
IV. ENVIRONMENTAL IMPACT ANALYSIS

H. NOISE

1. ENVIRONMENTAL SETTING

a. BACKGROUND

(1) Noise Characteristics

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perceptibility of sound is subjective and the physical response to sound complicates the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.” Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB).

The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighting filter system is used to adjust measured sound levels. The A-weighted sound level is expressed in "dBA" or "dB(A)." Figure 41 on page 335 provides typical A-weighted sound levels measured for various sources, as well as people's responses to these levels.

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level can be obtained during that period. The energy-equivalent sound level (L_{eq}) is the most common parameter associated with such measurements. The L_{eq} metric is a single-number noise descriptor which represents the average sound level over a given period of time, where the actual sound level varies with time. L_{max} , L_{min} , and L_{xx} are also common noise descriptors. L_{max} and L_{min} are the maximum and minimum noise levels, respectively, over a given period of time and L_{xx} , known as a statistical sound level, is the time-varying noise level which would be exceeded xx percent of the time.

Although the A-weighted scale accounts for people's spectral response and, therefore, is commonly used to quantify individual event or general community sound levels, the degree of annoyance or other response effects also depends on several other perceptibility factors. These factors include:

Figure 41 A-Weighted Noise Levels

- Ambient (background) sound level;
- Magnitude of the event sound level with respect to the background;
- Duration of the sound event;
- Number of event occurrences and their repetitiveness; and
- Time of day that the event occurs.

Several methods have been devised to relate noise exposure over time to community response. A commonly used noise metric for this type of study is the Community Noise Equivalent Level (CNEL). The CNEL, which was originally developed for use in the California Airport Noise Regulation, has a 5 dB penalty added to noise occurring during evening hours from 7:00 P.M. to 10:00 P.M., and a 10 dB penalty added for any sounds occurring between the hours of 10:00 P.M. to 7:00 A.M. Thus, the CNEL noise metric provides a 24-hour average of A-weighted noise levels at a particular location, with an evening and a nighttime adjustment, which reflects increased sensitivity to noise during these times of the day.

(2) Noise Regulation

(a) City of Los Angeles

The Los Angeles Municipal Code (LAMC) establishes regulations regarding allowable increases in noise levels, in terms of established noise criteria, and construction activities. Supplementing these LAMC regulations, the City has also established noise guidelines, which are used for planning purposes only, and which categorize noise levels occurring over a 24-hour period.

(i) City of Los Angeles Noise Ordinance

The LAMC (Chapter XI, Articles 1 through 6) establishes acceptable ambient sound levels for specific land use zones. In accordance with the City's Municipal Code limits, a noise level increase of 5 dB over the existing average ambient noise level at an adjacent property line is considered a noise violation. This standard applies to all sources except vehicles traveling on public streets. Further, for purposes of determining whether or not a violation of the Municipal Code is occurring, sound level measurements of an offending noise can be reduced by 5 dB if the noise event occurs 15 minutes or less in any 60-minute period. In cases where the actual measured ambient level is not known or is less than 50 dBA, the presumed daytime (7:00 A.M. to 10:00 P.M.) minimum ambient noise is 50 dBA and the nighttime (10:00 P.M. to 7:00 A.M.) minimum ambient noise is 40 dBA for residential land use.

Section 112 of the LAMC also limits noise from construction equipment within 500 feet of a residential zone to 75 dBA, measured at a distance of 50 feet from the source, unless compliance with this limitation is technically infeasible. The LAMC also prohibits construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday.

(ii) City of Los Angeles CNEL Guidelines

In addition to the previously described LAMC provisions, the City has also established noise guidelines which are solely used for planning purposes (i.e., no regulatory enforcement). These guidelines are based in part on the community noise compatibility guidelines established by the State Department of Health Services. The guidelines are intended for use in assessing the compatibility of various land use types with a range of noise levels. CNEL noise levels for specific land uses are classified into four categories: (1) “clearly acceptable,” (2) “normally acceptable,” (3) “normally unacceptable,” and (4) “clearly unacceptable.” A CNEL value of 70 dBA is considered the dividing line between a “normally acceptable” and “normally unacceptable” noise environment for noise sensitive land uses, including parks, schools, and playgrounds.

