseline)	2012 Modified Project (Option1)	2012 Modified Project (Option2)
393. Fairbanks	w/o Alton Pkwy.	Secondary	Irvine	2.4	5.8	5.8
394. Fairbanks	s/o Astor St.	Collector	Irvine	0.9	4.1	4.1
395. Fairbanks	w/o Irvine Bl.	Collector	Irvine	8.3	21.8	21.8

Source: Noise Study prepared by Urban Crossroads, Inc., June 2012 (see Appendix G of this DSEIR).

Notes: MPH = miles per hour; n/o = north of; s/o = south of; b/w = between

¹ Based on the Heritage Fields Project 2012 - General Plan Amendment / Zone Change Traffic Impact Analysis by Urban Crossroads, Inc. in May 2012..

² Road classifications based on jurisdictions, including Irvine, Aliso Viejo, Laguna Hills, Laguna Woods, Lake Forest, Mission Viejo, Orange, Orange County, and Tustin.

5. Environmental Analysis

NOISE

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5. *Environmental Analysis*

The off-site traffic noise prediction model inputs are used to calculate the reference CNEL dBA noise levels at a distance of 100 feet from the centerline for the 395 off-site study area roadway segments. Noise level contours represent the distance to noise levels of a constant value and are measured from the center of the roadway. Noise level contours do not take into account the effect of any existing noise barriers or topography.

Existing Plans, Programs, and Policies

The following measures are existing plans, programs, or policies (“PPPs”) that apply to the 2012 Modified Project, as well as to the 2011 Approved Project, that will help to reduce and avoid potential impacts related to noise:

- PPP 8-1 Title 6 (Public Works), Division 8 (Pollution), Chapter 2 (Noise) of the Irvine Municipal Code, also known as the City’s Noise Ordinance, outlines the regulations necessary to control unnecessary, excessive and annoying noise in the City. The provisions of this chapter are applicable to nontransportation-related stationary noise sources. It outlines the noise level measurement criteria; establishes the noise zones and the maximum permitted exterior and interior noise standards in each zone; and discloses special noise provisions for construction, truck delivery and maintenance activities. For example, as outlined in Section 6-8-205 of the Noise Ordinance, no construction shall be permitted outside of the hours of 7:00 AM to 7:00 PM Monday through Friday and 9:00 AM to 6:00 PM Saturdays, unless a temporary waiver is granted by the Chief Building Official or authorized representative. Trucks, vehicles, and equipment that are making, or are involved with, material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact upon the community into consideration. No construction activity will be permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.
- PPP 8-2 Prior to the issuance of building permits for each structure or tenant improvement, other than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall demonstrate that the development will be sound attenuated against present and projected noise levels including stationary, roadway, aircraft, helicopter, and railroad noise to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City’s Acoustical Report Information Sheet (Form 42-48). The report shall be accompanied by a list identifying the sheet(s) of the building plans that include required sound attenuation measures (Standard Condition 3.5).
- PPP 8-3 Title 5 (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code), Section 5-10-127.G (Import and Export of Earth Materials) of the Irvine Municipal Code, states that if a grading project includes the movement of earth material to or from the site in an amount considered substantial by the Chief Building Official, the permittee is required to submit the proposed haul route for review and approval by the Chief Building Official. Special conditions of the grading permit may be imposed that require alternate routes or other measures in consideration of the possible impact on the adjacent community environment or effect on the public right-of-way itself.

5. Environmental Analysis

NOISE

Project Design Features

The following project design features (“PDFs”) have been incorporated into the 2012 Modified Project to help to reduce or avoid its potential noise impacts.

PDF 8-1 **Construction Noise:** Prior to issuance of grading permits, the project applicant or its successor shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved, and that construction noise has been reduced.

- During construction activities, all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, consistent with manufacturers’ standards. All stationary construction equipment shall be placed so that emitted noise is directed away from the noise-sensitive receptors nearest the Proposed Project Site boundaries.
- Equipment shall be staged in areas that will create the greatest distance between construction-related noise sources and the noise-sensitive receptors nearest the Proposed Project Site during all project construction.
- All construction-related activities shall be restricted to the construction hours outlined in the City’s Noise Ordinance (Municipal Code Section 6-8-205).
- Haul truck and other construction-related trucks traveling to and from the Proposed Project Site shall be restricted to the same hours specified for the operation of construction equipment. To the extent feasible, haul routes shall not pass directly by sensitive land uses or residential dwellings.
- Where construction will occur adjacent to any developed/occupied noise-sensitive uses, a construction-related noise mitigation plan shall be submitted the Director of Community Development for review and approval prior to the issuance of grading permits. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the 2012 Modified Project, through the use of such methods as: (1) temporary noise attenuation fences; (2) preferential location of equipment; and (3) use of current technology and noise-suppression equipment.
- Construction of planned sound walls that have been incorporated into the project design shall be installed prior to construction of the building foundation; or temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with absorbent inner insulation) shall be placed along the boundary of the Proposed Project Site facing the nearest noise-sensitive receptors during construction activities.

The following impact analysis addresses impacts that the Initial Study for the 2012 Modified Project disclosed could be potentially significant. The thresholds upon which these determinations were based are identified in brackets after the impact statement.

IMPACT 5.8-1 **AS COMPARED TO THE 2011 APPROVED PROJECT, THE 2012 MODIFIED PROJECT WOULD NOT SUBSTANTIALLY ELEVATE TRAFFIC NOISE LEVELS ABOVE LOCAL NOISE STANDARDS AT NOISE-SENSITIVE RECEPTORS PROXIMATE TO THE PROPOSED PROJECT SITE. [IMPACTS N-1 AND N-3]**

Impact Analysis: To assess the off-site traffic-related exterior noise level impacts associated with the 2012 Modified Project, the CNEL levels at a distance of 100 feet from the roadway segments included in the traffic study area were developed for the General Plan Post-2030 With 2012 Modified Project for Option 1 and Option 2.

Off-site Traffic-Related Noise Contours

To quantify the 2012 Modified Project's traffic noise impact on the surrounding off-site areas, the changes in traffic noise levels on 395 roadway segments surrounding the Proposed Project Site caused by the 2012 Modified Project (for Option 1 and Option 2) were determined based on the changes in the average daily traffic volumes.

The purpose of the off-site noise contours is to assess the 2012 Modified Project's incremental off-site traffic-related noise impacts at land uses adjacent to roadways conveying project traffic. Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 55, 60, 65 and 70 dBA noise levels. The distance from the centerline of the roadway to the CNEL contours for roadways in the vicinity of the Proposed Project Site for the 2012 Modified Project are presented in the noise technical report prepared by Urban Crossroads (see Appendix G of this DSSEIR).

The off-site traffic noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the traffic noise contours are controlled by the City of Irvine Transportation Related Noise Standards, they do not include the noise contribution from the surrounding commercial and industrial activities within the 2012 Modified Project noise study area.

Off-site 2012 Modified Project Traffic-Related Noise Level Contributions

Based on the significance criteria presented earlier in Subsection 5.8-2, *Thresholds of Significance*, a significant off-site traffic noise impact would occur when a project creates a traffic-related noise level increase in the area adjacent to the roadway of 1.5 dBA and the resulting noise level exceeds the 65 dBA CNEL exterior noise standard. Tables 5.8-9 and 5.8-10 present an off-site traffic noise level comparison of the 2011 Approved Project (the baseline) to the 2012 Modified Project for Option 1 and Option 2 (both without the optional conversion).

2012 Modified Project Option 1

As demonstrated in Table 5.8-9, the 2012 Modified Project Option 1, as compared to the 2011 Approved Project, would result in a change to the off-site traffic noise levels of between -1.4 and 6.6 dBA CNEL on the 395 off-site roadway segments analyzed. Although three of the 395 off-site study area roadway segments located on Fairbanks near the Proposed Project Site entrance at Astor are expected to experience a project related noise level increase of greater than 1.5 dBA CNEL, the overall noise levels will not exceed the 65 dBA significance threshold. In addition, the three off-site study area roadway segments

5. Environmental Analysis

NOISE

expected to experience a noise level increase of greater than three dBA are located within the Tri-Pointe Business Park and outside noise sensitive areas.⁴ Because the 2012 Modified Project's off-site traffic noise level impacts do not exceed the screening significance threshold, its off-site traffic-related noise impacts are considered less than significant.

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
1. Ada	s/o Barranca Pkwy.	57.8	58.9	1.1	NO
2. Alicia Pkwy.	n/o Trabuco Rd.	70.7	70.7	0.0	NO
3. Alicia Pkwy.	s/o Trabuco Rd.	71.2	71.2	0.0	NO
4. Alicia Pkwy.	s/o Jeronimo Rd.	72.6	72.6	0.0	NO
5. Alicia Pkwy.	n/o Muirlands Bl.	72.6	72.6	0.0	NO
6. Alicia Pkwy.	b/w I-5 NB Ramps and Muirlands Bl.	73.0	73.0	0.0	NO
7. Alicia Pkwy.	s/o I-5 SB Ramps	72.1	72.1	0.0	NO
8. Alicia Pkwy.	s/o Paseo de Valencia	71.5	71.5	0.0	NO
9. Alicia Pkwy.	s/o Moulton Pkwy.	71.3	71.3	0.0	NO
10. Aliso Creek Rd.	e/o El Toro Rd.	66.2	66.2	0.0	NO
11. Alton Pkwy.	w/o Culver Dr.	69.9	70.0	0.1	NO
12. Alton Pkwy.	e/o Culver Dr.	69.0	69.0	0.0	NO
13. Alton Pkwy.	e/o W. Yale Loop	68.8	68.9	0.1	NO
14. Alton Pkwy.	e/o Lake Rd.	68.6	68.6	0.0	NO
15. Alton Pkwy.	e/o Creek Rd.	68.4	68.4	0.0	NO
16. Alton Pkwy.	w/o Jeffrey Rd.	69.2	69.2	0.0	NO
17. Alton Pkwy.	b/w Jeffrey Rd. and Royal Oak	68.1	68.1	0.0	NO
18. Alton Pkwy.	b/w Royal Oak and Valley Oak	67.6	67.6	0.0	NO
19. Alton Pkwy.	w/o Sand Canyon Av.	68.8	68.9	0.1	NO
20. Alton Pkwy.	e/o Sand Canyon. Av.	70.7	70.7	0.0	NO
21. Alton Pkwy.	e/o Laguna Canyon Rd.	67.2	67.2	0.0	NO

⁴ Sensitive receptors such as residence, hospital, school, hotel, resort, library or similar facility where quiet is an important attribute of the environment are considered a noise sensitive land use.

