IV. ENVIRONMENTAL IMPACT ANALYSIS
G. NOISE

The following analysis of noise and vibration impacts is based on the Air Quality and Noise Technical Report prepared by Terry A. Hayes Associates LLC (TAHA), dated August 21, 2008. This report is included in its entirety as Appendix B of this Draft EIR.

This section evaluates noise and vibration impacts associated with the implementation of the Proposed Project, including the proposed Equivalency Program. The noise and vibration analysis in this section assesses the following: existing noise and vibration conditions at the project site and its vicinity, as well as short-term construction and long-term operational noise and vibration impacts associated with the Proposed Project, including the proposed Equivalency Program.

EXISTING CONDITIONS

Noise and Vibration Characteristics and Effects

Noise

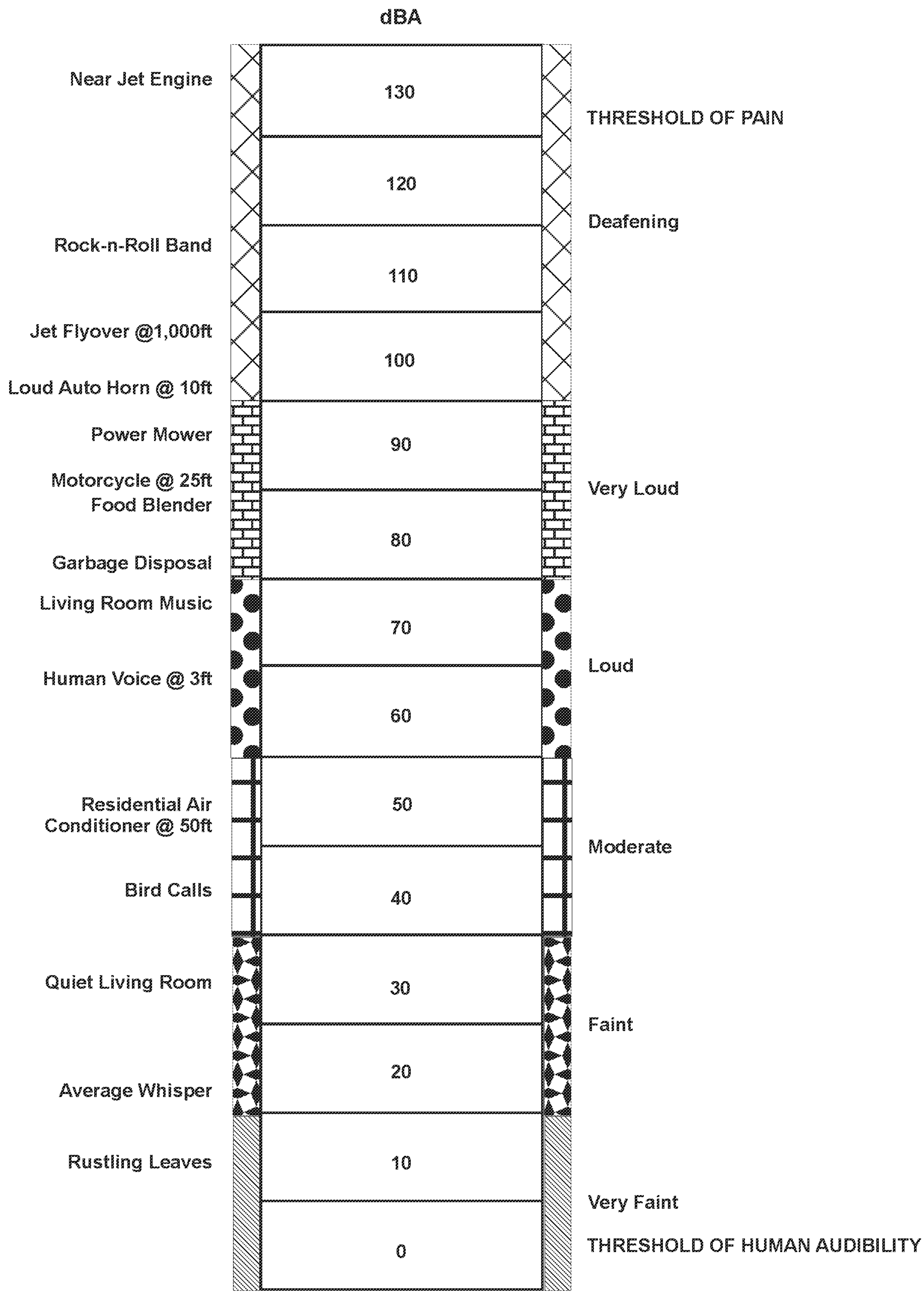
Sound is technically described in terms of the loudness (amplitude) and frequency (pitch) of the sound. The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The "A-weighted scale," abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately three to 140 dBA. Figure IV.G-1 provides examples of A-weighted noise levels from common sounds.

Definitions

This noise analysis discusses sound levels in terms of Community Noise Equivalent Level (CNEL) and Equivalent Noise Level (L_{eq}).

Community Noise Equivalent Level

CNEL is an average sound level during a 24-hour period. CNEL is a noise measurement scale, which accounts for noise source, distance, single event duration, single event occurrence, frequency, and time of day. Human reaction to sound between 7:00 p.m. and 10:00 p.m. is as if the sound were actually five decibels higher than if it occurred from 7:00 a.m. to 7:00 p.m. From 10:00 p.m. to 7:00 a.m., humans perceive sound as if it were ten dBA higher due to the lower background level. Hence, the CNEL is obtained by adding an additional five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten dBA to sound levels in the night before 7:00 a.m. and after 10:00 p.m. Because CNEL accounts for human sensitivity to sound, the CNEL 24-hour figure is always a higher number than the actual 24-hour average.



Source: TAHA, 2007 and Cowan, James P., Handbook of Environmental Acoustics.

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Figure IV.G-1
A-Weighted Decibel Scale

Equivalent Noise Level

L_{eq} is the average noise level on an energy basis for any specific time period. The L_{eq} for one hour is the energy average noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. L_{eq} can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA.

Effects of Noise

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment range from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, and the nature of work or human activity that is exposed to the noise source.

Audible Noise Changes

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately three dBA. A change of at least five dBA would be noticeable and would likely evoke a community reaction. A ten-dBA increase is subjectively heard as a doubling in loudness and would most certainly cause a community response.

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or "point source," will decrease by approximately six dBA over hard surfaces and 7.5 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on. Noise generated by a mobile source will decrease by approximately three dBA over hard surfaces and 4.5 dBA over soft surfaces for each doubling of the distance.

Generally, noise is most audible when traveling by direct line-of-sight.[1] Barriers, such as walls, berms, or buildings, that break the line-of-sight between the source and the receiver greatly reduces noise levels from the source since sound can only reach the receiver by bending over the top of the barrier (diffraction). Sound barriers can reduce sound levels by up to 20 dBA. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced. In situations where the source or the receiver is located three meters (approximately 9.84 feet) above the ground, or whenever the line-of-sight averages more than three meters above the ground, sound levels would be reduced by approximately three decibels for each doubling of distance.

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[1] *Line-of-sight is an unobstructed visual path between the noise source and the noise receptor.*

Applicable Regulations

The City of Inglewood Noise Element has identified several goals for controlling community noise.[2] These goals include reducing noise where the noise environment represents a threat to the public health and welfare, reducing noise impacts in degraded areas, protecting and maintaining areas that have acceptable noise environments, and providing sufficient information concerning community noise levels so that noise can be objectively considered in land use planning decisions. To implement these goals, the City adopted a Noise Ordinance, as discussed below.

Article 2 (Noise Regulations) under Chapter 5, (Offenses, Miscellaneous) of the Inglewood Municipal Code establishes criteria and standards for the regulation of noise levels within the City. Section 5-29 of the City Municipal Code states that it is unlawful for any person at any location to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by that person, when the foregoing causes the noise level, when measured on any other property, to exceed any noise for the cumulative time periods specified in the Noise Ordinance. Section 5-27 of the City Municipal Code establishes base ambient noise levels to be used to evaluate changes in noise levels. Actual measurements exceeding the noise levels at the time and within the zones defined in Table IV.G-1 shall be used as the new base ambient noise level and no ambient noise shall be less than the noise level specified in Table IV.G-1. Section 5-30 of the City Municipal Code establishes maximum residential exterior and interior noise levels. Table IV.G-2 shows the maximum residential exterior and interior noise levels.