CNEL increases of less than 3 dB are not considered an adverse change in the environment, while an increase of between 3 and 5 dB is generally considered to be an adverse impact and a CNEL increase of greater than 5 dB is considered a significant impact.

(b) LAUSD Noise Guidelines

In September of 1997, the LAUSD released guidelines for noise-related environmental documents. The guidelines identify what the LAUSD considers acceptable noise levels for exterior school spaces. According to the guideline, the acceptable exterior L_{eq} is 67 dBA.

The guideline further states that in those cases where the existing ambient noise levels equal or exceed District Noise Standards, a 2 dB increase above ambient noise levels will be the maximum permitted. A noise level increase of 3 dB or more over ambient levels is considered significant and will require mitigation to within 2 dB of pre-Project ambient levels.

b. EXISTING LOCAL NOISE CONDITIONS

(1) Ambient Noise Levels

Noise measurements were conducted at four locations in the vicinity of the Project site. The noise measurements were conducted between September 18, 2000 and September 20, 2000 to quantify existing baseline noise levels in the vicinity of the Project. Twenty-four hour noise

measurements were conducted at three locations that are representative of noise sensitive land uses adjacent to the Project site. Limited 15-minute noise measurements were conducted at 10th Street Elementary School during the morning, mid-day, and evening hours. Measured noise levels are shown in Table 36 on page 339. Figure 42 on page 340 shows the location of the measurement locations relative to the Project boundaries.

Measured daytime noise levels (L_{eq}) along major roadways in the area (Olympic Boulevard and Flower Street) ranged from 51.9 to 70.3 dBA, which is typical for major arterial roadways. The CNEL ranged from 65.7 to 72.1 dBA along these same roadways. At the 10th Street Elementary School, the L_{eq} ranged from 68.4 to 71.8 dBA at the school's northeast boundary located adjacent to Olympic Boulevard and Valencia Street. A 24-hour noise measurement was not possible at this location because permission could not be obtained from LAUSD within the monitoring period; therefore the existing CNEL was not measured.

(2) Traffic Noise

Traffic noise in the vicinity of the Project site is attributed to vehicle movements on the surrounding arterial system. The CNEL generated by existing traffic on these roadways has been estimated using the FHWA traffic noise prediction model, and traffic data provided in the Traffic study provided in Appendix E of this Draft EIR. Table 37 on page 341 provides the predicted existing traffic noise levels along the selected roadway segments around the Project site.

The predicted existing CNEL along portions of the roadway right-of-way of Francisco Street and Hope Street are currently between 56.8 to 68.1 dBA. These noise levels are within the City of Los Angeles' CNEL guideline of 70 dBA for residential land uses.

The existing CNEL along portions of 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Olympic Boulevard, and Pico Boulevard currently ranges from 72.8 to 75.9 dBA. Sensitive land uses (e.g., residences, hotels, and parks) located along portions of these roadways currently experience CNEL greater than 70 dBA that exceed the conditionally acceptable limits established by the City of Los Angeles.

In addition to analyzing the surrounding roadway segments, the analysis includes the 10th Street Elementary School site, which is the nearest public school in the vicinity of the Project site. The 10th Street Elementary School is located approximately 1,300 feet northwest of the Project site, along Olympic Boulevard, west of the Harbor Freeway. The existing peak hour L_{eq} from traffic on Olympic Boulevard is approximately 74.1 dBA at the property line. This exceeds LAUSD's noise guideline of 67 dBA. However, at the playground areas located further away from Olympic Boulevard, the traffic noise is lower due to distance and barrier attenuation.