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
22. Alton Pkwy.	b/w Pacifica and Banting	67.4	67.5	0.1	NO
23. Alton Pkwy.	w/o Meridian	66.9	66.9	0.0	NO
24. Alton Pkwy.	b/w Meridian and ICD	68.2	68.2	0.0	NO
25. Alton Pkwy.	b/w Enterprise and Gateway Bl.	71.3	71.4	0.1	NO
26. Alton Pkwy.	b/w Enterprise and I-5 NB Ramps	72.8	72.8	0.0	NO
27. Alton Pkwy.	b/w I-5 NB Ramps and Technology Dr. W	72.9	72.9	0.0	NO
28. Alton Pkwy.	b/w Technology Dr. W and Ada	71.6	71.7	0.1	NO
29. Alton Pkwy.	e/o Ada	71.1	71.1	0.0	NO
30. Alton Pkwy.	w/o Marine Wy.	71.3	71.3	0.0	NO
31. Alton Pkwy.	e/o Technology	71.3	71.3	0.0	NO
32. Alton Pkwy.	s/o Barranca Pkwy./Muirlands Bl.	71.2	71.3	0.1	NO
33. Alton Pkwy.	n/o Barranca Pkwy./Muirlands Bl.	71.9	71.8	-0.1	NO
34. Alton Pkwy.	s/o Jeronimo Rd.	71.9	71.8	-0.1	NO
35. Alton Pkwy.	n/o Jeronimo Rd.	71.5	71.4	-0.1	NO
36. Alton Pkwy.	s/o Toledo Wy.	70.6	70.5	-0.1	NO
37. Alton Pkwy.	n/o Toledo Wy.	70.6	70.4	-0.2	NO
38. Alton Pkwy.	s/o Irvine Bl. / Trabuco Rd.	70.8	70.9	0.1	NO
39. Alton Pkwy.	n/o Irvine Bl.	71.6	71.7	0.1	NO
40. Alton Pkwy.	n/o Commercentre	72.1	72.1	0.0	NO
41. Alton Pkwy.	s/o SR-241 Ramps	68.4	68.4	0.0	NO
42. Alton Pkwy.	n/o SR-241 Ramps	69.3	69.3	0.0	NO
43. Avenida Carlota	w/o Ridge Route Dr.	63.6	63.6	0.0	NO
44. Avenida Carlota	w/o Paseo de Valencia	65.9	65.9	0.0	NO
45. Avenida Carlota	b/w Paseo de Valencia and El Toro Rd.	69.1	69.1	0.0	NO
46. Avenida Carlota	e/o El Toro Rd.	67.2	67.2	0.0	NO
47. Bake Pkwy.	s/o Portola Pkwy.	66.5	66.5	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
48. Bake Pkwy.	n/o Commercentre Dr.	68.7	68.7	0.0	NO
49. Bake Pkwy.	n/o Irvine Bl.	69.3	69.3	0.0	NO
50. Bake Pkwy.	s/o Irvine Bl.	72.5	72.5	0.0	NO
51. Bake Pkwy.	b/w Toledo Wy. and Jeronimo Rd.	73.1	73.1	0.0	NO
52. Bake Pkwy.	n/o Muirlands Bl.	73.6	73.6	0.0	NO
53. Bake Pkwy.	s/o Muirlands Bl.	78.7	78.7	0.0	NO
54. Bake Pkwy.	s/o Rockfield Bl.	74.5	74.6	0.1	NO
55. Bake Pkwy.	n/o I-5 NB Ramps	74.8	74.8	0.0	NO
56. Bake Pkwy.	b/w I-5 SB Ramps and Research Dr.	71.1	71.2	0.1	NO
57. Bake Pkwy.	b/w Research Dr. and ICD	68.0	68.1	0.1	NO
58. Bake Pkwy.	s/ICD	67.7	67.7	0.0	NO
59. Bake Pkwy.	b/w Lake Forest Dr. and Ridge Route Dr.	60.9	60.9	0.0	NO
60. Bake Pkwy.	b/w Ridge Route Dr. and Laguna Canyon	65.9	66.0	0.1	NO
61. Barranca Pkwy.	w/o Culver Dr.	69.9	70.0	0.1	NO
62. Barranca Pkwy.	e/o Culver Dr.	69.4	69.4	0.0	NO
63. Barranca Pkwy.	e/o W. Yale Lp.	69.0	69.0	0.0	NO
64. Barranca Pkwy.	e/o Lake Rd.	68.5	68.5	0.0	NO
65. Barranca Pkwy.	b/w Creek Rd. and Lyon	68.3	68.3	0.0	NO
66. Barranca Pkwy.	w/o E. Yale Lp.	68.3	68.3	0.0	NO
67. Barranca Pkwy.	w/o Jeffrey Rd.	68.8	68.8	0.0	NO
68. Barranca Pkwy.	e/o Jeffrey Rd.	66.9	66.9	0.0	NO
69. Barranca Pkwy.	w/o Sand Canyon. Av.	66.9	67.0	0.1	NO
70. Barranca Pkwy.	e/o Sand Canyon. Av.	66.3	66.3	0.0	NO
71. Barranca Pkwy.	e/o Laguna Canyon Rd.	66.1	66.1	0.0	NO
72. Barranca Pkwy.	b/w Discovery and Banting	65.6	65.6	0.0	NO
73. Barranca Pkwy.	s/o ICD	66.9	67.0	0.1	NO
74. Barranca Pkwy.	b/w I-5 HOV Ramp and ICD	67.5	67.6	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
75. Barranca Pkwy.	s/o Technology	67.8	67.9	0.1	NO
76. Barranca Pkwy.	n/o Technology	68.0	68.2	0.2	NO
77. Barranca Pkwy.	e/o Ada	67.5	67.8	0.3	NO
78. Barranca Pkwy.	w/o Marine Wy.	68.3	68.5	0.2	NO
79. Barranca Pkwy.	w/o Alton Pkwy.	67.8	67.5	-0.3	NO
80. Barranca Pkwy.	e/o Alton Pkwy.	67.2	67.5	0.3	NO
81. Barranca Pkwy.	e/o Sterling	66.3	66.4	0.1	NO
82. Bryan Av.	w/o Jamboree Rd.	67.6	67.6	0.0	NO
83. Bryan Av.	e/o Jamboree Rd.	67.3	67.4	0.1	NO
84. Bryan Av.	w/o Culver Dr.	68.6	68.6	0.0	NO
85. Bryan Av.	e/o Culver Dr.	67.2	67.3	0.1	NO
86. Bryan Av.	e/o Eastwood	65.8	65.9	0.1	NO
87. Canyon View Av.	w/o Jamboree Rd.	62.2	62.1	-0.1	NO
88. Chapman Ave.	w/o Jamboree Rd.	69.1	69.4	0.3	NO
89. Chapman Ave.	e/o Jamboree Rd.	71.1	71.0	-0.1	NO
90. Creek Rd.	n/o Alton Pkwy.	55.7	55.6	-0.1	NO
91. Culver Dr.	s/o Portola Pkwy.	69.7	69.7	0.0	NO
92. Culver Dr.	n/o Irvine Bl.	70.1	70.2	0.1	NO
93. Culver Dr.	s/o Irvine Bl.	71.2	71.3	0.1	NO
94. Culver Dr.	n/o Bryan Av.	70.7	70.7	0.0	NO
95. Culver Dr.	s/o Bryan Av.	72.7	72.7	0.0	NO
96. Culver Dr.	n/o Trabuco Rd.	72.8	72.8	0.0	NO
97. Culver Dr.	s/o I-5 SB Ramps	73.2	73.2	0.0	NO
98. Culver Dr.	n/o Walnut Av.	72.7	72.8	0.1	NO
99. Culver Dr.	b/w Walnut Av. and Deerfield Dr.	72.4	72.4	0.0	NO
100. Culver Dr.	b/w Deerfield Dr. and ICD	71.9	72.0	0.1	NO
101. Culver Dr.	b/w ICD and Warner Av.	72.2	72.3	0.1	NO
102. Culver Dr.	b/w Warner Av. and Barranca Pkwy.	72.3	72.4	0.1	NO
103. Culver Dr.	n/o Alton Pkwy.	72.7	72.7	0.0	NO
104. Culver Dr.	b/w Alton Pkwy. and Main St.	72.8	72.8	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
105. Culver Dr.	b/w Main St. and San Leandro	72.8	72.8	0.0	NO
106. Culver Dr.	b/w San Leandro and I-405 NB Ramps	73.3	73.3	0.0	NO
107. E. Yale Lp.	s/o Barranca Pkwy.	64.2	64.2	0.0	NO
108. E. Yale Lp.	n/o Alton Pkwy.	65.0	65.0	0.0	NO
109. E. Yale Lp.	s/o Alton Pkwy.	65.0	65.0	0.0	NO
110. El Camino Real	e/o Tustin Ranch Rd.	65.7	65.7	0.0	NO
111. El Camino Real	e/o Jamboree Rd.	68.2	68.3	0.1	NO
112. El Camino Real N.	s/o Bryan Ave.	63.3	63.3	0.0	NO
113. El Toro Rd.	n/o Portola Pkwy. /S. Margarita Pkwy.	67.9	67.9	0.0	NO
114. El Toro Rd.	s/o Portola Pkwy. /S. Margarita Pkwy.	71.2	71.2	0.0	NO
115. El Toro Rd.	n/o Trabuco Rd.	68.3	68.3	0.0	NO
116. El Toro Rd.	n/o Toledo Wy.	72.6	72.6	0.0	NO
117. El Toro Rd.	n/o Jeronimo Rd.	72.6	72.6	0.0	NO
118. El Toro Rd.	s/o Jeronimo Rd.	72.8	72.8	0.0	NO
119. El Toro Rd.	n/o Rockfield Bl.	73.2	73.2	0.0	NO
120. El Toro Rd.	b/w Rockfield Bl. and I-5 NB Ramps	74.3	74.3	0.0	NO
121. El Toro Rd.	b/w I-5 SB Ramps and Avenida Carlota	71.4	71.4	0.0	NO
122. El Toro Rd.	n/o Paseo de Valencia	69.6	69.6	0.0	NO
123. El Toro Rd.	s/o Paseo de Valencia	70.0	70.0	0.0	NO
124. El Toro Rd.	s/o Moulton Pkwy.	70.0	69.9	-0.1	NO
125. El Toro Rd.	n/o Aliso Creek Rd.	69.1	69.1	0.0	NO
126. El Toro Rd.	n/o SR-73	69.6	69.6	0.0	NO
127. El Toro Rd.	s/o SR-73	66.0	66.0	0.0	NO
128. Fortune Dr.	b/w Gateway Bl. and Spectrum	63.8	63.8	0.0	NO
129. Fortune Dr.	b/w Pacifica and Spectrum	63.9	63.9	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
130. Gateway Bl.	w/o Fortune Dr.	62.9	63.0	0.1	NO
131. Gateway Bl.	n/o Alton Pkwy.	56.7	56.7	0.0	NO
132. Gateway Bl.	w/o ICD	58.7	58.9	0.2	NO
133. Glenn Ranch Rd.	n/o Portola Pkwy.	68.2	68.1	-0.1	NO
134. Glenwood Dr.	w/o Moulton Pkwy.	64.2	64.2	0.0	NO
135. Handy Creek Rd.	e/o Jamboree Rd.	54.1	53.9	-0.2	NO
136. Harvard Av.	s/o Walnut Av.	60.0	59.9	-0.1	NO
137. Harvard Av.	n/o Edinger Av.	65.6	65.6	0.0	NO
138. Harvard Av.	b/w Edinger Av. And Paseo Westpark	66.2	66.2	0.0	NO
139. Hubble	n/o ICD	57.4	57.4	0.0	NO
140. Irvine Bl.	b/w Newport and Red Hill	72.2	72.3	0.1	NO
141. Irvine Bl.	b/w Red Hill and Browning	70.8	70.9	0.1	NO
142. Irvine Bl.	w/o Tustin Ranch Rd.	71.6	71.7	0.1	NO
143. Irvine Bl.	w/o Jamboree Rd.	71.1	71.1	0.0	NO
144. Irvine Bl.	e/o Jamboree Rd.	72.2	72.2	0.0	NO
145. Irvine Bl.	b/w SR-261 Ramps	72.0	72.1	0.1	NO
146. Irvine Bl.	e/o SR-261 NB Ramps	72.2	72.2	0.0	NO
147. Irvine Bl.	w/o Culver Dr.	71.5	71.5	0.0	NO
148. Irvine Bl.	e/o Culver Dr.	71.5	71.6	0.1	NO
149. Irvine Bl.	e/o Yale Av.	71.9	71.9	0.0	NO
150. Irvine Bl.	w/o Jeffrey Rd.	71.4	71.4	0.0	NO
151. Irvine Bl.	e/o Jeffrey Rd.	71.2	71.3	0.1	NO
152. Irvine Bl.	e/o Groveland	71.3	71.3	0.0	NO
153. Irvine Bl.	e/o Sand Canyon Av.	71.5	71.6	0.1	NO
154. Irvine Bl.	e/o SR-133 NB Ramps	71.9	72.0	0.1	NO
155. Irvine Bl.	w/o O St.	71.3	71.4	0.1	NO
156. Irvine Bl.	e/o O St.	71.6	71.6	0.0	NO
157. Irvine Bl.	w/o A St.	71.6	71.7	0.1	NO
158. Irvine Bl.	w/o Z St.	72.2	72.3	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
159. Irvine Bl.	e/o Z St.	72.3	72.4	0.1	NO
160. Irvine Bl.	w/o LQ St.	72.3	72.2	-0.1	NO
161. Irvine Bl.	e/o LQ St.	72.8	72.6	-0.2	NO
162. Irvine Bl.	w/o Alton Pkwy.	73.0	72.8	-0.2	NO
163. Irvine Bl.	e/o Alton Pkwy.	72.1	71.9	-0.2	NO
164. ICD/Edinger Av.	w/o Jamboree	69.1	69.2	0.1	NO
165. ICD/Edinger Av.	e/o Jamboree	69.7	69.7	0.0	NO
166. ICD	e/o Hearthstone Bl.	69.7	69.8	0.1	NO
167. ICD	e/o Culver Dr.	69.9	69.9	0.0	NO
168. ICD	b/w Yale Av. And Fontaine Av.	70.2	70.2	0.0	NO
169. ICD	e/o Jeffrey Rd.	71.8	71.8	0.0	NO
170. ICD	w/o Sand Canyon. Av.	69.7	69.8	0.1	NO
171. ICD	e/o Sand Canyon Av.	68.5	68.5	0.0	NO
172. ICD	b/w Laguna Canyon Rd. and Discovery	68.1	68.2	0.1	NO
173. ICD	w/o Barranca Pkwy.	69.1	69.1	0.0	NO
174. ICD	b/w Barranca Pkwy. and Gateway Bl.	69.3	69.4	0.1	NO
175. ICD	b/w Gateway Bl. and Alton Pkwy.	68.8	68.8	0.0	NO
176. ICD	b/w Alton Pkwy. and Spectrum	71.0	71.1	0.1	NO
177. ICD	b/w Pacifica and Enterprise Dr.	71.1	71.1	0.0	NO
178. ICD	b/w Enterprise and I-405 SB Ramps	72.9	72.9	0.0	NO
179. ICD	b/w I-405 SB Ramps and Research Dr.	72.0	72.0	0.0	NO
180. ICD	b/w Research Dr. and Hubble	69.4	69.4	0.0	NO
181. ICD	b/w Hubble and Bake Pkwy.	69.1	69.1	0.0	NO
182. ICD	b/w Bake Pkwy. and Muller	68.9	68.9	0.0	NO
183. ICD	b/w Muller and Tesla	68.8	68.8	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
184. ICD	w/o Lake Forest Dr.	68.7	68.7	0.0	NO
185. Jamboree Rd.	n/o Chapman/Santiago Cyn.	67.9	68.1	0.2	NO
186. Jamboree Rd.	s/o Chapman Av.	66.3	66.7	0.4	NO
187. Jamboree Rd.	s/o Canyon View Av.	68.7	68.9	0.2	NO
188. Jamboree Rd.	n/o Tustin Ranch Rd.	69.1	69.2	0.1	NO
189. Jamboree Rd.	s/o Tustin Ranch Rd.	69.0	69.2	0.2	NO
190. Jamboree Rd.	n/o Irvine Bl.	69.2	69.2	0.0	NO
191. Jamboree Rd.	s/o Irvine Bl.	76.5	76.5	0.0	NO
192. Jamboree Rd.	s/o Bryan Av.	76.7	76.7	0.0	NO
193. Jamboree Rd.	b/w El Camino Real and I-5 NB Ramps	78.6	78.6	0.0	NO
194. Jamboree Rd.	n/o Michelle Dr.	78.5	78.5	0.0	NO
195. Jamboree Rd.	s/o Michelle Dr.	73.3	73.3	0.0	NO
196. Jamboree Rd.	n/o Edinger Av.	80.6	80.6	0.0	NO
197. Jamboree Rd.	s/o Edinger Av.	80.1	80.1	0.0	NO
198. Jeffrey Rd.	e/o SR-241 NB Ramps	60.5	60.3	-0.2	NO
199. Jeffrey Rd.	n/o Portola Pkwy.	64.8	64.8	0.0	NO
200. Jeffrey Rd.	n/o Irvine Bl.	70.9	71.0	0.1	NO
201. Jeffrey Rd.	n/o Bryan Av.	71.1	71.2	0.1	NO
202. Jeffrey Rd.	n/o Trabuco Rd.	72.3	72.3	0.0	NO
203. Jeffrey Rd.	s/o Trabuco Rd.	72.7	72.8	0.1	NO
204. Jeffrey Rd.	b/w Roosevelt and I-5 NB Ramps	74.0	74.1	0.1	NO
205. Jeffrey Rd.	s/o Walnut Av./I-5 SB Ramps	72.7	72.6	-0.1	NO
206. Jeffrey Rd.	s/o Irvine Center Drive	72.6	72.6	0.0	NO
207. Jeffrey Rd.	n/o Alton Pkwy.	72.4	72.4	0.0	NO
208. Jeffrey Rd.	b/w Quailcreek and I-405 NB Ramps	73.2	73.2	0.0	NO
209. Jeronimo Rd.	e/o Alton Pkwy.	63.0	63.0	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
210. Jeronimo Rd.	w/o Lake Forest Dr.	64.3	64.3	0.0	NO
211. Jeronimo Rd.	e/o Lake Forest Dr.	65.8	65.8	0.0	NO