Table IV.G-1
Existing Estimated Community Noise Equivalent Level

Decibels	Time	Land Use Zone
45 dBA	10:00 p.m. – 7:00 a.m.	Residential
55 dBA	7:00 a.m. – 10:00 p.m.	Residential
65 dBA	Anytime	Commercial and Uses Not Specified
75 dBA	Anytime	Industrial

Source: City of Inglewood Municipal Code, Section 5-30 (Maximum Residential Noise Level) of Article 2 (Noise Regulations) of Chapter 5 (Offenses, Miscellaneous), September 13, 1988.

The City Municipal Code also regulates non-residential noise levels and construction noise. Section 5-31 (Maximum Nonresidential Noise Levels) states that noise levels at the exterior of non-residential properties shall not exceed the respective base ambient noise levels for commercial and industrial land uses for a maximum cumulative duration of 30 minutes in any hour. Section 5-41 (Construction of Building and Projects, Noise Regulated) states that it is unlawful for any person within a residential zone, or within 500 feet of a residential zone, to operate construction equipment or perform any outside

[2] *City of Inglewood, Noise Element of the General Plan, September 1, 1987.*

construction or repair work between the hours of 8:00 p.m. and 7:00 a.m. in such a manner that causes annoyance or discomfort unless a permit has been obtained from the Permits and Licenses Committee of the City. Section 5-41 does not restrict construction activity to weekdays only.

Table IV.G-2
Maximum Residential Noise Levels

Exterior Noise Levels Exceeded	Maximum Duration Period
Base Ambient Noise Level (BANL)	30 Minutes in Any Hour
5 dBA above BANL	15 Minutes in Any Hour
10 dBA above BANL	5 Minutes in Any Hour
15 dBA above BANL	1 Minute in Any Hour
20 dBA above BANL	Not Permitted
Interior Noise Levels Exceeded	**Maximum Duration Period**
BANL	5 Minutes in Any Hour
5 dBA above BANL	1 Minute in Any Hour
10 dBA above BANL	Not Permitted
Source: City of Inglewood Municipal Code, Section 5-30 (Maximum Residential Noise Level) of Article 2 (Noise Regulations) of Chapter 5 (Offenses, Miscellaneous), September 13, 1988.	

Vibration

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 can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment.

Definitions

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation

(Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.[3]

Effects of Vibration

High levels of vibration may cause physical personal injury or damage to buildings. However, ground-borne vibration levels rarely affect human health. Instead, most people consider ground-borne vibration to be an annoyance that may affect concentration or disturb sleep. In addition, high levels of ground-borne vibration may damage fragile buildings or interfere with equipment that is highly sensitive to ground-borne vibration (e.g., electron microscopes).

To counter the effects of ground-borne vibration, the Federal Railway Administration (FRA) and the Federal Transportation Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to ground-borne vibration levels of 0.5 inches per second PPV without experiencing structural damage.[4] Table IV.G-3 shows FTA thresholds for RMS vibration levels.

Table IV.G-3
FTA Vibration Impact Criteria

Land Use Category	Vibration Impact Level for Frequent Events (VdB) [a]	Vibration Impact Level for Occasional Events (VdB) [b]	Vibration Impact Level for Infrequent Events (VdB) [c]
Category 1: Buildings where low ambient vibration is essential for interior operations	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

[a] *Frequent events are defined as more than 70 vibration events of the same source per day.*
[b] *Occasional events are defined as between 30 and 70 vibration events of the same source per day.*
[c] *Infrequent events are defined as fewer than 30 vibration events of the same source per day.*
Source: TAHA, 2008.

Perceptible Vibration Changes

In contrast to noise, ground-borne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 RMS or lower, well below the threshold of perception for humans which is around 65 RMS.[5] Most perceptible indoor vibration is

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[3] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.*

[4] *Federal Railway Administration, High-Speed Ground Transportation Noise and Vibration Impact Assessment, October 2005.*

[5] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.*

caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Applicable Regulations

There are no adopted City standards for ground-borne vibration.

Existing Noise and Vibration Environment

The existing noise environment of the project area is characterized by vehicular traffic, aircraft, and noises typical to a dense urban area (e.g., people conversing). Vehicular traffic is the primary source of noise in the project vicinity.

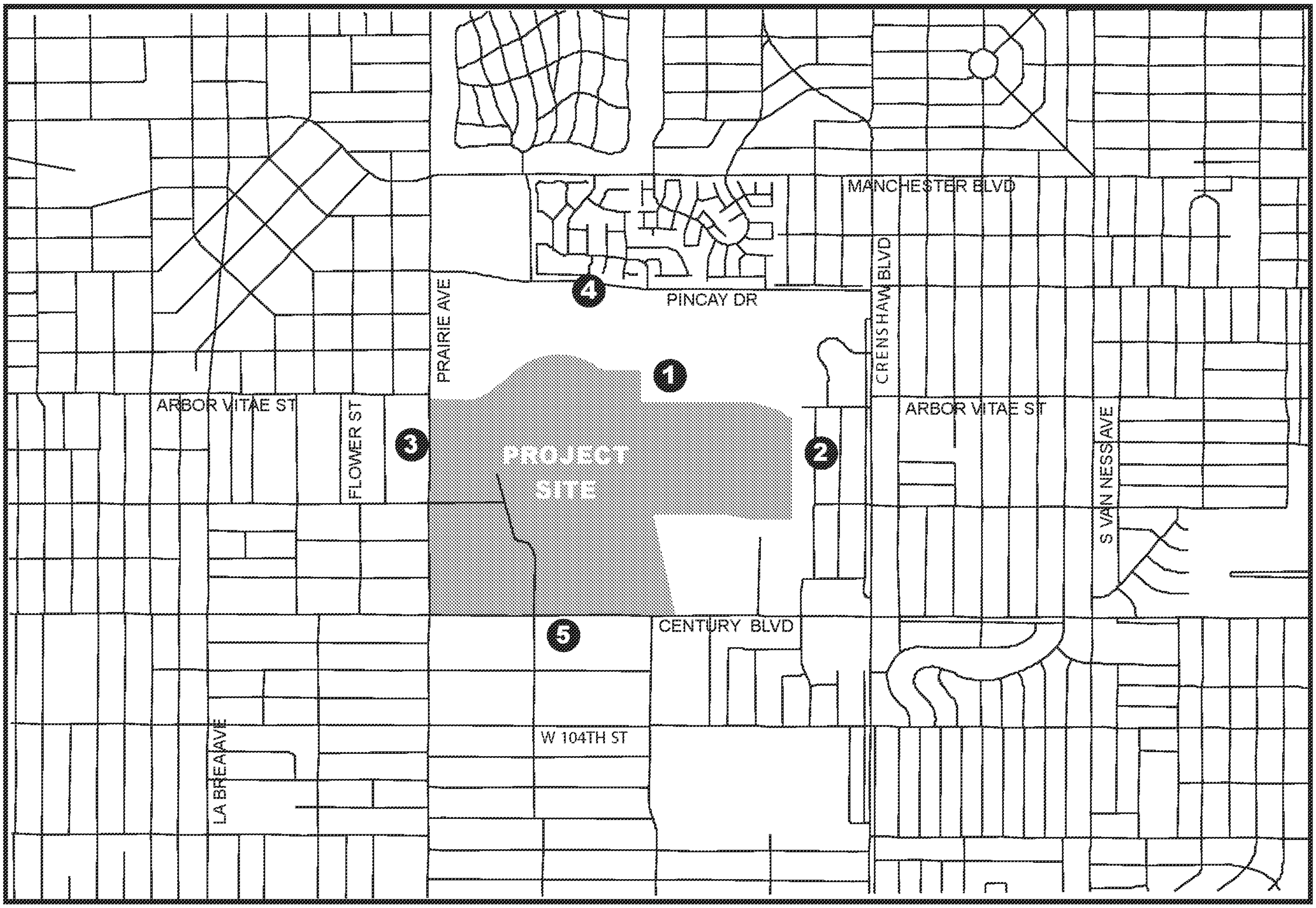
Sound measurements were taken using a Quest Q-400 Noise Dosimeter between 8:30 a.m. and 11:00 a.m. on June 5, 2007 to ascertain existing ambient daytime noise levels in the project vicinity. Noise monitoring locations are shown in Figure IV.G-2. As shown in Table IV.G-4, existing ambient sound levels range between 61.2 and 74.7 dBA (L_{eq}).