Table 36

MEASURED NOISE LEVELS ALONG MAJOR ROADWAYS IN THE PROJECT SITE VICINITY

Location	Measured Peak Hour Noise Level (dBA Leq)	CNEL (dBA)	Major Noise Sources
1. 835 West Olympic Boulevard (apartments)	70.3	72.1	Traffic on Olympic Boulevard
2. 950 South Flower Street (apartments)	66.1	65.7	Traffic on Flower Street
3. 1324 South Flower Street (apartments)	67.4	66.7	Traffic on Flower Street
4. 10th Elementary Street School, Olympic Boulevard & Valencia Street	71.8	--	Traffic on Olympic Boulevard and Valencia Street

Source: PCR Services Corporation, December 2000

On Saturdays, the predicted existing CNEL along portions of the roadway right-of-way of Francisco Street, Hope Street, Figueroa Street, and Flower Street are currently between 60.5 to 69.7 dBA. These noise levels are within the City of Los Angeles' CNEL guideline of 70 dBA for residential land uses.

The existing CNEL along portions of 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Olympic Boulevard, and Pico Boulevard currently ranges from 70.3 to 75.2 dBA on Saturdays. Sensitive land uses (e.g., residences, hotels, and parks) located along portions of these roadways currently experience CNEL greater than 70 dBA that exceed the conditionally acceptable limits established by the City of Los Angeles.

(3) Rail Noise

The Los Angeles County Metropolitan Transit Authority (MTA) Blue Line passes near the eastern edge of portions of the Project site (Figueroa South and Central Properties), along the east side of Flower Street. The Blue Line operates daily from 5:00 A.M. to 11:00 P.M. During morning and afternoon peak periods, trains run every ten minutes. During non-peak times, trains run every twelve minutes. Based upon this schedule, the CNEL associated with train operations is approximately 74 dBA at a distance of 100 feet from the tracks, while the CNEL at 250 feet (the approximate distance from the track to the Project) is estimated at 68 dBA.

Figure 42 Noise Receptor Locations

Table 37

PREDICTED EXISTING TRAFFIC NOISE LEVELS

Roadway	Segment	Predicted Existing CNEL at the Roadway Right-of- way (dBA)	Predicted Saturday Existing CNEL at the Roadway Right-of-way (dBA)
11 th Street	West of Figueroa Street	75.1	74.9
	East of Figueroa Street	74.9	74.0
9th Street (James Wood Boulevard)	West of Figueroa Street	75.5	75.2
	East of Figueroa Street	75.0	74.6
	West of Flower Street	74.4	74.3
	East of Flower Street	74.0	71.1
Figueroa Street	North of 9 th (James Woods)	73.3	70.6
	South of 9 th (James Woods)	73.0	69.7
	North of Olympic Boulevard	72.8	70.3
	South of Olympic Boulevard	73.9	71.4
	North of 11th	74.1	72.0
	South of 11th	74.0	72.5
Flower Street	North of 9 th (James Woods)	73.1	67.6
	South of 9 th (James Woods)	73.3	70.9
	North of Olympic Boulevard	73.1	71.2
	South of Olympic Boulevard	73.0	70.3
	North of Pico Boulevard	72.8	68.6
	South of Pico Boulevard	73.0	68.2
Francisco Street Hope Street	North of Olympic Boulevard	56.8	60.5
	North of Pico Boulevard	68.1	66.0
	South of Pico Boulevard	67.1	65.9
Olympic Boulevard	West of Figueroa Street	75.8	74.3
	East of Figueroa Street	75.5	73.9
	West of Flower Street	75.9	74.0
	East of Flower Street	75.3	72.6
	East of Blaine Street	75.9	74.1
	West of Blaine Street	75.9 (L _{eq} =74.1)	74.0 (L _{eq} =72.2)
	West of Francisco Street	75.9	75.0
	East of Francisco Street	75.9	74.3
Pico Boulevard	East of Flower Street	73.5	72.6
	West of Flower Street	74.3	74.4
	East of Hope Street	73.4	72.1
	West of Hope Street	73.6	72.6

Source: PCR Services Corporation, December 2000.