212. Jeronimo Rd.	e/o Ridge Route Dr.	65.3	65.3	0.0	NO
213. Jeronimo Rd.	w/o Los Alisos Bl.	68.0	68.0	0.0	NO
214. Jeronimo Rd.	e/o Los Alisos Bl.	67.3	67.3	0.0	NO
215. Jeronimo Rd.	s/o Alicia Pkwy.	67.6	67.6	0.0	NO
216. Laguna Canyon Rd.	b/w ICD and Discovery	62.7	62.7	0.0	NO
217. Laguna Canyon Rd.	b/w Waterworks Wy. and ICD	62.7	62.8	0.1	NO
218. Laguna Canyon Rd.	n/o Alton Pkwy.	62.2	62.2	0.0	NO
219. Laguna Canyon Rd.	s/o Alton Pkwy.	64.2	64.2	0.0	NO
220. Laguna Canyon Rd.	n/o Quail Hill Pkwy.	63.2	63.2	0.0	NO
221. Laguna Canyon Rd.	s/o Quail Hill Pkwy.	65.2	65.2	0.0	NO
222. Laguna Canyon Rd.	n/o SR-73 NB Ramps	69.7	69.7	0.0	NO
223. Laguna Hills Dr.	s/o Paseo de Valencia	67.3	67.3	0.0	NO
224. Laguna Hills Dr.	w/o Moulton Pkwy.	69.7	69.7	0.0	NO
225. Lake Rd.	n/o Alton Pkwy.	56.9	56.9	0.0	NO
226. Lake Forest Dr.	s/o Portola Pkwy.	66.1	66.1	0.0	NO
227. Lake Forest Dr.	s/o SR-241 SB Ramps	68.0	67.9	-0.1	NO
228. Lake Forest Dr.	s/o Rancho Pkwy.	69.1	69.1	0.0	NO
229. Lake Forest Dr.	n/o Trabuco Rd.	69.1	69.1	0.0	NO
230. Lake Forest Dr.	s/o Trabuco Rd.	71.0	71.0	0.0	NO
231. Lake Forest Dr.	n/o Jeronimo Rd.	70.8	70.8	0.0	NO
232. Lake Forest Dr.	s/o Jeronimo Rd.	70.9	70.9	0.0	NO
233. Lake Forest Dr.	n/o Muirlands Bl.	69.8	69.8	0.0	NO
234. Lake Forest Dr.	n/o Rockfield Bl.	71.6	71.6	0.0	NO
235. Lake Forest Dr.	b/w Rockfield Bl. and I-5 NB Ramps	73.7	73.7	0.0	NO
236. Lake Forest Dr.	s/o Avenida Carlota/I-5 SB	69.2	69.2	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
	Ramps				
237. Lake Forest Dr.	s/o ICD	66.6	66.7	0.1	NO
238. Lake Forest Dr.	b/w Scientific Way and Tesla	69.0	69.0	0.0	NO
239. Lake Forest Dr.	e/o Bake Pkwy.	69.3	69.4	0.1	NO
240. Lake Forest Dr.	w/o Bake Pkwy.	67.9	67.9	0.0	NO
241. Los Alisos Bl.	n/o Trabuco Rd.	67.1	67.1	0.0	NO
242. Los Alisos Bl.	s/o Trabuco Rd.	69.3	69.3	0.0	NO
243. Los Alisos Bl.	e/o Muirlands Bl.	71.0	71.0	0.0	NO
244. Los Alisos Bl.	w/o Muirlands Bl.	69.1	69.1	0.0	NO
245. Los Alisos Bl.	s/o Rockfield Bl./Fordview St.	69.8	69.8	0.0	NO
246. Los Alisos Bl.	b/w Avenida Carlota and Paseo de Valencia	68.9	68.9	0.0	NO
247. Marine Wy.	w/o O St.	67.6	68.2	0.6	NO
248. Marine Wy.	e/o O St.	68.1	68.7	0.6	NO
249. Marine Wy.	w/o D St.	68.0	68.6	0.6	NO
250. Marine Wy.	e/o D St.	67.4	68.1	0.7	NO
251. Marine Wy	w/o Great Park Blvd East	67.5	68.2	0.7	NO
252. Marine Wy	w/o B St	67.5	68.7	1.2	NO
253. Marine Wy	e/o B St	67.3	67.5	0.2	NO
254. Marine Wy.	n/o Barranca Pkwy.	67.9	67.7	-0.2	NO
255. Marine Wy.	s/o Barranca Pkwy.	66.0	65.7	-0.3	NO
256. Marine Wy.	n/o Rockfield Bl.	68.6	68.0	-0.6	NO
257. Marine Wy.	s/o Rockfield Bl.	67.6	68.2	0.6	NO
258. Meridian	n/o Alton Pkwy.	54.4	54.4	0.0	NO
259. Modjeska	n/o Irvine Bl.	60.7	60.8	0.1	NO
260. Moulton Pkwy.	e/o (s/o) Lake Forest	69.8	69.8	0.0	NO
261. Moulton Pkwy.	e/o (s/o) Ridge Route	70.8	70.7	-0.1	NO
262. Moulton Pkwy.	w/o (n/o) El Toro Rd.	71.3	71.3	0.0	NO
263. Moulton Pkwy.	e/o (s/o) El Toro Rd.	71.4	71.4	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
264. Moulton Pkwy.	b/w Glenwood/Indian Creek and Laguna Hills Dr.	71.0	71.0	0.0	NO
265. Moulton Pkwy.	s/o Laguna Hills Dr.	69.7	69.7	0.0	NO
266. Moulton Pkwy.	s/o Alicia Pkwy.	69.0	69.0	0.0	NO
267. Muirlands Bl.	w/o Bake Pkwy.	66.6	66.6	0.0	NO
268. Muirlands Bl.	e/o Bake Pkwy.	66.5	66.5	0.0	NO
269. Muirlands Bl.	w/o Ridge Route Dr.	67.8	67.8	0.0	NO
270. Muirlands Bl.	e/o Ridge Route Dr.	67.8	67.8	0.0	NO
271. Muirlands Bl.	e/o El Toro Rd.	68.2	68.1	-0.1	NO
272. Muirlands Bl.	s/o Los Alisos Bl.	67.4	67.4	0.0	NO
273. Muirlands Bl.	e/o Alicia Pkwy.	66.5	66.5	0.0	NO
274. Oak Cyn.	w/o Sand Canyon. Av.	57.4	57.4	0.0	NO
275. Orchard Hills	n/o Portola Pkwy.	57.7	57.7	0.0	NO
276. Pacifica	w/o Fortune Dr.	64.7	64.7	0.0	NO
277. Pacifica	w/o (n/o) Alton Pkwy.	63.1	63.0	-0.1	NO
278. Paseo de Valencia	e/o El Toro Rd.	69.1	69.1	0.0	NO
279. Paseo de Valencia	w/o Los Alisos Bl.	69.8	69.8	0.0	NO
280. Paseo de Valencia	e/o Los Alisos Bl.	71.6	71.6	0.0	NO
281. Paseo de Valencia	w/o Alicia Pkwy.	70.4	70.5	0.1	NO
282. Paseo de Valencia	e/o Alicia Pkwy.	65.0	65.0	0.0	NO
283. Portola Pkwy.	w/o Jamboree Rd.	65.4	65.5	0.1	NO
284. Portola Pkwy.	w/o SR-261 SB Ramps	69.7	69.8	0.1	NO
285. Portola Pkwy.	e/o SR-261 NB Ramps	68.9	69.0	0.1	NO
286. Portola Pkwy.	e/o Culver Dr.	69.2	69.3	0.1	NO
287. Portola Pkwy.	w/o Jeffrey Rd.	69.8	69.8	0.0	NO
288. Portola Pkwy.	w/o Sand Canyon. Av.	68.8	68.8	0.0	NO
289. Portola Pkwy.	e/o Sand Canyon. Av.	68.0	68.1	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
290. Portola Pkwy.	w/o Ridge Valley	68.3	68.3	0.0	NO
291. Portola Pkwy.	e/o Ridge Valley	68.4	68.4	0.0	NO
292. Portola Pkwy.	b/w Silverado and Portola Springs	68.7	68.7	0.0	NO
293. Portola Pkwy.	e/o Portola Springs	68.0	68.1	0.1	NO
294. Portola Pkwy.	w/o Alton Pkwy.	60.5	60.2	-0.3	NO
295. Portola Pkwy.	e/o Alton Pkwy.	68.3	68.3	0.0	NO
296. Portola Pkwy.	w/o Lake Forest Dr.	69.9	69.9	0.0	NO
297. Portola Pkwy.	w/o Glenn Ranch Rd.	71.8	71.8	0.0	NO
298. Portola Pkwy.	e/o Glenn Ranch Rd.	70.3	70.2	-0.1	NO
299. Portola Pkwy. East	s/o SR-241 SB Ramps	70.3	70.3	0.0	NO
300. Portola Pkwy.	s/o Rancho Pkwy.	72.6	72.6	0.0	NO
301. Portola Pkwy.	e/o El Toro Rd.	71.9	71.8	-0.1	NO
302. Portola Springs	s/o Portola Pkwy.	62.6	62.4	-0.2	NO
303. Quail Hill Pkwy.	e/o Shady Canyon Dr.	67.3	67.3	0.0	NO
304. Rancho Pkwy. S	w/o Bake Pkwy.	63.5	63.6	0.1	NO
305. Rancho Pkwy.	w/o Lake Forest Dr.	68.3	68.2	-0.1	NO
306. Rancho Pkwy.	e/o Lake Forest Dr.	66.5	66.5	0.0	NO
307. Research Dr.	e/o ICD	63.9	63.9	0.0	NO
308. Research Dr.	w/o (n/o) Bake Pkwy.	65.1	65.1	0.0	NO
309. Research Dr.	n/o Lake Forest Dr.	65.2	65.2	0.0	NO
310. Ridge Route Dr.	s/o Trabuco Rd.	63.1	63.1	0.0	NO
311. Ridge Route Dr.	n/o Jeronimo Rd.	62.0	62.0	0.0	NO
312. Ridge Route Dr.	s/o Jeronimo Rd.	63.5	63.6	0.1	NO
313. Ridge Route Dr.	s/o Muirlands Bl.	62.6	62.6	0.0	NO
314. Ridge Route Dr.	s/o Rockfield B.	66.1	66.1	0.0	NO
315. Ridge Route Dr.	s/o (w/o) Avenida Carlota	65.3	65.3	0.0	NO
316. Ridge Route Dr.	s/o (w/o) Moulton Pkwy.	63.9	63.9	0.0	NO
317. Ridge Route Dr.	e/o Bake Pkwy.	63.3	63.3	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
318. Ridge Valley	s/o Portola Pkwy.	64.4	64.3	-0.1	NO
319. Rockfield Bl.	e/o Marine Wy	62.4	n/a	n/a	n/a
320. Rockfield Bl.	e/o Sterling	61.7	n/a	n/a	n/a
321. Rockfield Bl.	w/o Bake Pkwy.	64.6	63.2	-1.4	NO
322. Rockfield Bl.	w/o Lake Forest Dr.	66.3	66.3	0.0	NO
323. Rockfield Bl.	w/o Ridge Route Dr.	67.3	67.3	0.0	NO
324. Rockfield Bl.	e/o Ridge Route Dr.	67.3	67.3	0.0	NO
325. Rockfield Bl.	e/o El Toro Rd.	66.5	66.5	0.0	NO
326. Roosevelt	w/o Jeffrey Rd.	64.5	64.5	0.0	NO
327. Roosevelt	e/o Jeffrey Rd.	67.5	67.6	0.1	NO
328. Roosevelt	w/o Sand Canyon Av.	63.7	63.7	0.0	NO
329. Sand Canyon. Av.	n/o Irvine Bl.	68.7	68.6	-0.1	NO
330. Sand Canyon. Av.	s/o Irvine Bl.	70.7	70.7	0.0	NO
331. Sand Canyon. Av.	n/o Trabuco Rd.	70.1	70.1	0.0	NO
332. Sand Canyon. Av.	s/o Trabuco Rd.	77.8	77.7	-0.1	NO
333. Sand Canyon. Av.	s/o Roosevelt	78.0	78.0	0.0	NO
334. Sand Canyon. Av.	n/o I-5 NB Ramps	78.7	78.7	0.0	NO
335. Sand Canyon. Av.	b/w I-5 SB Ramps and Burt Rd.	72.8	72.9	0.1	NO
336. Sand Canyon. Av.	b/w Burt Rd. and Oak Cyn./Laguna Cyn. Rd.	72.9	72.9	0.0	NO
337. Sand Canyon. Av.	n/o ICD	71.9	72.0	0.1	NO
338. Sand Canyon. Av.	s/o Waterworks Wy.	71.5	71.5	0.0	NO
339. Sand Canyon. Av.	s/o Barranca Pkwy.	71.5	71.6	0.1	NO
340. Sand Canyon. Av.	b/w Alton Pkwy. and I-405 NB Ramps	71.8	71.8	0.0	NO
341. Santa Maria Av.	s/o Moulton Pkwy.	63.0	63.0	0.0	NO
342. Santa Maria Av.	e/o Laguna Canyon Rd.	59.8	59.8	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
343. Santiago Canyon Rd.	e/o SR-241 NB Ramp	67.2	67.3	0.1	NO
344. Scientific Wy.	s/o ICD	56.7	56.7	0.0	NO
345. Spectrum	w/o Fortune Dr.	53.9	53.9	0.0	NO
346. Sterling	b/w Rockfield Bl and Barranca Pkwy	55.1	n/a ³	n/a	n/a
347. Technology Dr.	e/o Barranca Pkwy.	67.5	67.6	0.1	NO
348. Technology Dr.	w/o Barranca Pkwy.	66.4	66.4	0.0	NO
349. Technology Dr.	e/o Laguna Canyon Rd.	65.7	65.6	-0.1	NO
350. Toledo Wy.	e/o Alton Pkwy.	61.1	62.4	1.3	NO
351. Toledo Wy.	w/o Lake Forest Dr.	61.3	61.5	0.2	NO
352. Toledo Wy.	w/o Ridge Route Dr.	60.5	60.5	0.0	NO
353. Toledo Wy.	e/o Ridge Route Dr.	62.6	62.6	0.0	NO
354. Trabuco Rd.	b/w Culver Dr. and I-5 NB Ramps	70.2	70.2	0.0	NO
355. Trabuco Rd.	e/o I-5 NB Ramps	67.7	67.8	0.1	NO
356. Trabuco Rd.	w/o Jeffrey Rd.	67.1	67.2	0.1	NO
357. Trabuco Rd.	e/o Jeffrey Rd.	67.2	67.3	0.1	NO
358. Trabuco Rd.	e/o Sand Canyon	68.5	68.4	-0.1	NO
359. Trabuco Rd.	e/o Bake Pkwy.	69.3	69.3	0.0	NO
360. Trabuco Rd.	b/w Lake Forest Dr. and Ridge Route Dr.	70.4	70.4	0.0	NO
361. Trabuco Rd.	w/o El Toro Rd.	70.9	70.9	0.0	NO
362. Trabuco Rd.	e/o El Toro Rd.	67.3	67.3	0.0	NO
363. Trabuco Rd.	n/o Alicia Pkwy.	67.8	67.7	-0.1	NO
364. Trabuco Rd.	s/o Alicia Pkwy.	64.9	64.9	0.0	NO
365. Tustin Ranch Rd.	w/o Jamboree	65.6	65.5	-0.1	NO
366. Tustin Ranch Rd.	s/o Portola Pkwy.	69.8	69.8	0.0	NO
367. Tustin Ranch Rd.	n/o La Colina Dr.	69.8	69.8	0.0	NO
368. Tustin Ranch Rd.	s/o Irvine Bl.	69.4	69.3	-0.1	NO
369. University Dr.	b/w I-405 SB Ramps and Michelson Dr.	73.4	73.4	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-9
Post-2030 With 2012 Modified Project Option 1
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
370. Walnut Av.	w/o Jamboree	69.1	69.1	0.0	NO
371. Walnut Av.	e/o Jamboree	69.3	69.3	0.0	NO
372. Walnut Av.	w/o Culver Dr.	68.5	68.6	0.1	NO
373. Walnut Av.	e/o Culver Dr.	68.5	68.5	0.0	NO
374. Walnut Av.	e/o Yale Av.	65.5	65.5	0.0	NO
375. Walnut Av.	w/o Jeffrey Rd.	67.3	67.3	0.0	NO
376. Warner Av.	w/o Paseo Westpark	64.7	64.8	0.1	NO
377. Warner Av.	w/o Culver Dr.	64.6	64.6	0.0	NO
378. Warner Av.	b/w Culver W. Yale Loop	64.8	64.9	0.1	NO
379. W. Yale Loop	s/o Barranca Pkwy.	62.4	62.5	0.1	NO
380. W. Yale Loop	s/o Alton Pkwy.	65.3	65.3	0.0	NO
381. Yale Av.	b/w Portola and Arborwood	57.1	57.1	0.0	NO
382. Yale Av.	b/w Park Pl. and Irvine Bl.	65.1	65.1	0.0	NO
383. Yale Av.	n/o Bryan Av.	63.7	63.7	0.0	NO
384. Yale Av.	n/o Trabuco Rd.	64.3	64.4	0.1	NO
385. Yale Av.	n/o Walnut Av.	64.5	64.6	0.1	NO
386. Yale Av.	s/o Walnut Av.	65.1	65.2	0.1	NO
387. Yale Av.	b/w Deerfield Dr. and ICD	65.5	65.5	0.0	NO
388. Yale Av.	b/w ICD and Yale Lp.	64.8	64.9	0.1	NO
389. Thomas	n/o Muirlands Bl.	52.5	52.7	0.2	NO
390. Thomas	s/o Muirlands Bl.	59.1	59.7	0.6	NO
391. Irvine Bl.	e/o Fairbanks	72.1	72.0	-0.1	NO
392. Fairbanks	e/o Alton Pkwy.	59.1	59.8	0.7	NO
393. Fairbanks	w/o Alton Pkwy.	55.9	59.7	3.8	NO
394. Fairbanks	s/o Astor St.	50.2	56.8	6.6	NO
395. Fairbanks	w/o Irvine Bl.	59.9	64.1	4.2	NO