Table IV.G-4
Existing Noise Levels

Noise Monitoring Locations	Affected Land Uses	Measurement Duration	Primary Noise Sources	Sound Level (dBA, L_{eq})
1	Single-Family Residence - Northeast Corner of Project Site	15 minutes	Automobiles and Aircrafts	61.2
2	Single-Family Residence - East of Project Site	15 minutes	Automobiles and Aircrafts	66.7
3	Prairie Avenue	15 minutes	Aircrafts	72.6
4	Pincay Drive	15 minutes	Aircrafts	73.1
5	Century Boulevard	15 minutes	Automobiles and Aircrafts	74.7
Source: TAHA, 2008.				

Figure IV.G-3 displays CNEL noise contours at Los Angeles International Airport (LAX) during the fourth quarter of 2005.6 As shown, the 65 dBA CNEL noise contours for the southern LAX runway extend onto the southern portion of the project site.

[6] *Los Angeles World Airports, http://www.lawa.org/lax/laxContourMaps.cfm, accessed May 29, 2007.*



Legend

Noise Monitoring Locations

1. Multi-Family Residence-Northeast Corner of Project Site
2. Single-Family Residence-East of Project Site
3. Prairie Avenue
4. Pincay Drive
5. Century Boulevard

NORTH

Source: TAHA, 2007.

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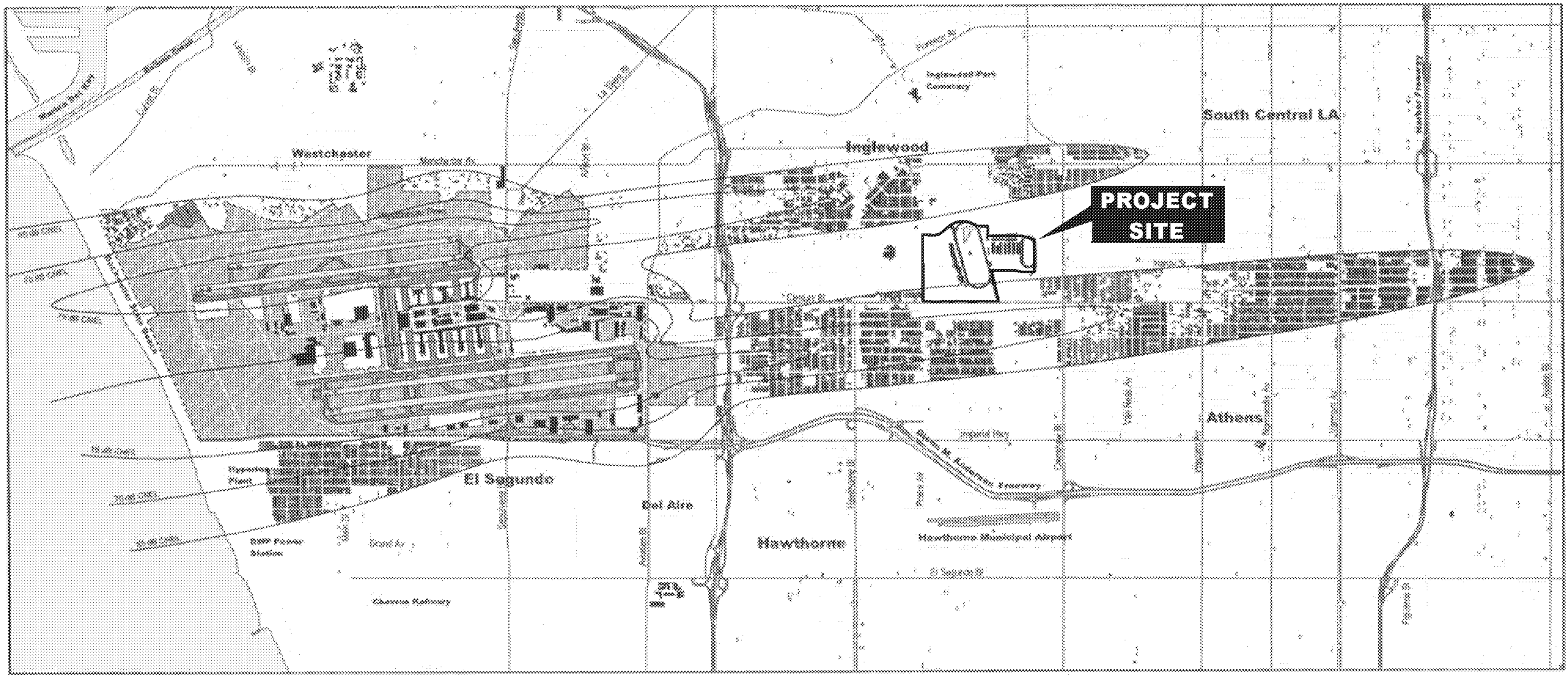
Figure IV.G-2
Noise Monitoring Locations



Legend

- Residential - Single-Family within Contour
- Residential - Multi-Family within Contour
- Airport Property
- Project Site

- Landmarks
- Churches
- Hospitals
- Schools
- Noise Contours
- Airport Boundary
- Freeways
- Streets

NORTH

0 1 2
Miles

Source: TAHA 2007 and Los Angeles World Airports.

Similar to the environmental setting for noise, the vibration environment is dominated by traffic from nearby roadways. Heavy trucks can generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions. As heavy trucks typically operate on major streets, existing ground-borne vibration in the project vicinity is largely related to heavy truck traffic on the surrounding roadway network. Based on field visits to the project site, vibration levels from adjacent roadways are not perceptible at the project site.

Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise. Figure IV.G-4 shows sensitive receptors within one-quarter mile (1,320 feet) of the project site.

Residential sensitive receptors include the following:

- Single-family residences located adjacent and to the east of the project site;
- Single-family residences located adjacent and to the northeast of the project site;[7]
- Single- and multi-family residences located approximately 75 feet west of the project site;
- Multi-family residences located approximately 75 feet south of the project site; and
- Single-family residences located approximately 500 feet north of the project site.

Institutional sensitive receptors include the following:

- Inglewood Junior Academy located approximately 75 feet west of the project site;
- William H. Kelso Elementary School located approximately 125 feet west of the project Site;
- Greater New Bethel Baptist Church located approximately 675 feet west of the project site;
- Holy Trinity Evangelical Lutheran Church located approximately 850 feet east of the project site;
- First Church of God located approximately 900 feet east of the project site;