(4) Sensitive Receptors

Uses that are typically considered noise sensitive include residences, schools, hospitals, and convalescent care facilities. Most uses adjacent to the Project site are commercial and light industrial, which generally are not considered noise sensitive. An apartment building is, however, located adjacent to the north end of the Olympic North Properties, along the north side of Olympic Boulevard. There is a multi-family residential building located at the northeast corner of Flower Street and Olympic Boulevard and an apartment hotel located at the southwest corner of Flower Street and Pico Boulevard. The 10th Street Elementary School, located west of the Harbor Freeway, approximately 1,300 feet northwest of the Project site on the northwest corner of Valencia Street and Olympic Boulevard, is considered a sensitive receptor. The Downtown Holiday Inn hotel is located between the Figueroa Central and Figueroa North Properties, at the southeast corner of Figueroa Street and Olympic Boulevard. However, this is not considered a sensitive receptor because of the transient nature of hotel guests. No other noise sensitive uses are directly adjacent to the Project site. The locations of sensitive noise receptors in the vicinity of the Project site are shown on Figure 42.

2. PROJECT IMPACTS

a. SIGNIFICANCE THRESHOLDS/METHODOLOGIES

(1) Construction

Construction-related impacts would be significant if, as indicated in the City Noise Ordinance (No. 156,363), a noise sensitive use is located within 500 feet of the Project site and on-site construction noise levels exceed 75 dBA, measured 50 feet from the source. This threshold is more conservative than the standard set forth within the City's Noise Ordinance since applicability under the Noise Ordinance is limited to residential uses or residentially zoned land rather than the broader applicability used in this analysis (i.e., any noise sensitive use).

(2) Operation

A significant impact would occur if any of the operational significance thresholds listed below are exceeded:

- Project traffic increases the CNEL along any roadway segment by an audible amount (3 dBA or more) and causes the noise levels to move from acceptable range to unacceptable range as shown on the City's Community Compatibility Matrix.

- Project traffic causes a 5 dBA or greater noise level increase on any roadway link adjacent to a sensitive receptor location during any single hour.
- Project-related operational (i.e., non-roadway) noise sources increase ambient noise by 5 dBA thus causing a violation of the City Noise Ordinance.

Noise levels associated with Project generated and cumulative traffic were estimated using a version of the FHWA traffic noise prediction methodology, FHWA RD-77-108, and based upon the projected traffic levels reported in Section IV.F.1., Traffic, of this Draft EIR.

The roadway segments were selected for study based upon two factors: (1) the volume of Project-generated traffic; and (2) the presence of sensitive receptors. In general, study segments are those that are proximal to the Project site and a sensitive noise receptor such as a residence, or school. These include 33 segments in the immediate vicinity of the Project site. Noise levels were modeled for existing conditions, future conditions without the Project, and future conditions with the Project. In addition, each of these conditions were evaluated for a weekend Saturday.

b. ANALYSIS OF PROJECT IMPACTS

(1) Construction

Project construction is anticipated to take place in four fairly distinct phases: (1) ground clearing/excavation; (2) foundation construction; (3) building construction; and (4) finishing and cleanup. Each phase involves the use of different kinds of construction equipment and, therefore, has its own distinct noise characteristics. Clearing and excavation typically involve the use of earth moving equipment such as heavy duty trucks, scrapers, backhoes and front-end loaders. Foundation construction generally entails the use of concrete trucks, cranes, and pneumatic tools. Building construction typically involves the use of hammers, generators, compressors, and light trucks, while noise sources associated with finishing and site cleanup generally include trucks, landscape rollers, and compactors. Construction of the proposed Project would entail each of the four construction phases. Parking facility construction would entail the demolition, grading, and construction (including site clean-up) phases.

Typical noise level ranges associated with each construction phase at a distance of 50 feet from the noise source are presented in Table 38 on page 344. All four phases would have the potential to generate noise levels exceeding the 75 dBA City standard for construction equipment at that distance. The highest and generally most sustained noise levels typically occur during the ground clearing and excavation phases.