Source: Noise Study prepared by Urban Crossroads, Inc., June 2012 (see Appendix G of this DSEIR).

Notes: n/o = north of; s/o = south of; b/w = between; SB = southbound; NB = northbound

¹ 2012 Modified Project Option 1.

² A significant impact is considered to occur when resulting noise levels exceed 65 dBA CNEL and the project creates an increase greater than 1.5 dBA.

³ n/a=Not available, because it is an existing segment that is not part of the 2012 Modified Project.

5. Environmental Analysis

NOISE

2012 Modified Project Option 2

As demonstrated in Table 5.8-10, 2012 Modified Project Option 2, as compared to the 2011 Approved Project, would result in a change in the off-site traffic noise levels of between -1.4 and 6.6 dBA CNEL on the 395 off-site roadway segments analyzed. Although three of the 395 off-site study area roadway segments located on Fairbanks near the Proposed Project Site entrance at Astor are expected to experience a project related noise level increase of greater than 1.5 dBA CNEL, the overall noise levels will not exceed the 65 dBA significance threshold. In addition, the three off-site study area roadway segments expected to experience a noise level increase of greater than three dBA are located within the Tri-Pointe Business Park and outside the noise sensitive areas. Since the 2012 Modified Project's off-site traffic noise level impacts do not exceed the screening significance threshold, its off-site traffic-related noise impacts are considered less than significant.