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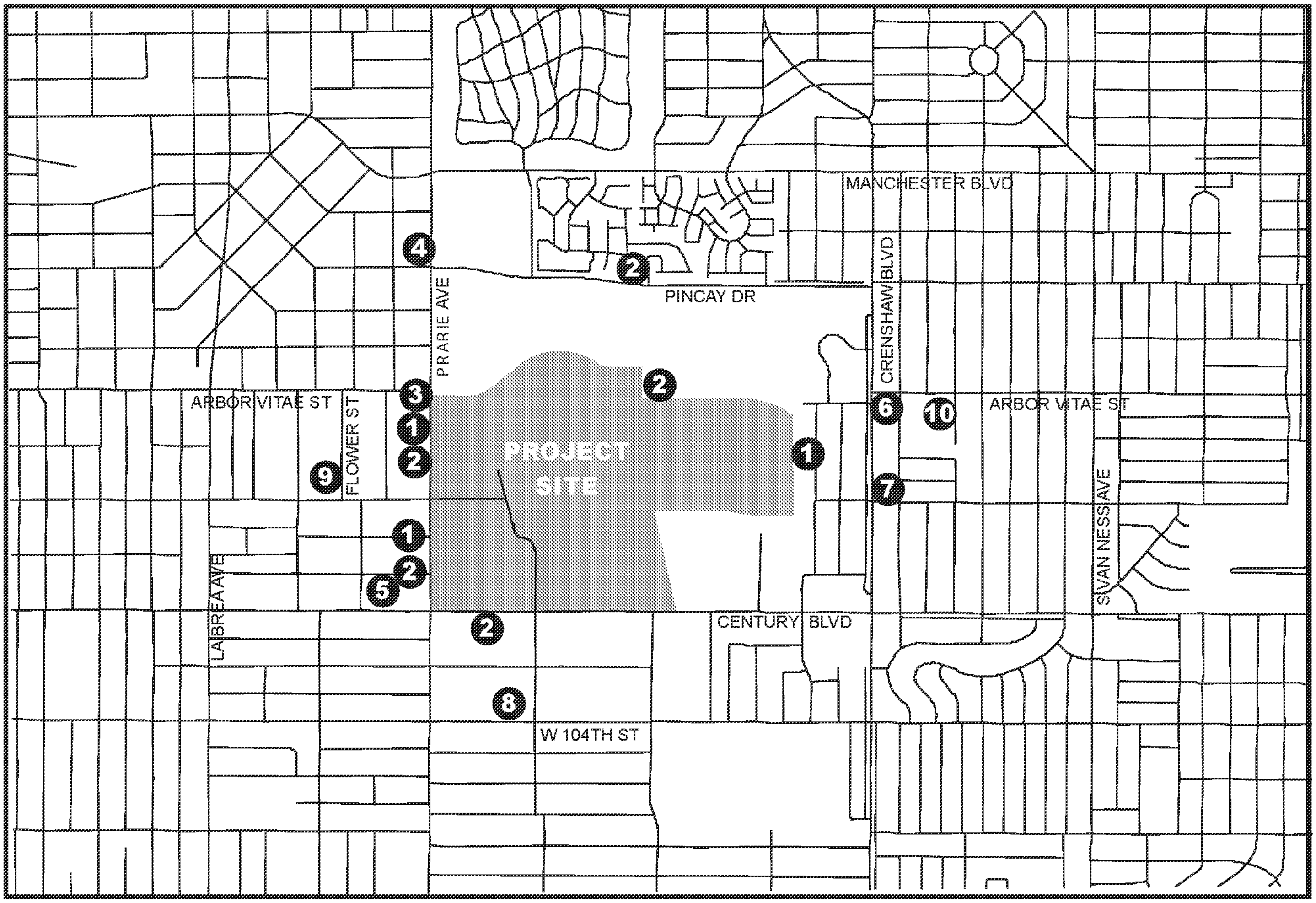
[7] *The single-family residences located adjacent and to the northeast of the project site are separated from the project site by an existing 5-foot solid wall.*



Legend

Sensitive Receptors

1. Single-Family Residence
2. Multi-Family Residence
3. Inglewood Junior Academy
4. William H. Kelso Elementary School
5. Greater New Bethel Baptist Church
6. Holy Trinity Evangelical Lutheran Church
7. First Church of God
8. Inglewood Southside Christian Church
9. Centinela Hospital
10. Warren Lane Elementary

NORTH

Source: TAHA, 2007.

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Figure IV.G-4
Sensitive Receptor Locations

- Inglewood Southside Christian Church located approximately 1,100 feet south of the project site;
- Centinela Hospital located approximately 1,100 feet west of the project site; and
- Warren Lane Elementary School located approximately 1,175 feet east of the project site.

The above sensitive receptors represent the nearest residential and institutional land uses with the potential to be impacted by the proposed project. Additional single- and multi-family residences are located in the surrounding community within one-quarter mile of the project site.

Vehicular Traffic

As stated earlier, vehicular traffic is the predominant noise source in the project vicinity. Using existing traffic volumes (PM peak and Saturday midday volumes) provided by the project traffic consultant and the Federal Highway Administration (FHWA) RD-77-108 noise calculation formulas, CNEL was calculated for various roadway segments near the project site. Existing weekday and weekend mobile noise levels are shown in Table IV.G-5 and Table IV.G-6, respectively. As shown in Table IV.G-5, weekday mobile noise levels in the project area range from 52.8 to 72.9 dBA (CNEL). As shown in Table IV.G-6, weekend mobile noise levels in the project area range from 53.3 to 73.2 dBA (CNEL). Modeled vehicle noise levels are typically lower than the noise measurements along similar roadway segments as modeled noise levels do not take into account additional noise sources (e.g., pedestrians).

Table IV.G-5
Existing Estimated Community Noise Equivalent Level – Weekday [a]

Roadway Segment	Adjacent Land Uses	Estimated dBA (CNEL)
Manchester Boulevard between Prairie Avenue and Crenshaw Boulevard	Residential	70.7
Pincay Drive between Prairie Avenue and Crenshaw Boulevard	Residential	69.6
Arbor Vitae Street between La Brea Avenue and Prairie Avenue	Residential	67.5
Century Boulevard between La Brea Avenue and Prairie Avenue	Residential	72.4
Century Boulevard between Prairie Avenue and Crenshaw Boulevard	Residential, Commercial	72.9
Prairie Avenue between Manchester Boulevard and Century Boulevard	Residential	72.1
Prairie Avenue between Century Boulevard and Imperial Highway	Residential, Commercial	72.4
Kareem Court between Manchester Boulevard and Pincay Drive	Residential	52.8
Crenshaw Boulevard between Manchester Boulevard and Century Boulevard	Residential	71.8
Crenshaw Boulevard between Century Boulevard and Imperial Highway	Residential, Commercial	72.2

[a] The predicted CNEL for each roadway segment was calculated as peak hour L_{eq} and converted into CNEL using the California Department of Transportation Technical Noise Supplement (October 1998). The conversion involved making a correction for peak hour traffic volumes as a percentage of ADT and a nighttime penalty correction. The peak hour traffic was assumed to be ten percent of the average daily traffic.

Source: TAHA, 2008.

Table IV.G-6
Existing Estimated Community Noise Equivalent Level – Weekend [a]

Roadway Segment	Adjacent Land Uses	Estimated dBA (CNEL)
Manchester Boulevard between Prairie Avenue and Crenshaw Boulevard	Residential	70.0
Pincay Drive between Prairie Avenue and Crenshaw Boulevard	Residential	67.2
Arbor Vitae Street between La Brea Avenue and Prairie Avenue	Residential	66.2
Century Boulevard between La Brea Avenue and Prairie Avenue	Residential	72.0
Century Boulevard between Prairie Avenue and Crenshaw Boulevard	Residential, Commercial	73.2
Prairie Avenue between Manchester Boulevard and Century Boulevard	Residential	72.1
Prairie Avenue between Century Boulevard and Imperial Highway	Residential, Commercial	72.3
Kareem Court between Manchester Boulevard and Pincay Drive	Residential	53.3
Crenshaw Boulevard between Manchester Boulevard and Century Boulevard	Residential	72.8
Crenshaw Boulevard between Century Boulevard and Imperial Highway	Residential, Commercial	73.1

[a] *The predicted CNEL for each roadway segment was calculated as peak hour L_{eq} and converted into CNEL using the California Department of Transportation Technical Noise Supplement (October 1998). The conversion involved making a correction for peak hour traffic volumes as a percentage of ADT and a nighttime penalty correction. The peak hour traffic was assumed to be ten percent of the average daily traffic.*

Source: TAHA, 2008.

ENVIRONMENTAL IMPACT

Analytical Methodology

Construction and operational point source noise impacts were evaluated by comparing anticipated noise levels to the guidelines set forth in the Municipal Code. Roadway noise impacts were projected using the FHWA RD-77-108 prediction model. This methodology allows the user to define roadway configurations, barrier information (if any), and receiver locations. Roadway-noise attributable to project development was calculated and compared to baseline noise levels to determine significance. Ground-borne vibration impacts were evaluated by identifying potential vibration sources, measuring the distance between vibration sources and surrounding structure locations, and making a significance determination.

Threshold of Significance

To determine whether a proposed project would have a significant impact to noise, Appendix G to the State CEQA Guidelines questions whether a project would:

a) Expose persons to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies;

b) Expose persons to or generate excessive groundborne vibration or groundborne noise levels;

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels exiting without the project;

d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels exiting without the project;

e) Expose people residing or working in the project area to excessive noise levels 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; or

f) Expose people residing or working in the project area to excessive noise levels within the vicinity of a private airstrip.

Specific threshold related to the above general thresholds are presented below for construction and operational activity.