Table 38

TYPICAL NOISE LEVELS AT CONSTRUCTION SITES

Construction Phase	Noise Level (dBA) at 50 Feet	
	Minimum Required Equipment in Use	All Pertinent Equipment in Use
Clearing/Excavation	79	89
Foundation Construction	78	78
Building Construction	76	85
Finishing and Site Cleanup	76	89

Source: Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the U.S. Environmental Protection Agency, December 31, 1971.

Construction activity on the Olympic Properties could be as close as 50 feet from the existing apartments located directly north of Olympic Boulevard. During the heaviest periods of construction activity, the construction noise could potentially be as high as 89 dBA during short instances. At the apartment building located north of Olympic Boulevard and east of Flower Street, the construction noise would range from 75 to 86 dBA. The construction noise would range from 71 to 82 dBA at the apartment hotel located south of Pico Boulevard and West of Flower Street. During periods of less intensive activity, the construction noise would be lower. Construction on portions of the Olympic and Figueroa Properties would have the potential to exceed 75 dBA within 500 feet of the existing residential areas. Therefore, impacts to these residential receptors associated with construction on the Olympic and Figueroa Properties would be significant. Table 39 on page 345 lists the estimated construction noise levels at the nearest receptor locations.

The 10th Street Elementary School is located approximately 1,300 feet northwest of the Project site. Construction noise would attenuate by approximately 31 dB from distance and intervening structures, including the Harbor Freeway. Construction-related noise levels would be reduced to 58 dBA or lower at the school site. The construction noise levels would be below the LAUSD noise guideline of 67 dBA and would therefore be less than significant.

(2) Operation

(a) Future Weekday Traffic Noise

The CNEL generated by future traffic on local roadway segments has been estimated using the FHWA traffic noise prediction model and forecasted traffic data provided in Appendix E, of this Draft EIR. The traffic noise analysis considered the roadway configuration, grade, percentage of

Table 39

CONSTRUCTION NOISE LEVELS AT RECEPTOR LOCATIONS

Receptor No. and Location	Distance to Construction Site (feet)	Distance Attenuation (dB)	Barrier Attenuation (dB)	A-Weighted Sound Level Construction Stage (dBA)				Noise Level Range	
				Clearing/Excavation	Foundation	Building	Finish	Low	High
1. 835 West Olympic Blvd. (apartments) (North of Olympic East Properties and East of Olympic North Properties)	50	0	0	89	78	85	89	78	89
2. 950 South Flower Street (apartments) (East of Figueroa North Properties)	80	-3	0	86	75	82	86	75	86
3. 1324 South Flower Street (apartments) (South of Figueroa South Properties)	150	-7	0	82	71	78	82	71	82
4. 10 th Street Elementary School (1,300' West of Olympic West Properties)	1,300	-21	-10	58	47	54	58	47	58

Source: PCR Services Corporation, December 2000

2-axle and 3-axle trucks, posted vehicle speeds, and right-of-way distances to calculate future traffic noise levels. Table 40 on page 347 and Table 41 on page 349 provide the predicted CNEL for the analyzed roadway segments for the following scenarios: existing conditions, future without development of the Project; future with development of the Project; the increase attributed to Project-generated traffic, and the cumulative increase above existing baseline noise levels.

The predicted future year CNEL without the Project would range from 57.2 to 77.4 dBA along the considered roadway segments. Sensitive land uses located along portions of Francisco Street and Hope Street would experience future traffic noise levels that are below the City of Los Angeles' "conditionally acceptable" CNEL guideline of 70 dBA. Sensitive land uses located along portions of 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Olympic Boulevard, and Pico Boulevard would experience future traffic noise levels that exceed the City's CNEL guideline of 70 dBA.