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
1. Ada	s/o Barranca Pkwy.	57.8	58.9	1.1	NO
2. Alicia Pkwy.	n/o Trabuco Rd.	70.7	70.7	0.0	NO
3. Alicia Pkwy.	s/o Trabuco Rd.	71.2	71.2	0.0	NO
4. Alicia Pkwy.	s/o Jeronimo Rd.	72.6	72.6	0.0	NO
5. Alicia Pkwy.	n/o Muirlands Bl.	72.6	72.6	0.0	NO
6. Alicia Pkwy.	b/w I-5 NB Ramps and Muirlands Bl.	73.0	73.0	0.0	NO
7. Alicia Pkwy.	s/o I-5 SB Ramps	72.1	72.1	0.0	NO
8. Alicia Pkwy.	s/o Paseo de Valencia	71.5	71.5	0.0	NO
9. Alicia Pkwy.	s/o Moulton Pkwy.	71.3	71.3	0.0	NO
10. Aliso Creek Rd.	e/o El Toro Rd.	66.2	66.2	0.0	NO
11. Alton Pkwy.	w/o Culver Dr.	69.9	70.0	0.1	NO
12. Alton Pkwy.	e/o Culver Dr.	69.0	69.0	0.0	NO
13. Alton Pkwy.	e/o W. Yale Loop	68.8	68.9	0.1	NO
14. Alton Pkwy.	e/o Lake Rd.	68.6	68.6	0.0	NO
15. Alton Pkwy.	e/o Creek Rd.	68.4	68.4	0.0	NO
16. Alton Pkwy.	w/o Jeffrey Rd.	69.2	69.2	0.0	NO
17. Alton Pkwy.	b/w Jeffrey Rd. and Royal Oak	68.1	68.1	0.0	NO
18. Alton Pkwy.	b/w Royal Oak and Valley Oak	67.6	67.6	0.0	NO
19. Alton Pkwy.	w/o Sand Canyon Av.	68.8	68.8	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
20. Alton Pkwy.	e/o Sand Canyon. Av.	70.7	70.7	0.0	NO
21. Alton Pkwy.	e/o Laguna Canyon Rd.	67.2	67.2	0.0	NO
22. Alton Pkwy.	b/w Pacifica and Banting	67.4	67.5	0.1	NO
23. Alton Pkwy.	w/o Meridian	66.9	66.9	0.0	NO
24. Alton Pkwy.	b/w Meridian and ICD	68.2	68.2	0.0	NO
25. Alton Pkwy.	b/w Enterprise and Gateway Bl.	71.3	71.4	0.1	NO
26. Alton Pkwy.	b/w Enterprise and I-5 NB Ramps	72.8	72.8	0.0	NO
27. Alton Pkwy.	b/w I-5 NB Ramps and Technology Dr. W	72.9	72.9	0.0	NO
28. Alton Pkwy.	b/w Technology Dr. W and Ada	71.6	71.7	0.1	NO
29. Alton Pkwy.	e/o Ada	71.1	71.1	0.0	NO
30. Alton Pkwy.	w/o Marine Wy.	71.3	71.4	0.1	NO
31. Alton Pkwy.	e/o Technology	71.3	71.4	0.1	NO
32. Alton Pkwy.	s/o Barranca Pkwy./Muirlands Bl.	71.2	71.3	0.1	NO
33. Alton Pkwy.	n/o Barranca Pkwy./Muirlands Bl.	71.9	71.9	0.0	NO
34. Alton Pkwy.	s/o Jeronimo Rd.	71.9	71.9	0.0	NO
35. Alton Pkwy.	n/o Jeronimo Rd.	71.5	71.4	-0.1	NO
36. Alton Pkwy.	s/o Toledo Wy.	70.6	70.5	-0.1	NO
37. Alton Pkwy.	n/o Toledo Wy.	70.6	70.4	-0.2	NO
38. Alton Pkwy.	s/o Irvine Bl. / Trabuco Rd.	70.8	70.9	0.1	NO
39. Alton Pkwy.	n/o Irvine Bl.	71.6	71.7	0.1	NO
40. Alton Pkwy.	n/o Commercentre	72.1	72.1	0.0	NO
41. Alton Pkwy.	s/o SR-241 Ramps	68.4	68.4	0.0	NO
42. Alton Pkwy.	n/o SR-241 Ramps	69.3	69.3	0.0	NO
43. Avenida Carlota	w/o Ridge Route Dr.	63.6	63.6	0.0	NO
44. Avenida Carlota	w/o Paseo de Valencia	65.9	65.9	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
45. Avenida Carlota	b/w Paseo de Valencia and El Toro Rd.	69.1	69.1	0.0	NO
46. Avenida Carlota	e/o El Toro Rd.	67.2	67.2	0.0	NO
47. Bake Pkwy.	s/o Portola Pkwy.	66.5	66.5	0.0	NO
48. Bake Pkwy.	n/o Commercentre Dr.	68.7	68.7	0.0	NO
49. Bake Pkwy.	n/o Irvine Bl.	69.3	69.3	0.0	NO
50. Bake Pkwy.	s/o Irvine Bl.	72.5	72.5	0.0	NO
51. Bake Pkwy.	b/w Toledo Wy. and Jeronimo Rd.	73.1	73.1	0.0	NO
52. Bake Pkwy.	n/o Muirlands Bl.	73.6	73.6	0.0	NO
53. Bake Pkwy.	s/o Muirlands Bl.	78.7	78.7	0.0	NO
54. Bake Pkwy.	s/o Rockfield Bl.	74.5	74.6	0.1	NO
55. Bake Pkwy.	n/o I-5 NB Ramps	74.8	74.8	0.0	NO
56. Bake Pkwy.	b/w I-5 SB Ramps and Research Dr.	71.1	71.2	0.1	NO
57. Bake Pkwy.	b/w Research Dr. and ICD	68.0	68.0	0.0	NO
58. Bake Pkwy.	s/ICD	67.7	67.7	0.0	NO
59. Bake Pkwy.	b/w Lake Forest Dr. and Ridge Route Dr.	60.9	60.9	0.0	NO
60. Bake Pkwy.	b/w Ridge Route Dr. and Laguna Canyon	65.9	66.0	0.1	NO
61. Barranca Pkwy.	w/o Culver Dr.	69.9	70.0	0.1	NO
62. Barranca Pkwy.	e/o Culver Dr.	69.4	69.4	0.0	NO
63. Barranca Pkwy.	e/o W. Yale Lp.	69.0	69.0	0.0	NO
64. Barranca Pkwy.	e/o Lake Rd.	68.5	68.5	0.0	NO
65. Barranca Pkwy.	b/w Creek Rd. and Lyon	68.3	68.3	0.0	NO
66. Barranca Pkwy.	w/o E. Yale Lp.	68.3	68.3	0.0	NO
67. Barranca Pkwy.	w/o Jeffrey Rd.	68.8	68.8	0.0	NO
68. Barranca Pkwy.	e/o Jeffrey Rd.	66.9	66.9	0.0	NO
69. Barranca Pkwy.	w/o Sand Canyon. Av.	66.9	67.0	0.1	NO
70. Barranca Pkwy.	e/o Sand Canyon. Av.	66.3	66.3	0.0	NO
71. Barranca Pkwy.	e/o Laguna Canyon Rd.	66.1	66.1	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
72. Barranca Pkwy.	b/w Discovery and Banting	65.6	65.6	0.0	NO
73. Barranca Pkwy.	s/o ICD	66.9	67.0	0.1	NO
74. Barranca Pkwy.	b/w I-5 HOV Ramp and ICD	67.5	67.6	0.1	NO
75. Barranca Pkwy.	s/o Technology	67.8	67.9	0.1	NO
76. Barranca Pkwy.	n/o Technology	68.0	68.2	0.2	NO
77. Barranca Pkwy.	e/o Ada	67.5	67.8	0.3	NO
78. Barranca Pkwy.	w/o Marine Wy.	68.3	68.5	0.2	NO
79. Barranca Pkwy.	w/o Alton Pkwy.	67.8	67.5	-0.3	NO
80. Barranca Pkwy.	e/o Alton Pkwy.	67.2	67.5	0.3	NO
81. Barranca Pkwy.	e/o Sterling	66.3	66.4	0.1	NO
82. Bryan Av.	w/o Jamboree Rd.	67.6	67.6	0.0	NO
83. Bryan Av.	e/o Jamboree Rd.	67.3	67.4	0.1	NO
84. Bryan Av.	w/o Culver Dr.	68.6	68.7	0.1	NO
85. Bryan Av.	e/o Culver Dr.	67.2	67.3	0.1	NO
86. Bryan Av.	e/o Eastwood	65.8	65.9	0.1	NO
87. Canyon View Av.	w/o Jamboree Rd.	62.2	62.1	-0.1	NO
88. Chapman Ave.	w/o Jamboree Rd.	69.1	69.4	0.3	NO
89. Chapman Ave.	e/o Jamboree Rd.	71.1	71.0	-0.1	NO
90. Creek Rd.	n/o Alton Pkwy.	55.7	55.7	0.0	NO
91. Culver Dr.	s/o Portola Pkwy.	69.7	69.7	0.0	NO
92. Culver Dr.	n/o Irvine Bl.	70.1	70.2	0.1	NO
93. Culver Dr.	s/o Irvine Bl.	71.2	71.3	0.1	NO
94. Culver Dr.	n/o Bryan Av.	70.7	70.7	0.0	NO
95. Culver Dr.	s/o Bryan Av.	72.7	72.7	0.0	NO
96. Culver Dr.	n/o Trabuco Rd.	72.8	72.8	0.0	NO
97. Culver Dr.	s/o I-5 SB Ramps	73.2	73.2	0.0	NO
98. Culver Dr.	n/o Walnut Av.	72.7	72.8	0.1	NO
99. Culver Dr.	b/w Walnut Av. and Deerfield Dr.	72.4	72.4	0.0	NO
100. Culver Dr.	b/w Deerfield Dr. and ICD	71.9	72.0	0.1	NO
101. Culver Dr.	b/w ICD and Warner Av.	72.2	72.3	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
102. Culver Dr.	b/w Warner Av. and Barranca Pkwy.	72.3	72.4	0.1	NO
103. Culver Dr.	n/o Alton Pkwy.	72.7	72.7	0.0	NO
104. Culver Dr.	b/w Alton Pkwy. and Main St.	72.8	72.8	0.0	NO
105. Culver Dr.	b/w Main St. and San Leandro	72.8	72.8	0.0	NO
106. Culver Dr.	b/w San Leandro and I-405 NB Ramps	73.3	73.3	0.0	NO
107. E. Yale Lp.	s/o Barranca Pkwy.	64.2	64.2	0.0	NO
108. E. Yale Lp.	n/o Alton Pkwy.	65.0	65.0	0.0	NO
109. E. Yale Lp.	s/o Alton Pkwy.	65.0	65.0	0.0	NO
110. El Camino Real	e/o Tustin Ranch Rd.	65.7	65.7	0.0	NO
111. El Camino Real	e/o Jamboree Rd.	68.2	68.3	0.1	NO
112. El Camino Real N.	s/o Bryan Ave.	63.3	63.3	0.0	NO
113. El Toro Rd.	n/o Portola Pkwy./S. Margarita Pkwy.	67.9	67.9	0.0	NO
114. El Toro Rd.	s/o Portola Pkwy./S. Margarita Pkwy.	71.2	71.2	0.0	NO
115. El Toro Rd.	n/o Trabuco Rd.	68.3	68.3	0.0	NO
116. El Toro Rd.	n/o Toledo Wy.	72.6	72.6	0.0	NO
117. El Toro Rd.	n/o Jeronimo Rd.	72.6	72.6	0.0	NO
118. El Toro Rd.	s/o Jeronimo Rd.	72.8	72.8	0.0	NO
119. El Toro Rd.	n/o Rockfield Bl.	73.2	73.2	0.0	NO
120. El Toro Rd.	b/w Rockfield Bl. and I-5 NB Ramps	74.3	74.3	0.0	NO
121. El Toro Rd.	b/w I-5 SB Ramps and Avenida Carlota	71.4	71.4	0.0	NO
122. El Toro Rd.	n/o Paseo de Valencia	69.6	69.6	0.0	NO
123. El Toro Rd.	s/o Paseo de Valencia	70.0	70.0	0.0	NO
124. El Toro Rd.	s/o Moulton Pkwy.	70.0	69.9	-0.1	NO
125. El Toro Rd.	n/o Aliso Creek Rd.	69.1	69.1	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
126. El Toro Rd.	n/o SR-73	69.6	69.6	0.0	NO
127. El Toro Rd.	s/o SR-73	66.0	66.0	0.0	NO
128. Fortune Dr.	b/w Gateway Bl. and Spectrum	63.8	63.8	0.0	NO
129. Fortune Dr.	b/w Pacifica and Spectrum	63.9	63.9	0.0	NO
130. Gateway Bl.	w/o Fortune Dr.	62.9	62.9	0.0	NO
131. Gateway Bl.	n/o Alton Pkwy.	56.7	56.7	0.0	NO
132. Gateway Bl.	w/o ICD	58.7	58.9	0.2	NO
133. Glenn Ranch Rd.	n/o Portola Pkwy.	68.2	68.2	0.0	NO
134. Glenwood Dr.	w/o Moulton Pkwy.	64.2	64.2	0.0	NO
135. Handy Creek Rd.	e/o Jamboree Rd.	54.1	53.9	-0.2	NO
136. Harvard Av.	s/o Walnut Av.	60.0	59.9	-0.1	NO
137. Harvard Av.	n/o Edinger Av.	65.6	65.6	0.0	NO
138. Harvard Av.	b/w Edinger Av. And Paseo Westpark	66.2	66.2	0.0	NO
139. Hubble	n/o ICD	57.4	57.4	0.0	NO
140. Irvine Bl.	b/w Newport and Red Hill	72.2	72.3	0.1	NO
141. Irvine Bl.	b/w Red Hill and Browning	70.8	70.9	0.1	NO
142. Irvine Bl.	w/o Tustin Ranch Rd.	71.6	71.7	0.1	NO
143. Irvine Bl.	w/o Jamboree Rd.	71.1	71.1	0.0	NO
144. Irvine Bl.	e/o Jamboree Rd.	72.2	72.2	0.0	NO
145. Irvine Bl.	b/w SR-261 Ramps	72.0	72.1	0.1	NO
146. Irvine Bl.	e/o SR-261 NB Ramps	72.2	72.2	0.0	NO
147. Irvine Bl.	w/o Culver Dr.	71.5	71.5	0.0	NO
148. Irvine Bl.	e/o Culver Dr.	71.5	71.6	0.1	NO
149. Irvine Bl.	e/o Yale Av.	71.9	71.9	0.0	NO
150. Irvine Bl.	w/o Jeffrey Rd.	71.4	71.4	0.0	NO
151. Irvine Bl.	e/o Jeffrey Rd.	71.2	71.3	0.1	NO
152. Irvine Bl.	e/o Groveland	71.3	71.3	0.0	NO
153. Irvine Bl.	e/o Sand Canyon. Av.	71.5	71.6	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
154. Irvine Bl.	e/o SR-133 NB Ramps	71.9	72.0	0.1	NO
155. Irvine Bl.	w/o O St.	71.3	71.3	0.0	NO
156. Irvine Bl.	e/o O St.	71.6	71.6	0.0	NO
157. Irvine Bl.	w/o A St.	71.6	71.7	0.1	NO
158. Irvine Bl.	w/o Z St.	72.2	72.3	0.1	NO
159. Irvine Bl.	e/o Z St.	72.3	72.4	0.1	NO
160. Irvine Bl.	w/o LQ St.	72.3	72.2	-0.1	NO
161. Irvine Bl.	e/o LQ St.	72.8	72.6	-0.2	NO
162. Irvine Bl.	w/o Alton Pkwy.	73.0	72.8	-0.2	NO
163. Irvine Bl.	e/o Alton Pkwy.	72.1	71.9	-0.2	NO
164. ICD/Edinger Av.	w/o Jamboree	69.1	69.2	0.1	NO
165. ICD/Edinger Av.	e/o Jamboree	69.7	69.7	0.0	NO
166. ICD	e/o Hearthstone Bl.	69.7	69.8	0.1	NO
167. ICD	e/o Culver Dr.	69.9	69.9	0.0	NO
168. ICD	b/w Yale Av. And Fontaine Av.	70.2	70.2	0.0	NO
169. ICD	e/o Jeffrey Rd.	71.8	71.8	0.0	NO
170. ICD	w/o Sand Canyon Av.	69.7	69.8	0.1	NO
171. ICD	e/o Sand Canyon Av.	68.5	68.5	0.0	NO
172. ICD	b/w Laguna Canyon Rd. and Discovery	68.1	68.2	0.1	NO
173. ICD	w/o Barranca Pkwy.	69.1	69.1	0.0	NO
174. ICD	b/w Barranca Pkwy. and Gateway Bl.	69.3	69.4	0.1	NO
175. ICD	b/w Gateway Alton Pkwy.	68.8	68.8	0.0	NO
176. ICD	b/w Alton Pkwy. and Spectrum	71.0	71.0	0.0	NO
177. ICD	b/w Pacifica and Enterprise Dr.	71.1	71.1	0.0	NO
178. ICD	b/w Enterprise and I-405 SB Ramps	72.9	72.9	0.0	NO
179. ICD	b/w I-405 SB Ramps and Research Dr.	72.0	72.0	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
180. ICD	b/w Research Dr. and Hubble	69.4	69.4	0.0	NO
181. ICD	b/w Hubble and Bake Pkwy.	69.1	69.1	0.0	NO
182. ICD	b/w Bake Pkwy. and Muller	68.9	68.9	0.0	NO
183. ICD	b/w Muller and Tesla	68.8	68.8	0.0	NO
184. ICD	w/o Lake Forest Dr.	68.7	68.7	0.0	NO
185. Jamboree Rd.	n/o Chapman/Santiago Cyn.	67.9	68.1	0.2	NO
186. Jamboree Rd.	s/o Chapman Av.	66.3	66.7	0.4	NO
187. Jamboree Rd.	s/o Canyon View Av.	68.7	68.9	0.2	NO
188. Jamboree Rd.	n/o Tustin Ranch Rd.	69.1	69.2	0.1	NO
189. Jamboree Rd.	s/o Tustin Ranch Rd.	69.0	69.2	0.2	NO
190. Jamboree Rd.	n/o Irvine Bl.	69.2	69.3	0.1	NO
191. Jamboree Rd.	s/o Irvine Bl.	76.5	76.5	0.0	NO
192. Jamboree Rd.	s/o Bryan Av.	76.7	76.7	0.0	NO
193. Jamboree Rd.	b/w El Camino Real and I-5 NB Ramps	78.6	78.6	0.0	NO
194. Jamboree Rd.	n/o Michelle Dr.	78.5	78.5	0.0	NO
195. Jamboree Rd.	s/o Michelle Dr.	73.3	73.3	0.0	NO
196. Jamboree Rd.	n/o Edinger Av.	80.6	80.6	0.0	NO
197. Jamboree Rd.	s/o Edinger Av.	80.1	80.1	0.0	NO
198. Jeffrey Rd.	e/o SR-241 NB Ramps	60.5	60.3	-0.2	NO
199. Jeffrey Rd.	n/o Portola Pkwy.	64.8	64.8	0.0	NO
200. Jeffrey Rd.	n/o Irvine Bl.	70.9	70.9	0.0	NO