Construction Phase Significance Criteria

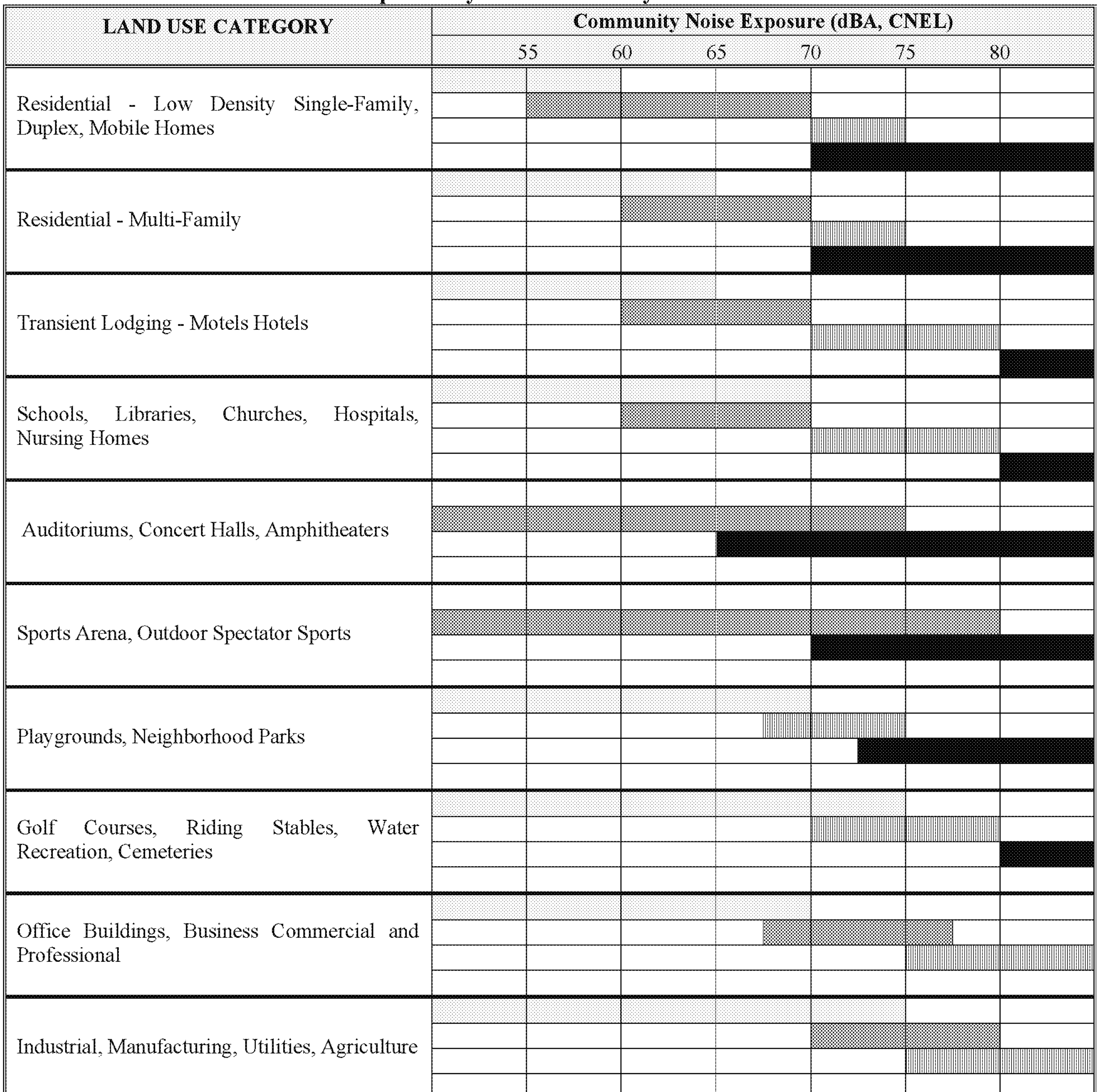
The proposed project would have a significant impact if:

- Construction activity would occur outside of the hours permitted by the City's noise ordinance (i.e., between the hours of 8:00 p.m. and 7:00 a.m.), unless a permit has been obtained from the Permits and Licenses Committee of the City;

- Construction activity increase ambient noise levels by five dBA or more; or

- Heavy-duty truck noise levels would increase by three decibels (CNEL) to or within the "normally unacceptable" or "clearly unacceptable" category (Table IV.G-7) or any five decibel or more increase in noise level.

Table IV.G-7
Land Use Compatibility for Community Noise Environments



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.

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 included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditionally will normally suffice.

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.

Clearly Unacceptable - New construction or development should generally not be undertaken.

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

Operations Phase Significance Criteria

The proposed project would have a significant impact if:

- Mobile noise levels would increase by three decibels (CNEL) to or within the "normally unacceptable" or "clearly unacceptable" category (Table IV.G-7) or any five decibel or more increase in noise level;
- The proposed project would expose existing sensitive receptors to noise levels that exceed the Municipal Code standards. If existing noise levels exceed the noise standards, a significant impact would occur if project-related vehicular noise results in a three dBA increase; or
- Proposed sensitive receptors would be exposed to interior noise levels greater than 45 dBA.

Ground-borne Vibration Significance Criteria

The proposed project would have a significant impact if:

- The proposed project would expose buildings to the FRA building damage threshold level of 0.5 inches per second PPV; or
- The proposed project would exceed the FTA vibration impact criteria presented in Table IV.G-3.

Impacts Determined to be Less Than Significant

The proposed project would not be located near a private airport. Therefore, threshold question (f) does not apply to this analysis and no further discussion is warranted.

Construction Phase Impacts

Noise

Construction of the proposed project would result in temporary increases in ambient noise levels in the project area on an intermittent basis. The increase in noise would likely result in a temporary annoyance during construction. Noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers.

Construction activities require the use of numerous noise generating equipment, such as jack hammers, pneumatic impact equipment, saws, and tractors. The proposed project would utilize heavy-duty construction equipment and caisson drilling equipment. The proposed project would not include pile driving. Typical noise levels from various types of equipment that may be used during construction are listed in Table IV.G-8. The table shows noise levels at distances of 50 and 100 feet from the construction noise source.

Table IV.G-8
Maximum Noise Levels of Construction Equipment

Noise Source	Noise Level (dBA) [a]	
	50 Feet	100 Feet
Jackhammer	88	82
Grader	85	79
Street Paver	89	83
Backhoe	80	74
Street Compressor	82	76
Front-end Loader	85	79
Scraper	89	83
Idling Haul Truck	88	82
Concrete Pump	82	76

[a] *Assumes a six decibel drop-off rate for noise generated by a "point source" and traveling over hard surfaces. Actual measured noise levels of the equipment listed in this table were taken at distances of 10 and 30 feet from the noise source.*

Source: Federal Railroad Administration, High-Speed Ground Transportation Noise and Vibration Impact Assessment, October 2005.

Whereas Table IV.G-8 shows the noise level of each piece of construction equipment, the noise levels shown in Table IV.G-9 take into account the likelihood that more than one piece of construction equipment would be in operation at the same time and lists the typical overall noise levels that would be expected for each phase of construction. These noise levels are based on surveys conducted by the USEPA in the early 1970s. Since 1970, regulations have been enforced to improve noise generated by certain types of construction equipment to meet worker noise exposure standards. However, many older pieces of equipment are still in use. Thus, the construction phase noise levels indicated in Table IV.G-9 represent worst-case conditions from simultaneous operation of multiple pieces of equipment. The highest noise levels are expected to occur during the grading/excavation and finishing phases of construction. The noise source is assumed to be active for 40 percent of the eight-hour work day (consistent with the USEPA studies of construction noise), generating a noise level of 89 dBA at a reference distance of 50 feet.

Table IV.G-10 displays unmitigated construction-related noise levels at sensitive receptors nearest to the project site. As shown, construction-related ambient noise levels would exceed the five dBA significance threshold at sensitive receptors near the project site. As such, construction activity would result in a significant noise impact without implementation of mitigation measures.