The predicted future CNEL with the Project would range from 64.1 to 77.8 dBA along the same roadway segments. Sensitive land uses along portions of Francisco Street and Hope Street would continue to experience future traffic noise levels below the City's CNEL guideline of 70 dBA. Along portions of 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Olympic Boulevard, and Pico Boulevard the CNEL would continue to exceed the City's CNEL guideline of 70 dBA. When compared to the future without Project condition, the Project would generate increases in future CNEL ranging from 0.2 to 6.9 dBA. Except for Francisco Street, increases in traffic noise would be less than 3 dB, and would not be perceptible within the context of a community noise environment. Consistent with the established thresholds, future traffic noise levels associated with the Project would be less than significant along 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Hope Street, Olympic Boulevard, and Pico Boulevard. The CNEL along Francisco Street would increase by 6.9 dB above the future without Project conditions. This increase would be perceptible and would result in a significant impact.

In addition, the analysis includes the 10th Street Elementary School, which is the nearest public school in the vicinity of the Project site. At the elementary school, the future peak hour L_{eq} without the Project would be approximately 74.9 dBA. The L_{eq} at the school would continue exceed the LAUSD's guideline of 67 dBA. The future year L_{eq} with the Project would be approximately 75.2 dBA at the elementary school. As such, the L_{eq} would continue to exceed LAUSD's guideline of 67 dBA. While the guideline would still be exceeded, there would be a net increase of 0.3 dBA that is less than the maximum 2 dB increase allowed by the guideline. Future traffic noise at 10th Street Elementary School with the Project would be within LAUSD's noise guidelines.

Table 40

PREDICTED FUTURE WEEKDAY TRAFFIC NOISE LEVELS

Roadway	Segment	Predicted Existing CNEL (dBA)	Predicted Future without Project ^a CNEL (dBA)	Predicted Future with Project CNEL (dBA)	Project ^b Increase, dB	Cumulative Increase above Existing ^c Baseline, dB
11 th Street	West of Figueroa Street	75.1	75.7	76.5	0.8	1.4
	East of Figueroa Street	74.9	75.5	76.3	0.8	1.4
9 th Street (James Woods)	West of Figueroa Street	75.5	77.4	77.8	0.4	2.3
	East of Figueroa Street	75.0	76.5	76.8	0.3	1.8
	West of Flower Street	74.4	76.0	76.4	0.4	2.0
	East of Flower Street	74.0	75.4	75.5	0.1	1.5
Figueroa Street	North of 9 th (James Woods)	73.3	74.6	75.0	0.4	1.7
	South of 9 th (James Woods)	73.0	73.8	74.2	0.4	1.2
	North of Olympic Boulevard	72.8	73.6	74.1	0.5	1.3
	South of Olympic Boulevard	73.9	74.5	74.8	0.3	0.9
	North of 11 th	74.1	74.8	75.0	0.2	0.9
	South of 11 th	74.0	74.7	75.1	0.4	1.1
Flower Street	North of 9 th (James Woods)	73.1	73.8	74.2	0.4	1.1
	South of 9 th (James Woods)	73.3	74.2	74.8	0.6	1.5
	North of Olympic Boulevard	73.1	74.0	74.6	0.6	1.5
	South of Olympic Boulevard	73.0	73.9	74.3	0.4	1.3
	North of Pico Boulevard	72.8	73.8	74.1	0.3	1.3
	South of Pico Boulevard	73.0	73.9	74.1	0.2	1.1
Francisco Street	North of Olympic Boulevard	56.8	57.2	64.1	6.9	7.3
Hope Street	North of Pico Boulevard	68.1	69.2	69.3	0.1	1.2
	South of Pico Boulevard	67.1	68.1	68.1	0.0	1.0
Olympic Boulevard	West of Figueroa Street	75.8	76.6	77.6	1.0	1.8
	East of Figueroa Street	75.5	76.2	77.1	0.9	1.6
	West of Flower Street	75.9	76.6	77.4	0.8	1.5
	East of Flower Street	75.3	75.9	76.5	0.6	1.2
	East of Blaine Street	75.9	76.7	77.3	0.6	1.4
	West of Blaine Street	75.9 (L _{eq} =74.1)	76.7 (L _{eq} =74.9)	77.0 (L _{eq} =75.2)	0.3	1.1
	West of Francisco Street	75.9	76.7	77.3	0.6	1.4
	East of Francisco Street	75.9	76.7	77.7	1.0	1.8
Pico Boulevard	East of Flower Street	73.5	74.2	74.5	0.3	1.0
	West of Flower Street	74.3	75.0	75.3	0.3	1.0