201. Jeffrey Rd.	n/o Bryan Av.	71.1	71.2	0.1	NO
202. Jeffrey Rd.	n/o Trabuco Rd.	72.3	72.3	0.0	NO
203. Jeffrey Rd.	s/o Trabuco Rd.	72.7	72.8	0.1	NO
204. Jeffrey Rd.	b/w Roosevelt and I-5 NB Ramps	74.0	74.1	0.1	NO
205. Jeffrey Rd.	s/o Walnut Av./I-5 SB Ramps	72.7	72.6	-0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
206. Jeffrey Rd.	s/o Irvine Center Drive	72.6	72.6	0.0	NO
207. Jeffrey Rd.	n/o Alton Pkwy.	72.4	72.4	0.0	NO
208. Jeffrey Rd.	b/w Quailcreek and I-405 NB Ramps	73.2	73.3	0.1	NO
209. Jeronimo Rd.	e/o Alton Pkwy.	63.0	63.0	0.0	NO
210. Jeronimo Rd.	w/o Lake Forest Dr.	64.3	64.3	0.0	NO
211. Jeronimo Rd.	e/o Lake Forest Dr.	65.8	65.8	0.0	NO
212. Jeronimo Rd.	e/o Ridge Route Dr.	65.3	65.3	0.0	NO
213. Jeromino Rd.	w/o Los Alisos Bl.	68.0	68.0	0.0	NO
214. Jeromino Rd.	e/o Los Alisos Bl.	67.3	67.3	0.0	NO
215. Jeronimo Rd.	s/o Alicia Pkwy.	67.6	67.6	0.0	NO
216. Laguna Canyon Rd.	b/w ICD and Discovery	62.7	62.7	0.0	NO
217. Laguna Canyon Rd.	b/w Waterworks Wy. and ICD	62.7	62.8	0.1	NO
218. Laguna Canyon Rd.	n/o Alton Pkwy.	62.2	62.2	0.0	NO
219. Laguna Canyon Rd.	s/o Alton Pkwy.	64.2	64.2	0.0	NO
220. Laguna Canyon Rd.	n/o Quail Hill Pkwy.	63.2	63.2	0.0	NO
221. Laguna Canyon Rd.	s/o Quail Hill Pkwy.	65.2	65.2	0.0	NO
222. Laguna Canyon Rd.	n/o SR-73 NB Ramps	69.7	69.7	0.0	NO
223. Laguna Hills Dr.	s/o Paseo de Valencia	67.3	67.4	0.1	NO
224. Laguna Hills Dr.	w/o Moulton Pkwy.	69.7	69.7	0.0	NO
225. Lake Rd.	n/o Alton Pkwy.	56.9	56.9	0.0	NO
226. Lake Forest Dr.	s/o Portola Pkwy.	66.1	66.1	0.0	NO
227. Lake Forest Dr.	s/o SR-241 SB Ramps	68.0	67.9	-0.1	NO
228. Lake Forest Dr.	s/o Rancho Pkwy.	69.1	69.1	0.0	NO
229. Lake Forest Dr.	n/o Trabuco Rd.	69.1	69.1	0.0	NO
230. Lake Forest Dr.	s/o Trabuco Rd.	71.0	71.0	0.0	NO
231. Lake Forest Dr.	n/o Jeronimo Rd.	70.8	70.8	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
232. Lake Forest Dr.	s/o Jeronimo Rd.	70.9	70.9	0.0	NO
233. Lake Forest Dr.	n/o Muirlands Bl.	69.8	69.8	0.0	NO
234. Lake Forest Dr.	n/o Rockfield Bl.	71.6	71.6	0.0	NO
235. Lake Forest Dr.	b/w Rockfield Bl. and I-5 NB Ramps	73.7	73.7	0.0	NO
236. Lake Forest Dr.	s/o Avenida Carlota/I-5 SB Ramps	69.2	69.2	0.0	NO
237. Lake Forest Dr.	s/o ICD	66.6	66.7	0.1	NO
238. Lake Forest Dr.	b/w Scientific Way and Tesla	69.0	69.0	0.0	NO
239. Lake Forest Dr.	e/o Bake Pkwy.	69.3	69.4	0.1	NO
240. Lake Forest Dr.	w/o Bake Pkwy.	67.9	67.9	0.0	NO
241. Los Alisos Bl.	n/o Trabuco Rd.	67.1	67.1	0.0	NO
242. Los Alisos Bl.	s/o Trabuco Rd.	69.3	69.3	0.0	NO
243. Los Alisos Bl.	e/o Muirlands Bl.	71.0	71.0	0.0	NO
244. Los Alisos Bl.	w/o Muirlands Bl.	69.1	69.1	0.0	NO
245. Los Alisos Bl.	s/o Rockfield Bl./Fordview St.	69.8	69.8	0.0	NO
246. Los Alisos Bl.	b/w Avenida Carlota and Paseo de Valencia	68.9	68.9	0.0	NO
247. Marine Wy.	w/o O St.	67.6	68.2	0.6	NO
248. Marine Wy.	e/o O St.	68.1	68.7	0.6	NO
249. Marine Wy.	w/o D St.	68.0	68.6	0.6	NO
250. Marine Wy.	e/o D St.	67.4	68.1	0.7	NO
251. Marine Wy	w/o Great Park Blvd East	67.5	68.2	0.7	NO
252. Marine Wy	w/o B St	67.5	68.7	1.2	NO
253. Marine Wy	e/o B St	67.3	67.5	0.2	NO
254. Marine Wy.	n/o Barranca Pkwy.	67.9	67.7	-0.2	NO
255. Marine Wy.	s/o Barranca Pkwy.	66.0	65.7	-0.3	NO
256. Marine Wy.	n/o Rockfield Bl.	68.6	68.0	-0.6	NO
257. Marine Wy.	s/o Rockfield Bl.	67.6	68.2	0.6	NO
258. Meridian	n/o Alton Pkwy.	54.4	54.4	0.0	NO
259. Modjeska	n/o Irvine Bl.	60.7	60.8	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
260. Moulton Pkwy.	e/o (s/o) Lake Forest	69.8	69.8	0.0	NO
261. Moulton Pkwy.	e/o (s/o) Ridge Route	70.8	70.7	-0.1	NO
262. Moulton Pkwy.	w/o (n/o) El Toro Rd.	71.3	71.3	0.0	NO
263. Moulton Pkwy.	e/o (s/o) El Toro Rd.	71.4	71.4	0.0	NO
264. Moulton Pkwy.	b/w Glenwood/Indian Creek and Laguna Hills Dr.	71.0	71.0	0.0	NO
265. Moulton Pkwy.	s/o Laguna Hills Dr.	69.7	69.7	0.0	NO
266. Moulton Pkwy.	s/o Alicia Pkwy.	69.0	69.0	0.0	NO
267. Muirlands Bl.	w/o Bake Pkwy.	66.6	66.6	0.0	NO
268. Muirlands Bl.	e/o Bake Pkwy.	66.5	66.5	0.0	NO
269. Muirlands Bl.	w/o Ridge Route Dr.	67.8	67.8	0.0	NO
270. Muirlands Bl.	e/o Ridge Route Dr.	67.8	67.8	0.0	NO
271. Muirlands Bl.	e/o El Toro Rd.	68.2	68.1	-0.1	NO
272. Muirlands Bl.	s/o Los Alisos Bl.	67.4	67.4	0.0	NO
273. Muirlands Bl.	e/o Alicia Pkwy.	66.5	66.5	0.0	NO
274. Oak Cyn.	w/o Sand Canyon. Av.	57.4	57.4	0.0	NO
275. Orchard Hills	n/o Portola Pkwy.	57.7	57.7	0.0	NO
276. Pacifica	w/o Fortune Dr.	64.7	64.6	-0.1	NO
277. Pacifica	w/o (n/o) Alton Pkwy.	63.1	63.0	-0.1	NO
278. Paseo de Valencia	e/o El Toro Rd.	69.1	69.1	0.0	NO
279. Paseo de Valencia	w/o Los Alisos Bl.	69.8	69.8	0.0	NO
280. Paseo de Valencia	e/o Los Alisos Bl.	71.6	71.6	0.0	NO
281. Paseo de Valencia	w/o Alicia Pkwy.	70.4	70.5	0.1	NO
282. Paseo de Valencia	e/o Alicia Pkwy.	65.0	65.0	0.0	NO
283. Portola Pkwy.	w/o Jamboree Rd.	65.4	65.5	0.1	NO
284. Portola Pkwy.	w/o SR-261 SB Ramps	69.7	69.9	0.2	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
285. Portola Pkwy.	e/o SR-261 NB Ramps	68.9	69.0	0.1	NO
286. Portola Pkwy.	e/o Culver Dr.	69.2	69.3	0.1	NO
287. Portola Pkwy.	w/o Jeffrey Rd.	69.8	69.8	0.0	NO
288. Portola Pkwy.	w/o Sand Canyon. Av.	68.8	68.8	0.0	NO
289. Portola Pkwy.	e/o Sand Canyon. Av.	68.0	68.0	0.0	NO
290. Portola Pkwy.	w/o Ridge Valley	68.3	68.3	0.0	NO
291. Portola Pkwy.	e/o Ridge Valley	68.4	68.4	0.0	NO
292. Portola Pkwy.	b/w Silverado and Portola Springs	68.7	68.7	0.0	NO
293. Portola Pkwy.	e/o Portola Springs	68.0	68.1	0.1	NO
294. Portola Pkwy.	w/o Alton Pkwy.	60.5	60.2	-0.3	NO
295. Portola Pkwy.	e/o Alton Pkwy.	68.3	68.3	0.0	NO
296. Portola Pkwy.	w/o Lake Forest Dr.	69.9	69.9	0.0	NO
297. Portola Pkwy.	w/o Glenn Ranch Rd.	71.8	71.8	0.0	NO
298. Portola Pkwy.	e/o Glenn Ranch Rd.	70.3	70.2	-0.1	NO
299. Portola Pkwy. East	s/o SR-241 SB Ramps	70.3	70.3	0.0	NO
300. Portola Pkwy.	s/o Rancho Pkwy.	72.6	72.6	0.0	NO
301. Portola Pkwy.	e/o El Toro Rd.	71.9	71.8	-0.1	NO
302. Portola Springs	s/o Portola Pkwy.	62.6	62.4	-0.2	NO
303. Quail Hill Pkwy.	e/o Shady Canyon Dr.	67.3	67.3	0.0	NO
304. Rancho Pkwy. S	w/o Bake Pkwy.	63.5	63.6	0.1	NO
305. Rancho Pkwy.	w/o Lake Forest Dr.	68.3	68.2	-0.1	NO
306. Rancho Pkwy.	e/o Lake Forest Dr.	66.5	66.5	0.0	NO
307. Research Dr.	e/o ICD	63.9	63.9	0.0	NO
308. Research Dr.	w/o (n/o) Bake Pkwy.	65.1	65.1	0.0	NO
309. Research Dr.	n/o Lake Forest Dr.	65.2	65.2	0.0	NO
310. Ridge Route Dr.	s/o Trabuco Rd.	63.1	63.1	0.0	NO
311. Ridge Route Dr.	n/o Jeronimo Rd.	62.0	62.0	0.0	NO
312. Ridge Route Dr.	s/o Jeronimo Rd.	63.5	63.6	0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
313. Ridge Route Dr.	s/o Muirlands Bl.	62.6	62.6	0.0	NO
314. Ridge Route Dr.	s/o Rockfield B.	66.1	66.1	0.0	NO
315. Ridge Route Dr.	s/o (w/o) Avenida Carlota	65.3	65.3	0.0	NO
316. Ridge Route Dr.	s/o (w/o) Moulton Pkwy.	63.9	64.0	0.1	NO
317. Ridge Route Dr.	e/o Bake Pkwy.	63.3	63.3	0.0	NO
318. Ridge Valley	s/o Portola Pkwy.	64.4	64.3	-0.1	NO
319. Rockfield Bl.	e/o Marine Wy	62.4	n/a	n/a	n/a
320. Rockfield Bl.	e/o Sterling	61.7	n/a ³	n/a	n/a
321. Rockfield Bl.	w/o Bake Pkwy.	64.6	63.2	-1.4	NO
322. Rockfield Bl.	w/o Lake Forest Dr.	66.3	66.3	0.0	NO
323. Rockfield Bl.	w/o Ridge Route Dr.	67.3	67.3	0.0	NO
324. Rockfield Bl.	e/o Ridge Route Dr.	67.3	67.3	0.0	NO
325. Rockfield Bl.	e/o El Toro Rd.	66.5	66.5	0.0	NO
326. Roosevelt	w/o Jeffrey Rd.	64.5	64.5	0.0	NO
327. Roosevelt	e/o Jeffrey Rd.	67.5	67.6	0.1	NO
328. Roosevelt	w/o Sand Canyon Av.	63.7	63.7	0.0	NO
329. Sand Canyon. Av.	n/o Irvine Bl.	68.7	68.7	0.0	NO
330. Sand Canyon. Av.	s/o Irvine Bl.	70.7	70.7	0.0	NO
331. Sand Canyon. Av.	n/o Trabuco Rd.	70.1	70.1	0.0	NO
332. Sand Canyon. Av.	s/o Trabuco Rd.	77.8	77.7	-0.1	NO
333. Sand Canyon. Av.	s/o Roosevelt	78.0	78.0	0.0	NO
334. Sand Canyon. Av.	n/o I-5 NB Ramps	78.7	78.7	0.0	NO
335. Sand Canyon. Av.	b/w I-5 SB Ramps and Burt Rd.	72.8	72.9	0.1	NO
336. Sand Canyon. Av.	b/w Burt Rd. and Oak Cyn./Laguna Cyn. Rd.	72.9	72.9	0.0	NO
337. Sand Canyon. Av.	n/o ICD	71.9	72.0	0.1	NO
338. Sand Canyon. Av.	s/o Waterworks Wy.	71.5	71.5	0.0	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
339. Sand Canyon. Av.	s/o Barranca Pkwy.	71.5	71.6	0.1	NO
340. Sand Canyon. Av.	b/w Alton I-405 NB Ramps	71.8	71.8	0.0	NO
341. Santa Maria Av.	s/o Moulton Pkwy.	63.0	63.0	0.0	NO
342. Santa Maria Av.	e/o Laguna Canyon Rd.	59.8	59.8	0.0	NO
343. Santiago Canyon Rd.	e/o SR-241 NB Ramp	67.2	67.3	0.1	NO
344. Scientific Wy.	s/o ICD	56.7	56.7	0.0	NO
345. Spectrum	w/o Fortune Dr.	53.9	54.1	0.2	NO
346. Sterling	b/w Rockfield Bl and Barranca Pkwy	55.1	n/a	n/a	n/a
347. Technology Dr.	e/o Barranca Pkwy.	67.5	67.6	0.1	NO
348. Technology Dr.	w/o Barranca Pkwy.	66.4	66.4	0.0	NO
349. Technology Dr.	e/o Laguna Canyon Rd.	65.7	65.6	-0.1	NO
350. Toledo Wy.	e/o Alton Pkwy.	61.1	62.4	1.3	NO
351. Toledo Wy.	w/o Lake Forest Dr.	61.3	61.5	0.2	NO
352. Toledo Wy.	w/o Ridge Route Dr.	60.5	60.4	-0.1	NO
353. Toledo Wy.	e/o Ridge Route Dr.	62.6	62.6	0.0	NO
354. Trabuco Rd.	b/w Culver Dr. and I-5 NB Ramps	70.2	70.3	0.1	NO
355. Trabuco Rd.	e/o I-5 NB Ramps	67.7	67.8	0.1	NO
356. Trabuco Rd.	w/o Jeffrey Rd.	67.1	67.2	0.1	NO
357. Trabuco Rd.	e/o Jeffrey Rd.	67.2	67.3	0.1	NO
358. Trabuco Rd.	e/o Sand Canyon	68.5	68.4	-0.1	NO
359. Trabuco Rd.	e/o Bake Pkwy.	69.3	69.3	0.0	NO
360. Trabuco Rd.	b/w Lake Forest Ridge Route Dr.	70.4	70.4	0.0	NO
361. Trabuco Rd.	w/o El Toro Rd.	70.9	70.9	0.0	NO
362. Trabuco Rd.	e/o El Toro Rd.	67.3	67.3	0.0	NO
363. Trabuco Rd.	n/o Alicia Pkwy.	67.8	67.7	-0.1	NO
364. Trabuco Rd.	s/o Alicia Pkwy.	64.9	64.9	0.0	NO
365. Tustin Ranch Rd.	w/o Jamboree	65.6	65.5	-0.1	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
366. Tustin Ranch Rd.	s/o Portola Pkwy.	69.8	69.8	0.0	NO
367. Tustin Ranch Rd.	n/o La Colina Dr.	69.8	69.8	0.0	NO
368. Tustin Ranch Rd.	s/o Irvine Bl.	69.4	69.3	-0.1	NO
369. University Dr.	b/w I-405 SB Ramps and Michelson Dr.	73.4	73.4	0.0	NO
370. Walnut Av.	w/o Jamboree	69.1	69.1	0.0	NO
371. Walnut Av.	e/o Jamboree	69.3	69.3	0.0	NO
372. Walnut Av.	w/o Culver Dr.	68.5	68.6	0.1	NO
373. Walnut Av.	e/o Culver Dr.	68.5	68.5	0.0	NO
374. Walnut Av.	e/o Yale Av.	65.5	65.5	0.0	NO
375. Walnut Av.	w/o Jeffrey Rd.	67.3	67.3	0.0	NO
376. Warner Av.	w/o Paseo Westpark	64.7	64.8	0.1	NO
377. Warner Av.	w/o Culver Dr.	64.6	64.6	0.0	NO
378. Warner Av.	b/w Culver W. Yale Loop	64.8	64.9	0.1	NO
379. W. Yale Loop	s/o Barranca Pkwy.	62.4	62.5	0.1	NO
380. W. Yale Loop	s/o Alton Pkwy.	65.3	65.3	0.0	NO
381. Yale Av.	b/w Portola and Arborwood	57.1	57.1	0.0	NO
382. Yale Av.	b/w Park Pl. and Irvine Bl.	65.1	65.1	0.0	NO
383. Yale Av.	n/o Bryan Av.	63.7	63.7	0.0	NO
384. Yale Av.	n/o Trabuco Rd.	64.3	64.4	0.1	NO
385. Yale Av.	n/o Walnut Av.	64.5	64.6	0.1	NO
386. Yale Av.	s/o Walnut Av.	65.1	65.2	0.1	NO
387. Yale Av.	b/w Deerfield Dr. and ICD	65.5	65.5	0.0	NO
388. Yale Av.	b/w ICD and Yale Lp.	64.8	64.9	0.1	NO
389. Thomas	n/o Muirlands Bl.	52.5	52.5	0.0	NO
390. Thomas	s/o Muirlands Bl.	59.1	59.7	0.6	NO
391. Irvine Bl.	e/o Fairbanks	72.1	72.0	-0.1	NO
392. Fairbanks	e/o Alton Pkwy.	59.1	59.8	0.7	NO
393. Fairbanks	w/o Alton Pkwy.	55.9	59.7	3.8	NO
394. Fairbanks	s/o Astor St.	50.2	56.8	6.6	NO