Table IV.G-9
Outdoor Construction Noise Levels

	Noise Level (dBA)				
Construction Phase	**50 Feet**	**100 Feet**	**200 Feet**	**400 Feet**	**800 Feet**
Ground Clearing	84	78	72	66	60
Grading/Excavation	89	83	77	71	65
Foundations	78	72	66	60	54
Structural	85	79	73	67	61
Finishing	89	83	77	71	65

Source: Environmental Protection Agency, 1971. Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PG 206717..
Source: TAHA, 2008

Table IV.G-10
Construction Noise Levels - Unmitigated

Nearest Sensitive Receptors	Distance (feet) [a]	Maximum Construction Noise Level (dBA) [b]	Existing Ambient (dBA, L_{eq}) [c]	New Ambient (dBA, L_{eq}) [d]	Increase (dBA, L_{eq}) [f]
Residences Northeast of the Project Site	Adjacent	84	61.2	84.0	22.8
Residences East of the Project Site [e]	Adjacent	89	66.7	89.0	22.3
Residences West of the Project Site	75	86	72.6	86.2	13.6
Residences South of the Project Site	75	86	74.7	86.3	11.6
Inglewood Junior Academy	75	86	72.6	86.2	13.6
William H. Kelso Elementary School	125	81	72.6	81.6	9.0
Residences North of the Project Site	500	69	73.1	74.5	1.4

[a] *Distance of noise source from receptor.*
[b] *Construction noise source's sound level at receptor location, with distance adjustment.*
[c] *Pre-construction activity ambient sound level at receptor location.*
[d] *New sound level at receptor location during the construction period, including noise from construction activity.*
[e] *Includes a five dBA reduction for an existing sound wall.*
[f] *An incremental increase of five dBA or more would result in a significant impact.*
Source: TAHA, 2008

Haul/delivery trucks associated with construction activity would generate off-site noise. These trucks would either travel along Century Boulevard to the San Diego Freeway (Interstate-405) or Prairie Avenue to the Century Freeway (Interstate-105). Earthwork would be balanced on the project site and haul truck activity would be minimal. The precise number of heavy-duty trucks (e.g., delivery trucks) visiting the project on a daily basis was not known at the time of this analysis. However, doubling the heavy-duty truck percentage used to obtain existing mobile noise levels would result in an incremental noise level increase of 1.7 dBA CNEL or less along all analyzed roadway segments. Construction-related heavy-duty truck noise levels attributed to the proposed project would not increase by three decibels (CNEL) to or within the "normally unacceptable" or "clearly unacceptable" category or result in a five-decibel or more increase in noise level. As such, construction-related heavy-duty truck noise would result in a less-than-significant impact on the ambient noise environment.

Vibration

Construction-related vibration may damage buildings and result in annoyance. The proposed project would utilize heavy-duty construction equipment and caisson drilling equipment. The proposed project would not include pile driving. Table IV.G-11 shows vibration levels generated by various pieces of construction equipment. Regarding building damage, typical heavy equipment (e.g., a large bulldozer) generates vibration levels of 0.089 PPV at a distance of 25 feet. The nearest sensitive receptor would be at least 75 feet from construction activity. At this distance, typical construction equipment would generate vibration levels of approximately 0.04 inches per second PPV. This would be less than the building damage threshold of 0.5 inches per second PPV and, as such, construction-related vibration would result in a less-than-significant building damage impact.

Table IV.G-11
Vibration Velocities for Construction Equipment

Equipment	PPV at 25 Feet (Inches/Second)	RMS at 25 Feet (VdB)
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58
SOURCE: Federal Transit Authority, Transit Noise and Vibration Impact Assessment, October 2005.		

The FTA vibration impact criteria for annoyance are shown in Table IV.G-3. Construction activity would occur during daytime hours and, as such, the Category 3 thresholds for daytime uses were utilized for the analysis. In addition, it was assumed that there would be between 30 and 70 vibration events per day of the same source. Based on these assumptions, a construction vibration annoyance impact would result if sensitive receptors would be exposed to vibration levels of 78 VdB RMS or greater. Typical heavy equipment (e.g., a vibratory roller) generates vibration levels of 87 VdB RMS at a distance of 25 feet. The nearest sensitive receptor would be at least 75 feet from construction activity. At this distance, typical construction equipment would generate vibration levels of approximately 77.5 VdB RMS. This vibration level would be less than the annoyance threshold of 78 VdB RMS and, as such, construction-related vibration would result in a less-than-significant annoyance impact.

Heavy-duty trucks associated with construction activity would potentially generate off-site vibration. It is unusual for on-road vehicles to generate perceptible vibration levels because rubber tires and suspension systems provide vibration isolation. When on-road vehicles cause effects such as window rattling the source is almost always airborne noise. Most problems associated with on-road vibration are directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Assuming that the local roadways are in good condition, on-road heavy-duty truck travel would result in a less-than-significant impact.

Operational Phase Impacts

Noise

Vehicle Noise

The predominant noise source for the Proposed Project is vehicular traffic. According to the Revised Traffic Impact Study prepared by Linscott, Law, and Greenspan, Engineers the proposed project would generate 17,222 net new weekday daily vehicle trips and 25,508 net new weekend daily vehicle trips.[8]

To ascertain off-site noise impacts, traffic was modeled under future year (2014) no project and with project conditions utilizing FHWA RD-77-108 noise calculation formulas. Results of the weekday analysis are summarized in Table IV.G-12. As shown in the table, the proposed project would result in a slight reduction in noise levels along all but one analyzed segment; along Arbor Vitae Street between La Brea Avenue and Prairie Avenue, the proposed project would not change future noise levels. This reduction can be attributed to the removal of the existing racetrack, which currently attracts a daily average of 10,000 patrons. Accordingly, the proposed project would result in a beneficial impact on the ambient noise environment as it would slightly reduce noise levels in the project area.

Results of the weekend analysis are summarized in Table IV.G-13. As shown in the table, the proposed project would result in a slight increase (i.e., an increase of 0.8 dBA or less) in noise levels along six of the ten analyzed roadway segments, a slight reduction in noise levels along two of the analyzed segments and no change along the remaining two segments. Mobile noise levels attributed to the proposed project would not increase by three decibels (CNEL) to or within the "normally unacceptable" or "clearly unacceptable" category or result in a five-decibel or more increase in noise level. As such, the proposed project would result in a less-than-significant impact on the ambient noise environment.

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[8] *Linscott, Law & Greenspan, Engineers, Revised Traffic Impact Study for the Hollywood Park Redevelopment Project, August 1, 2008.*

Table IV.G-12
2006 and 2014 Estimated Community Noise Equivalent Level – Weekday [a]

Roadway Segment	Estimated dBA, (CNEL)				
	Existing (2006)	No Project (2014)	Project (2014)	Project Impact	Cumulative Impact
Manchester Boulevard between Prairie Avenue and Crenshaw Boulevard	70.7	72.1	71.7	(0.4)	1.0
Pincay Drive between Prairie Avenue and Crenshaw Boulevard	69.6	71.4	71.0	(0.4)	1.4
Arbor Vitae Street between La Brea Avenue and Prairie Avenue	67.5	68.8	68.8	0.0	1.3
Century Boulevard between La Brea Avenue and Prairie Avenue	72.4	74.6	74.4	(0.2)	2.0
Century Boulevard between Prairie Avenue and Crenshaw Boulevard	72.9	75.7	75.4	(0.3)	2.5
Prairie Avenue between Manchester Boulevard and Century Boulevard	72.1	73.8	72.9	(0.7)	0.8
Prairie Avenue between Century Boulevard and Imperial Highway	72.4	74.5	73.6	(0.9)	1.2
Kareem Court between Manchester Boulevard and Pincay Drive	52.8	62.6	61.8	(0.8)	9.0
Crenshaw Boulevard between Manchester Boulevard and Century Boulevard	71.8	73.5	73.1	(0.4)	1.3
Crenshaw Boulevard between Century Boulevard and Imperial Highway	72.2	74.0	73.3	(0.7)	1.1

[a] *The predicted CNEL were calculated as peak hour L_{eq} and converted into CNEL using the California Department of Transportation Technical Noise Supplement (October 1998). The conversion involved making a correction for peak hour traffic volumes as a percentage of ADT and a nighttime penalty correction. The peak hour traffic was assumed to be ten percent of the average daily traffic.*

Source: TAHA, 2008.

Mechanical Equipment Noise

Potential stationary noise sources related to the long-term operations of the proposed project includes mechanical equipment. Mechanical equipment (e.g., HVAC equipment) typically generates noise levels of approximately 60 dBA at 50 feet. Mechanical equipment would potentially be located within 50 feet of the residences adjacent and to the northeast of the project site. As shown in Table IV.G-4, this location also had the lowest monitored ambient noise level. Adding mechanical equipment noise to the monitored ambient noise level of 61.2 dBA L_{eq} would result in a new ambient noise level of 63.7 dBA L_{eq}. This ambient noise level increase would be 2.5 dBA, which is less than the three dBA audibility threshold. In addition, mechanical equipment would generally be located within enclosures or behind new buildings or otherwise shielded from the nearby sensitive land uses. Proper engineering during the detailed design phases would ensure that the noise generated by mechanical equipment operations will meet Inglewood Municipal Code noise standards. As such, mechanical equipment would result a less-than-significant noise impact.