Table 44 (Continued)

PREDICTED FUTURE WEEKDAY TRAFFIC NOISE LEVELS

Roadway	Segment	Predicted Existing CNEL (dBA)	Predicted Future without Project ^a CNEL (dBA)	Predicted Future with Project CNEL (dBA)	Project ^b Increase, dB	Cumulative Increase above Existing ^c Baseline, dB
	East of Hope Street	73.4	74.1	74.3	0.2	0.9
	West of Hope Street	73.6	74.3	74.6	0.3	1.0

^a Includes ambient traffic growth.

^b Increase relative to traffic noise levels associated with ambient growth without the Project.

^c Cumulative increase relative to existing traffic noise levels, resulting from ambient growth plus Project development.

Source: PCR Services Corporation, December 2000.

Table 41

PREDICTED FUTURE SATURDAY TRAFFIC NOISE LEVELS

Roadway	Segment	Predicted Existing CNEL (dBA)	Predicted Future without Project ^a CNEL (dBA)	Predicted Future with Project CNEL (dBA)	Project ^b Increase, dB	Cumulative Increase above Existing ^c Baseline, dB
11 th Street	West of Figueroa Street	74.9	75.4	76.7	1.3	1.8
	East of Figueroa Street	74.0	74.6	75.9	1.3	1.9
9 th Street (James Woods)	West of Figueroa Street	75.2	76.4	76.9	0.5	1.7
	East of Figueroa Street	74.6	75.5	76.0	0.5	1.4
	West of Flower Street	74.3	75.3	75.8	0.5	1.5
	East of Flower Street	71.1	72.3	73.1	0.8	2.0
Figueroa Street	North of 9 th (James Woods)	70.6	71.8	72.6	0.8	2.0
	South of 9 th (James Woods)	69.7	70.7	71.5	0.8	1.8
	North of Olympic Boulevard	70.3	71.2	71.9	0.7	1.6
	South of Olympic Boulevard	71.4	72.1	72.5	0.4	1.1
	North of 11 th	72.0	72.6	72.9	0.3	0.9
	South of 11 th	72.5	73.0	73.6	0.6	1.1
Flower Street	North of 9 th (James Woods)	67.6	68.4	70.1	1.7	2.5
	South of 9 th (James Woods)	70.9	71.7	72.8	1.1	1.9
	North of Olympic Boulevard	71.2	71.9	73.0	1.1	1.8
	South of Olympic Boulevard	70.3	71.1	71.9	0.8	1.6
	North of Pico Boulevard	68.6	69.6	70.2	0.6	1.6
	South of Pico Boulevard	68.2	69.3	69.8	0.5	1.6
Francisco Street	North of Olympic Boulevard	60.5	60.8	66.1	5.3	5.6
	South of Olympic Boulevard	68.6	69.0	70.7	1.7	2.1
Hope Street	North of Pico Boulevard	66.0	66.9	67.0	0.1	1.0
	South of Pico Boulevard	65.9	66.9	66.9	0.0	1.0
Olympic Boulevard	West of Figueroa Street	74.3	75.1	76.3	1.2	2.0
	East of Figueroa Street	73.9	74.5	75.8	1.3	1.9
	West of Flower Street	74.0	74.6	75.8	1.2	1.8
	East of Flower Street	72.6	73.3	74.2	0.9	1.6
	East of Blaine Street	74.1	74.9	75.9	1.0	1.8
	West of Blaine Street	74.0 (L _{eq} =72.2)	74.8 (L _{eq} =73.0)	75.4 (L _{eq} =73.6)	0.6	1.4
	West of Francisco Street	75.0	75.8	76.2	0.4	1.2
	East of Francisco Street	74.3	75.0	76.3	1.3	2.0
Pico Boulevard	East of Flower Street	72.6	73.1	73.6	0.5	1.0