5. Environmental Analysis

NOISE

Table 5.8-10
Post-2030 With 2012 Modified Project Option 2
Off-Site Project Related Traffic Noise Impacts

Roadway	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact? ²
		2011 Approved Project ¹	2012 Modified Project ¹	Modified Project Contribution	
395. Fairbanks	w/o Irvine Bl.	59.9	64.1	4.2	NO

Source: Noise Study prepared by Urban Crossroads, Inc., June 2012 (see Appendix G of this DSEIR).

Notes: n/o = north of; s/o = south of; b/w = between; SB = southbound; NB = northbound

¹ 2012 Modified Project Option 2.

² A significant impact is considered to occur when resulting noise levels exceed 65 dBA CNEL and the project creates an increase greater than 1.5 dBA.

³ n/a=Not available, because it is an existing segment that is not part of the 2012 Modified Project.

Off-site Traffic-Related Noise Impact Summary

Table 5.8-11 presents a summary of the unmitigated off-site traffic-related exterior noise impacts for the 395 study area roadway segments analyzed. For both the 2011 Approved Project and the 2012 Modified Project Options 1 and 2, a total of 10 segments are expected to experience an unmitigated exterior noise level that exceeds 75 dBA CNEL at a distance of 100 feet from centerline. The unmitigated 70 dBA CNEL exterior noise level is expected to be exceeded on a total of 135 segments for the 2011 Approved Project, on 137 segments for the 2012 Modified Project Option 1, and on 137 segments for the 2012 Modified Project Option 2 within the study area. The unmitigated 65 dBA CNEL exterior noise level is expected to be exceeded on 321 segments for the 2011 Approved Project, and on 322 segments for the 2012 Modified Project for both Option 1 and Option 2.

The three of the 395 roadway segments that are expected to experience a 2012 Modified Project related noise level increase greater than 1.5 dBA CNEL are located on Fairbanks near the Proposed Project Site entrance at Astor. However the overall noise levels on those three segments will not exceed the 65 dBA significance threshold, and are located within the Tri-Pointe Business Park, outside the noise sensitive areas. For the remaining 392 roadway segments evaluated, off-site traffic noise level impacts do not exceed the screening significance threshold. Therefore, the 2012 Modified Project's traffic-related noise impacts on the surrounding communities will be less than significant. The 2012 Modified Project will not create a substantial permanent increase in exterior or interior traffic noise levels or expose persons to noise levels in excess of the exterior or interior noise level standards established in the City's Noise Ordinance and the Noise Element of the City's General Plan.

Table 5.8-11
Off-Site Traffic-Related Exterior Noise Impact Analysis Summary

Condition	Scenario	Number of Segments Analyzed	Number of Segments Exceeding ¹			Number of Segments With Potential Significant Impact ²
			75 dBA CNEL	70 dBA CNEL	65 dBA CNEL	
General Plan Buildout	2011 Approved Project (Baseline)	395	10	135	321	–
	2012 Modified Project (Option 1)		10	137	322	0
	2012 Modified Project (Option 2)		10	137	322	0

Source: Noise Study prepared by Urban Crossroads, Inc., June 2012 (see Appendix G of this DSSEIR).

¹ Segments exceeding the off-site unmitigated exterior noise levels estimated at a distance of 100 feet from the roadway centerline.

² Roadway segments experiencing an unmitigated project-related traffic noise level increase of greater than 1.5 dBA.

2012 Modified Project with Optional Conversion

The 2012 Modified Project includes an option (in addition to Option 1 and 2 above) to convert up to 535,000 square feet of the proposed non-residential Multi-Use intensity to residential intensity for up to an additional 889 dwelling units within District 6 and Lot 48 of 2nd Amended VTTM 17008, and up to 311 DB units granted pursuant to state law. The optional conversion would result in a maximum of 5,806 additional dwelling units, including DB Units, as compared to the 2011 Approved Project for a total of 10,700 dwelling units. Although minor changes in roadway volumes on specific segments could result from this option, these changes would not significantly alter the projected noise levels identified herein. A 3dBA increase in noise volumes, which is the threshold for being perceptible to the human ear, would require a doubling of traffic on a specific roadway segment. Because of the proposed restriction on conversion of Multi Use and the trip limitation set forth in the zoning code, a doubling of traffic volumes on a roadway segment would not occur even if one were to include the DB Units which are not subject to the trip limit. In addition, PPP 8-2 requires submittal of a final acoustical report to demonstrate that the development will be sound attenuated against present and projected noise levels on-site including stationary, roadway, aircraft, helicopter, and railroad noise to meet City interior and exterior noise standards. Therefore, the 2012 Modified Project with Optional Conversion is not anticipated to result in any significant noise impacts.

IMPACT 5.8-2 **LIKE THE 2011 APPROVED PROJECT, STATIONARY SOURCES OF NOISE GENERATED BY THE 2012 MODIFIED PROJECT WOULD COMPLY WITH THE CITY'S MUNICIPAL CODE AND WOULD NOT SUBSTANTIALLY INCREASE AMBIENT NOISE LEVELS AT SENSITIVE RECEPTORS PROXIMATE TO THE PROPOSED PROJECT SITE. [IMPACTS N-1 AND N-3]**

Impact Analysis:

Project-related stationary source noise impacts would include activities associated with commercial and retail uses such as, the loading and unloading of the trucks at the loading docks and storage areas, trash compactors and rooftop air-conditioning systems. In addition to the stationary source noise impacts

5. Environmental Analysis

NOISE

generated by the commercial and retail land uses, stationary source noise will also be generated by the proposed residential land uses. The stationary source activities, related to residential land uses, generally includes air conditioners, yard care equipment, trash trucks, delivery vehicles, street sweepers, and outdoor neighborhood recreation activities. The stationary-source noise impacts expected within the 2012 Modified Project are consistent with those identified in the 2011 Approved Project because the same types of urban uses are proposed by the 2012 Modified Project. Additionally, noise associated with these sources is not expected to exceed the City's noise standards and in some cases, such as with certain neighborhood park activities, may be considered exempt.

However, with the exterior noise mitigation included in Mitigation Measure N-1 (see below) that has been adopted in the MMRP for the 2011 Approved Project and is incorporated into the 2012 Modified Project, which requires a noise study to be prepared prior to obtaining building permits for the project to specify noise mitigation measures to ensure that the exterior noise requirements (65 dBA CNEL) of the City's Noise Ordinance will be met, the 2012 Modified Project's impacts concerning stationary noise and noise-sensitive receptors would be less than significant.

Interior Traffic-Related Noise Impacts

To satisfy the City's 45 dBA CNEL interior noise level criterion, it is likely that residences on most lots facing major highways would be required to maintain a windows closed condition and to include a means of mechanical ventilation (e.g. air conditioning), in combination with standard building construction that includes dual-glazed windows; some residences may require upgraded dual-glazed windows.

However, with the interior noise mitigation measures outlined in Mitigation Measure N-1 from the 2011 Approved Project, which is incorporated into the 2012 Modified Project, future noise levels at the 2012 Modified Project's residential units would be reduced so that they would not exceed the City's 45 dBA CNEL interior noise standard. Specific window recommendations will be made once final architectural plans are available and detailed interior noise reduction calculations can be made based on actual building assembly details. Additionally, as stated in Mitigation Measure N-1, prior to the issuance of building permits for lots facing or located near major highways such as Irvine Boulevard, the project applicant shall provide a final noise study to the Director of Community Development that demonstrates how the exterior and interior noise requirements (65 dBA CNEL and 45 dBA CNEL, respectively) of the City's Noise Ordinance will be met.