Table IV.G-13
2006 and 2014 Estimated Community Noise Equivalent Level – Weekend [a]

Roadway Segment	Estimated dBA, (CNEL) Existing (2006)	No Project (2014)	Project (2014)	Project Impact	Cumulative Impact
Manchester Boulevard between Prairie Avenue and Crenshaw Boulevard	70.0	71.5	71.5	0.0	1.5
Pincay Drive between Prairie Avenue and Crenshaw Boulevard	67.2	70.4	70.7	0.3	3.5
Arbor Vitae Street between La Brea Avenue and Prairie Avenue	66.2	68.1	68.0	(0.1)	1.8
Century Boulevard between La Brea Avenue and Prairie Avenue	72.0	74.8	75.3	0.5	3.3
Century Boulevard between Prairie Avenue and Crenshaw Boulevard	73.2	76.1	76.5	0.4	3.3
Prairie Avenue between Manchester Boulevard and Century Boulevard	72.1	73.5	73.3	(0.2)	1.2
Prairie Avenue between Century Boulevard and Imperial Highway	72.3	74.2	74.3	0.1	2.0
Kareem Court between Manchester Boulevard and Pincay Drive	53.3	63.6	63.6	0.0	10.3
Crenshaw Boulevard between Manchester Boulevard and Century Boulevard	72.8	74.2	74.5	0.3	1.7
Crenshaw Boulevard between Century Boulevard and Imperial Highway	73.1	74.0	74.8	0.8	1.7

[a] The predicted CNEL were calculated as peak hour L_{eq} and converted into CNEL using the California Department of Transportation Technical Noise Supplement (October 1998). The conversion involved making a correction for peak hour traffic volumes as a percentage of ADT and a nighttime penalty correction. The peak hour traffic was assumed to be ten percent of the average daily traffic.
Source: TAHA, 2008.

Parking Noise

Parking noise would result from proposed surface parking lots and parking structures. Surface lot parking activity along Prairie Avenue and Century Boulevard would potentially expose off-site sensitive receptors to unacceptable levels of noise. An automobile traveling at 25 miles per hour generates a noise level of approximately 60 dBA L_{eq}. As shown in Tables IV.G-12 and IV.G-13 mobile noise levels along Prairie Avenue and Century Boulevard would be approximately 73.0 and 75.4 dBA. When the parking noise level is added to the ambient noise level, the ambient noise level increase at sensitive receptors along Prairie Avenue and Century Boulevard would be less than one dBA and would not be audible. In addition, the majority of project parking would be located internal to the project site and away from sensitive receptors. As such, surface lot parking noise would result in a less-than-significant impact.

The proposed project proposes to include up to five parking structures located in the mixed-use area of the Project Site. For purposes of analyzing noise impacts, the proposed parking structures were assumed to be as large and as tall as possible to analyze the maximum impacts. Parking Structures 1, 3, 4, and 4a would be located along Century Boulevard. As shown in Table IV.G-4, the existing noise level along Century Boulevard is 74.7 dBA L_{eq}. The noise level generated by a parking structure is typically assumed to be approximately 63 dBA L_{eq} at 50 feet. This is derived by calculating the cumulative noise level generated by two automobiles passing a receptor at 25 miles per hour. When added to the existing ambient noise level, Parking Structures 1, 3, 4, and 4a would increase ambient noise levels along Century Boulevard by approximately 0.3 dBA. This increase would not be audible at off-site sensitive receptors. Parking Structure 2 would be located along Prairie Avenue. The existing noise level along Prairie Avenue is 72.6 dBA L_{eq}. When added to the existing ambient noise level, Parking Structure 2 would increase the ambient noise level by approximately 0.5 dBA. This increase would not be audible at off-site sensitive receptors. Parking Structure 5 would be located along Hardy Street. The nearest off-site sensitive receptor would be located at least 150 feet to the east of the parking structure along Prairie Avenue. The existing noise level along Prairie Avenue is 72.6 dBA L_{eq}. When added to the existing ambient noise level, Parking Structure 2 would increase the ambient noise level by approximately 0.2 dBA. This increase would not be audible at off-site sensitive receptors. As such, parking structure noise would result in a less-than-significant impact to off-site sensitive receptors.

Truck Noise

The noise produced by delivery and trash pick-up trucks at the project site will also be a potential source of annoyance. The noise level associated with a trash or delivery truck would generally average approximately 88 dBA.[9] These sources of noise are typical in an urban environment. In addition, similar truck activity currently occurs within the project site and the surrounding neighborhoods. As such, truck noise would result in a less-than-significant impact.

On-Site Noise Exposure

New sensitive receptors located on the southern portion of project site would potentially be exposed to high noise levels from project-related commercial activity and recreational activity from the casino. Specifically, proposed residential units adjacent to the casino may be exposed to casino noise. In addition, proposed residential units that may abut the proposed retail uses along Century Boulevard would potentially experience increased noise from various retail noise sources (e.g., truck unloading, alarms from trucks in reverse, and parking activity). If the proposed retail uses are constructed such that the back walls abut the border with the proposed residential units, the retail buildings would shield the residential units from the majority of retail noise. However, if the retail land uses are constructed such that retail-related activity areas are in direct line-of-sight of residential units, retail noise would potentially result in unacceptable noise levels at residential units. Windows, exterior openings of buildings, and interior and exterior walls are assigned a fenestration rating in terms of sound transmission class (STC). The STC is a single-number rating of a material's or an assembly's ability to resist airborne sound transfer at the frequencies 125 to 4000 Hertz. In general, a higher STC rating blocks more noise from transmitting through a partition. Constructing new residential land uses with an insufficient STC rating would potentially result in unacceptable interior noise levels. Therefore, mitigation is proposed to reduce potentially significant retail and recreation-related noise.

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[9] *E. Carr Everbach, Noise Quantification and Monitoring: An Overview, July, 26, 2001.*

As shown in Figure IV.G-3, portions of the project site are within the 65 dBA CNEL noise contour for LAX. The portions of the project site located within the 65 dBA CNEL noise contour would potentially include residential and mixed-use land uses. As such, new sensitive land uses may potentially be exposed to interior noise levels that exceed the recommended 45 dBA CNEL. Therefore, mitigation is proposed to reduce potentially significant aircraft noise.

Parking Structures 1 and 2 would be surrounded by proposed retail land uses, which would serve as a noise barrier and, as such, would not increase ambient noise levels at on-site sensitive receptors. Parking Structures 3, 4, and 4b would be located approximately 50 feet south of proposed residential land uses. As discussed above, the noise level generated by the parking structure would be approximately 63 dBA L_{eq}. Typical building construction provides a noise reduction of approximately 26 dBA with closed windows.[10] As such, interior noise levels at the nearest proposed residential land use as a result of Parking Structure 3, 4, and 4b activity would be approximately 37 dBA. This noise level is less than the 45 dBA interior noise significance threshold. As such, parking structure noise would result in a less-than-significant impact.

Vibration

The proposed project would not include significant stationary sources of ground-borne vibration, such as heavy equipment operations. Operational ground-borne vibration in the project vicinity would be generated by vehicular travel on the local roadways. However, similar to existing conditions, traffic-related vibration levels would not be perceptible by sensitive receptors. Thus, operational vibration would result in a less-than-significant impact.

Land Use Equivalency Program Impacts

The Proposed Equivalency Program allows for specific limited exchanges in the types of land uses occurring within the Hollywood Park Specific Plan Area.

The exchange of office/commercial, retail, hotel and/or residential uses would occur at relatively limited locations within the Project Site. Furthermore, under the Equivalency Program, there would be no substantial variation in the Project's Conceptual Circulation Plan or general layout. Potential changes in land use under the Equivalency Program would therefore have no substantial effect because only the use is changing. As a result, the amount and types of construction equipment operating at the Project site under peak construction activity levels would be the same for the Equivalency Program compared to the Proposed Project, although there may be minor differences in the overall duration of construction activities due to the limited changes in the amount of development that could occur. Furthermore, the site characterization and associated remediation required for Project development would be the same under the Equivalency Program. As such, the impacts of the Equivalency Program relative to construction noise

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[10] *American Society for Testing of Materials, Standard Classification for Determination of Outdoor-Indoor Transmission Class, 2003.*

levels would be the same as those forecasted for the Proposed Project. Therefore, the Equivalency Program, as is the case with the Proposed Project, would result in significant and unavoidable impacts with regard to the construction phase.

Off-site mobile noise levels during operations under the Equivalency Program would be comparable to those of the Proposed Project as the trip generation and trip distribution characteristics of the Equivalency Program and the Proposed Project would also be comparable. On-site noise sources (e.g., parking activity and mechanical equipment) under the Equivalency Program would also be similar to the Proposed Project as there would be no substantial variation in the general layout. Concurrent construction and operations noise levels under the Equivalency Program would also be comparable to the Proposed Project as levels of construction activity and traffic would also comparable.

All recommended mitigation measures to minimize noise impacts under the Proposed Project would be implemented, as appropriate, under the Equivalency Program.

PROJECT DESIGN FEATURES

No specific PDFs have been proposed with respect to noise impacts.

MITIGATION MEASURES

Construction Phase

MM G-1. All construction equipment shall be equipped with mufflers and other suitable noise attenuation devices.

MM G-2. As feasible, grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment).

MM G-3. As feasible, equipment staging areas shall be located away from sensitive receptors.

MM G-4. A perimeter wall is already present between the project site and the residential development to the east (Renaissance). The Project Applicant shall not remove this wall.

MM G-5. All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet, shall also be posted at high visibility areas on the construction site. All notices and signs shall indicate the dates and duration of construction activities, as well as a telephone number where residents can inquire about the construction process and register complaints.

MM G-6. A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and use reasonable measures to mitigate the problem, if feasible. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.

Operational Phase

MM G-7. All residential units shall be designed to minimize noise effects from non-residential activities on the project site, including the casino, parking areas, loading zones, alarms from trucks in reverse, and commercial uses with exterior components (e.g., outdoor dining, special entertainment events, etc.). These design measures shall be established to maintain noise levels at interior spaces to be within the 45 dBA noise standards. Measures shall include, but not be limited to, using construction techniques/materials with an STC rating of 40 in habitable rooms/areas, the use of perimeter walls, sound-rated interior walls between uses, or other site planning and building placement that could reduce or eliminate the light-of-sight between the noise source and residential units.

See Mitigation Measure I-1 in Section IV.I Land Use for an additional mitigation measure related to airport noise impacts.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Construction Phase Noise Impacts

With respect to threshold questions (a) and (d), the Proposed Project would expose sensitive receptors to increased construction noise levels. Mitigation Measure G-1 would reduce construction noise levels by approximately five dBA. Mitigation Measure G-7 would allow for noise complaints to be addressed and the other mitigation measures (G-2 through G-6) would assist in attenuating construction noise levels. As shown in Table IV.G-14, even with mitigation, construction noise levels would exceed the five dBA significance threshold at sensitive receptors near the project site. As such, construction activity would result in a significant and unavoidable short-term construction noise impact.

Note that earth movement activity would raise the elevation of the project site by 13 feet. It would not be possible to install a temporary noise barrier during the site preparation phase of construction activity because the noise barrier would constantly need to be broken down and rebuilt as height was added to the grade.

With respect to threshold question (b), construction activity would not expose sensitive receptors to excessive vibration levels.

Table IV.G-14
Construction Noise Levels - Mitigated

Nearest Sensitive Receptors	Distance (feet) [a]	Maximum Construction Noise Level (dBA) [b]	Existing Ambient (dBA, L_{eq}) [c]	New Ambient (dBA, L_{eq}) [d]	Increase (dBA, L_{eq}) [f,g]
Residences Northeast of the Project Site	Adjacent	79	61.2	79.1	17.9
Residences East of the Project Site [e]	Adjacent	84	66.7	84.1	17.4
Residences West of the Project Site	75	81	72.6	81.6	9.0
Residences South of the Project Site	75	81	74.7	81.9	7.2
Inglewood Junior Academy	75	81	72.6	81.6	9.0
William H. Kelso Elementary School	125	76	72.6	77.6	5.0
Residences North of the Project Site	500	64	73.1	73.6	0.5

[b] *Distance of noise source from receptor.*
[c] *Construction noise source's sound level at receptor location, with distance adjustment.*
[d] *Pre-construction activity ambient sound level at receptor location.*
[e] *New sound level at receptor location during the construction period, including noise from construction activity.*
[f] *Includes a five dBA reduction for an existing sound wall.*
[g] *An incremental increase of five dBA or more would result in a significant impact.*
Source: TAHA, 2008.

Operational Phase

With respect to threshold questions (a), (c), (e), and (f), Mitigation Measures G-7 and I-1 (in Section IV.I Land Use) would ensure that new sensitive receptors would not be exposed to on-site noise and excessive aircraft noise levels. As such, project operations would result in a less-than-significant noise impact.

With respect to threshold question (b), operational activity would not expose sensitive receptors to excessive vibration levels.

CUMULATIVE IMPACTS

When calculating future traffic impacts, the traffic consultant took 85 additional projects into consideration. Thus, the future traffic results without and with the proposed project already account for the cumulative impacts from these other projects. Since the noise impacts are generated directly from the traffic analysis results, the future without project and future with project noise impacts described in this report already reflect cumulative impacts.

Tables IV.G-12 and IV.G-13 present the cumulative increase in future traffic noise levels at various roadway segments (i.e., 2014 "No Project "conditions plus proposed project traffic) for the weekday and weekend conditions, respectively. Results of the weekday cumulative analysis are summarized in Table IV.G-12. As shown in the table, the proposed project, including the Equivalency Program, and related projects would result in mobile noise increases between 0.8 dBA and 2.5 dBA along nine of the ten analyzed roadway segments; mobile noise levels attributed to the proposed project and related projects along these roadway segments would not increase by three decibels (CNEL) to or within the "normally unacceptable" or "clearly unacceptable" category or result in a five-decibel or more increase in noise level. As such, weekday project-related mobile noise along these nine roadway segments would contribute to a less-than-significant cumulative impact on the ambient noise environment. However, mobile noise level along Kareem Court between Manchester Boulevard and Pincay Drive would increase by 9.0 dBA CNEL over existing conditions, which is greater than the five dBA CNEL or more significance threshold. This increase is solely attributed to traffic generated by the related projects in the project vicinity since the proposed project would actually result in a noise reduction along this roadway segment (Table IV.G-11). Therefore, weekday project-related mobile noise would not contribute to a cumulatively considerable impact on the ambient noise environment.

Results of the weekend cumulative analysis are summarized in Table IV.G-13. As shown in the table, including the Equivalency Program, the proposed project and related projects would result in mobile noise increases between 1.2 dBA and 2.0 dBA along six of the ten analyzed roadway segments. As such, weekend project-related mobile noise along these six roadway segments would contribute to a less-than-significant cumulative impact on the ambient noise environment. However, along Pincay Drive between Prairie Avenue and Crenshaw Boulevard, Century Boulevard between La Brea Avenue (Hawthorne Boulevard south of Century Boulevard) and Prairie Avenue, and Century Boulevard between Prairie Avenue and Crenshaw Boulevard, the proposed project, including the Equivalency Program, and related projects would result in a mobile noise increases between 3.3 dBA and 3.5 dBA. These increases would exceed the three dBA CNEL significance threshold within the "normally unacceptable" category (Table IV.G-7). In addition, mobile noise level along Kareem Court would increase by 10.3 dBA CNEL over existing conditions, which is greater than the five dBA CNEL or more significance threshold. These increases are solely attributed to traffic generated by the related projects in the project vicinity since the proposed project would not contribute to any increase along this roadway segment (Table IV.G-12). Therefore, weekend project-related mobile noise would not contribute to a cumulatively considerable impact on the ambient noise environment.

The predominant vibration source near the project site is heavy trucks traveling on the local roadways. Neither the project, including the Equivalency Program, nor related projects would substantially increase heavy-duty vehicle traffic near the project site and or cause a substantial increase in heavy-duty trucks on local roadways. As such, the proposed project would not add to a cumulatively considerable vibration impact.