IMPACT 5.8-3 CONSTRUCTION-RELATED ACTIVITIES OF THE 2012 MODIFIED PROJECT WOULD NOT RESULT IN A SUBSTANTIAL INCREASE IN TEMPORARY CONSTRUCTION NOISE AS COMPARED TO THE 2011 APPROVED PROJECT. [IMPACT N-4]

Impact Analysis: Construction noise creates a temporary intermittent impact on ambient noise levels in the vicinity of the construction. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators, can reach high levels. Grading activities typically represent one of the highest potential sources for noise impacts. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

The 2011 Certified EIR concluded that the 2011 Approved Project would not result in any significant construction noise impacts. The results of the construction noise analysis indicated that the 2012 Modified Project's off-site construction noise levels would range from 77.5 to 89.4 dBA L_{ea} at a distance of 100

5. Environmental Analysis

NOISE

feet. While the 2011 Certified EIR study included a detailed analysis of the potential temporary construction noise impacts, the City does not regulate construction activities under its Noise Ordinance so long as those activities occur only during the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and from 9:00 a.m. to 6:00 p.m. on Saturdays, absent a grant of a temporary waiver. The 2011 Approved Project includes project design features to reduce noise impacts from construction activities adjacent to any developed/occupied noise sensitive land uses, including submission of a construction-related noise mitigation plan and proposed haul routes to the City for review and approval.

Construction Noise Levels

In January 2006, FHWA published a national database of construction-equipment-reference noise emission levels. This database, which is included as part of the FHWA's Roadway Construction Noise Model ("RCNM"), provides a comprehensive list of the noise generating characteristics for specific types of construction equipment (database provided in Appendix G of this DSSEIR). In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation. Noise levels generated by heavy construction equipment can range from approximately 70 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 78 dBA measured at 50 feet from the noise source to the receptor would be reduced to 72 dBA at 100 feet from the source to the receptor, and would be further reduced to 66 dBA at 200 feet from the source to the receptor.

To identify the potential construction noise level impacts of the 2012 Modified Project, a detailed noise analysis was performed using information related to the 2012 Modified Project assumptions regarding equipment type, quantity, and typical utilization at full power, the hours of operation for of the 2012 Modified Project and construction-related activity type (see noise technical report in Appendix G). The mix of equipment type and quantity is based on the same estimates as those used in the *Air Quality Technical Report for the Heritage Fields El Toro, LLC* prepared by ENVIRON, dated May 2012. To estimate the construction noise levels by phase, the construction information was used in conjunction with the FHWA's RCNM to develop the anticipated noise levels shown below in Table 5.8-12.

Table 5.8-12
2012 Modified Project Construction Noise Impact Analysis Summary^{1,2}

Construction-Related Activity Noise Level Impacts at 100 feet (dBA L _{eq})					Maximum Reference Noise Level
Demolition	Site Preparation	Grading	Paving	Building Construction/ Coating	
88.3	82.6	89.4	82.3	86.3	89.4

Source: Noise Study prepared by Urban Crossroads, Inc., June 2012 (see Appendix G of this DSSEIR).

¹ Noise levels at a distance of 100 feet from construction activity. Actual distance to the off-site noise sensitive receptors will vary by District and will not be closer than 100 feet.

² Construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts. It is expected that receptors located near each District during construction activities will experience temporary, short-term, readily perceptible noise levels.

As shown in Table 5.8-12, the results of the construction noise analysis indicate that the 2012 Modified Project's construction noise levels would range from 82.3 to 89.4 dBA L_{eq} at a distance of 100 feet from the center of construction activity. As the nearest off-site noise sensitive receptors will vary by District

5. Environmental Analysis

NOISE

and will not be closer than 100 feet away, these noise levels provide an estimate of the most conservative maximum noise levels possible at a distance of 100 feet from the Proposed Project Site boundary. As these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance, the average noise levels at a given receptor would be much lower as construction equipment moves around the site. Each construction-related activity is described in more detail below. The detailed construction noise calculations for each activity are provided in Appendix G of this DSEIR.

Demolition

During this phase of construction, the main emphasis will be on removal of the existing runways and other existing buildings and structures. Equipment used during demolition activities includes concrete and industrial saws, excavators, and rubber tire dozers.

Table 5.8-12 shows that during demolition, noise levels at noise-sensitive receptors at a distance of 100 feet are estimated at 88.3 dBA L_{eq} .

Site Preparation

During this phase of construction, the main emphasis will be on removal of non-structural materials and the import and export of dirt where necessary. Equipment used during site preparation activities includes rubber tire dozers, tractors, loaders, and backhoes. Table 5.8-12 shows that during site preparation activities, noise levels at noise-sensitive receptors at a distance of 100 feet are estimated at 82.6 dBA L_{eq} .

Grading

Equipment used during grading activities includes excavators, graders, rubber tire dozers, scrapers, tractors, loaders, and backhoes. Table 5.8-12 shows that during grading activities, noise levels at noise-sensitive receptors at a distance of 100 feet are estimated at 89.4 dBA L_{eq} . Grading activities are generally expected to produce the highest construction-related noise impacts.

Paving

During this phase of construction, the main emphasis will be on paving roadways, parking lots, and other surfaces. Equipment used during paving activities includes pavers, rollers, and other miscellaneous paving equipment. Table 5.8-12 shows that during paving activities, noise levels at the sensitive noise-receptor at a distance of 100 feet are estimated at 82.3 dBA L_{eq} .

Building Construction and Coating

During this phase of construction, the main emphasis will be on the construction of buildings and homes. Equipment used during building construction and coating activities includes cranes, forklifts, generators, tractors, loaders, backhoes, welders, and air compressors. Table 5.8-12 shows that during building construction and coating activities, noise levels at the noise-sensitive receptors at a distance of 100 feet are estimated at 86.3 dBA L_{eq} .

Summary of Construction Noise Levels

While the City's Noise Ordinance does not specify a limit on construction noise levels, it does stipulate the days and hours during which construction activities may occur and when construction would not be allowed unless a temporary waiver is requested and granted. As with the 2011 Approved Project, construction activities associated with the 2012 Modified Project will be subject to the limitations and

5. Environmental Analysis

NOISE

requirements of Section 6-8-205(a) of the City's Noise Ordinance, which is incorporated into PPP 8-1 above. As outlined in Section 6-8-205(a), construction activities may occur between the hours of 7:00 AM and 7:00 PM Monday through Friday, and 9:00 AM and 6:00 PM on Saturday. No construction activities are permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are used at the Proposed Project Site or that are making, or are involved with, material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within the Proposed Project Site are not permitted to be operated or driven on Irvine's streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted is required to take any impact on the community into consideration. No construction activity is permitted outside of these hours except in emergencies including maintenance work on Irvine rights-of-way that might be required.

Additionally, construction noise would be temporary, intermittent and of short duration, and would not create any long-term impacts. While the noise-level impacts presented for the 2012 Modified Project are a "worst-case" scenario and may at times be audible over traffic-related noise level impacts surrounding each District, these levels are not expected to be of a continuous nature.

Furthermore, to minimize the potential construction noise impacts associated with the 2012 Modified Project and to ensure that the greatest distance between noise sources and sensitive receptors during construction activities are achieved, the project applicant or its successor will be required to implement PPPs 8-1 and 8-3 and PDF 8-1 outlined above.

Lastly, the 2012 Modified Project would have a similar area of disturbance and a similar mix of construction equipment as the 2011 Approved Project. Peak noise levels would occur during grading, which would not change for the 2012 Modified Project, as compared to the 2011 Approved Project. For all of these reasons, and with implementation of PPPs 8-1 and 8-3 and PDF 8-1, the 2012 Modified Project's construction noise impacts to off-site noise-sensitive receptors, as compared to those of the 2011 Approved Project, would be less than significant.

5.8.5 Cumulative Impacts

Cumulative noise impacts occur when multiple sources of noise, though individually not substantial, combine and lead to excessive cumulative noise exposure at noise-sensitive uses.

Operational Mobile-Source Noise

Traffic volumes and traffic noise increases on local roadways in the vicinity of the Proposed Project Site are shown in Table 5.8-8, *General Plan Buildout (Post-2030) Off-Site Average Daily Traffic Volumes (1,000s)*, Table 5.8-9, *General Plan Buildout (Post-2030) With 2012 Modified Project Option 1 Off-Site Project-Related Traffic Noise Impacts*, and Table 5.8-10, *General Plan Buildout (Post-2030) With 2012 Modified Project Option 2 Off-Site Project-Related Traffic Noise Impacts*. The difference between the "2011 Approved Project" and "2012 Modified Project" scenarios represents the 2012 Modified Project's contribution to cumulative roadway noise increases.

Project-related cumulative noise impacts could occur if the 2012 Modified Project contributes to substantial (1.5 dBA or more) cumulative noise increases resulting in noise levels above 65 dBA CNEL at a noise-sensitive receptor. However, as demonstrated in Tables 5.8-9 and 5.8-10, that circumstance would

5. Environmental Analysis

NOISE

not occur on any of the roadway segments analyzed, and thus no significant cumulative noise impacts would occur.

Operational Stationary Source Noise

Unlike transportation noise, the effects of which can extend well beyond the limits of the Proposed Project Site, stationary source noise generated by the 2012 Modified Project is limited to impacts to sensitive receptors immediately adjacent to or within the Proposed Project Site. As discussed above, project-related sources of stationary noise would include activities associated with commercial and retail uses, including parking lots, mechanical equipment, and loading/unloading activities, and activities related to residential uses, including air conditioners, yard care equipment, and outdoor activities. Although it is not possible to calculate the specific localized noise impacts from these uses in the absence of final site plans, no significant impacts are anticipated to occur, as stationary source noise is regulated by the City through the City's Municipal Code to ensure that they are controlled to acceptable levels. Future projects within the Proposed Project Site and other off-site projects within the vicinity of the Proposed Project Site will be required to comply with the City noise regulations or those of other adjacent jurisdictions, which reduce significant impacts to less than significant levels. Consequently, like the 2011 Approved Project, the 2012 Modified Project would not result in stationary source cumulative noise impacts.

Construction Noise

Like operational stationary source noise, cumulative construction noise impacts and vibration are confined to a localized area. Consequently, cumulative impacts would only occur if other projects are being constructed in the vicinity of the Proposed Project Site within the same time frame as construction of the 2012 Modified Project so that they would contribute to the local ambient noise environment. There are two potential projects in the vicinity of the Proposed Project Site: PA 6 and PA 40 and there is some possibility that simultaneous grading could occur. However, this is unlikely since there are currently no maps filed for development of the portion of PA 6 directly adjacent to District 8, and the grading of District 8 has almost been completed. Moreover, there are no existing homes in the vicinity of those areas in PA 6 and PA 40 where simultaneous grading and construction (specifically District 1 and District 7) could occur. Additionally, based on noise levels that would be generated by construction activities at the Proposed Project Site, the duration of construction activities (which varies by individual development project), and the proximity of sensitive receptors, construction noise from the 2012 Modified Project would not substantially elevate ambient noise levels nor significantly contribute to the cumulative noise environment. Furthermore, to minimize the potential construction noise impacts associated with the 2012 Modified Project and to ensure that the greatest distance between noise sources and sensitive receptors during construction activities are achieved, the project applicant or its successor will be required to adhere to PPPs 8-1 and 8-3 and PDF 8-1 outlined above. Future projects within the Proposed Project Site and other off-site projects within the vicinity of the Proposed Project Site will be required to comply with the City noise regulations or those of other adjacent jurisdictions, which reduce potential impacts to a less than significant level. Therefore, construction-related noise impacts would be controlled within the areas close to each construction site and would therefore be unlikely to combine with noise generated from other construction sites.

5.8.6 Applicable Mitigation Measures from the 2011 Certified EIR

Each mitigation measure related to noise that was specified in the 2011 Certified EIR and adopted in the MMRP for the 2011 Approved Project is set forth below. These mitigation measures are incorporated into the 2012 Modified Project.

N-1 Prior to the issuance of building permits for lots facing or located near major highways such as Irvine Boulevard, the project applicant or its successor shall provide a final noise study to the Director of Community Development that demonstrates how the exterior and interior noise requirements (65 dBA CNEL and 45 dBA CNEL, respectively) of the City of Irvine General Plan Noise Element will be met. To attain the exterior and interior noise requirements, the final noise study shall include, but not be limited to the following measures, in addition to such measures as the final noise study determines are required and shall be shown on the final map:

Exterior

- Provide a minimum six-foot high noise barrier for single-family detached residences shown in Figures 5.7-3 through 5.7-7 of this DSEIR.

Interior

- Provide a “windows closed” condition, requiring a means of mechanical ventilation (e.g., air conditioning) for all units.
- Provide standard and upgraded dual-glazed windows with a minimum Sound Transmission Coefficient rating of 26. Specific window recommendations shall be made once final architectural plans are available and detailed interior noise reduction calculations can be calculated based on actual building assembly details.

N-2 Prior to authorization to use, occupy and/or operate any multi-family residential unit, the project applicant or its successor shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for residential units with balconies that do not meet the City’s exterior noise standard of 65 dBA CNEL will be provided to all future tenants pursuant to the City’s Noise Ordinance.

5.8.7 Level of Significance Before Additional Mitigation

Upon implementation of regulatory requirements, PPPs and PDFs, and the mitigation measures adopted in the MMRP for the 2011 Approved Project which are listed above, Impacts 5.8-1, 5.8-2, and 5.8-3 would be less than significant for the 2012 Modified Project, as compared to the 2011 Approved Project.

5.8.8 Additional Mitigation Measures for the 2012 Modified Project

No additional mitigation measures are required because the mitigation measures identified in the 2011 Certified EIR and associated MMRP would reduce noise impacts of the 2012 Modified Project to a level of less than significant.

5. Environmental Analysis

NOISE

5.8.9 Level of Significance After Additional Mitigation

With implementation of the existing regulations, PPPs and mitigation measures outlined above from the 2011 Approved Project, potential impacts of the 2012 Modified Project associated with noise would be reduced to a level that is less than significant. Therefore, no significant impacts relating to noise have been identified.