Table 46 (Continued)

PREDICTED FUTURE SATURDAY TRAFFIC NOISE LEVELS

Roadway	Segment	Predicted Existing CNEL (dBA)	Predicted Future without Project ^a CNEL (dBA)	Predicted Future with Project CNEL (dBA)	Project ^b Increase, dB	Cumulative Increase above Existing ^c Baseline, dB
	West of Flower Street	74.4	74.9	75.3	0.4	0.9
	East of Hope Street	72.1	72.6	73.1	0.5	1.0
	West of Hope Street	72.6	73.2	73.6	0.4	1.0

^a Includes ambient traffic growth.

^b Increase relative to traffic noise levels associated with ambient growth without the Project.

^c Cumulative increase relative to existing traffic noise levels, resulting from ambient growth plus Project development.

Source: PCR Services Corporation, December 2000.

(b) Future Saturday Traffic Noise

Table 41 provides the predicted CNEL for the analyzed roadway segments for the following weekend Saturday scenarios: existing conditions, future buildout without the Project; future buildout with the Project; the increase attributed to Project generated traffic, and the cumulative increase above existing baseline noise levels.

The predicted future CNEL without the Project would range from 60.8 to 76.4 dBA along the considered roadway segments. Sensitive land uses located along portions of Francisco Street and Hope Street would experience future traffic noise levels that are within the City of Los Angeles' "conditionally acceptable" CNEL guideline of 70 dBA. The future CNEL along portions of 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Olympic Boulevard, and Pico Boulevard would experience future traffic noise levels that exceed the City's CNEL guideline of 70 dBA.

The predicted future CNEL with the Project would range from 66.1 to 76.9 dBA along the same roadway segments. Sensitive land uses along portions of Francisco Street and Hope Street would continue to be below the City's CNEL guideline of 70 dBA. Along the roadway segments of 9th Street, 11th Street, Figueroa Street, Flower Street, Olympic Boulevard, and Pico Boulevard, the future CNEL would exceed the City of Los Angeles' "conditionally acceptable" CNEL guideline of 70 dBA. When compared to the future without Project condition, the Project would generate increases in future CNEL ranging from 0.1 to 5.3 dBA. Except for Francisco Street, the increases in traffic noise would be less than 3 dB and would not be perceptible within the context of a community noise environment. Consistent with the established thresholds, future Saturday traffic noise levels associated with the Project would be less than significant along 9th Street (James Wood Boulevard), 11th Street, Figueroa Street, Flower Street, Hope Street, Olympic Boulevard, and Pico Boulevard. The Saturday CNEL along Francisco Street would increase by 5.3 dB above the future without Project conditions. This increase would be perceptible and would result in a significant impact.

In addition to analyzing Project traffic along the surrounding roadway segments, the analysis includes 10th Street Elementary School which is the nearest public school in the vicinity of the Project site. At the elementary school the future L_{eq} without the Project would be approximately 73.0 dBA. The L_{eq} at the school would continue to exceed the LAUSD's exterior guideline of 67 dBA. The future L_{eq} with the Project would be approximately 73.6 dBA at the elementary school site. As such, the L_{eq} at the school would continue to exceed the LAUSD's exterior guideline of 70 dBA. Changes in future traffic conditions would result in a slight increase in noise levels at this location by as much as 0.6 dB, which is within the noise increase guideline of 2 dB. Future traffic noise at 10th Street Elementary School with the Project would be within LAUSD's noise guidelines.

(c) Event Noise

Outdoor shows and events have the potential to generate significant noise levels during staged special events and operations at the Central Plaza. These events would potentially include amplified speech and music. Noise measurements conducted during the Los Angeles Lakers' 1999-2000 NBA Championship victory parade and celebration indicate that noise levels typically range from 75 to 87 dBA during a parade and a staged outdoor celebration. This type of activity is representative of a heavily attended outdoor event that could be staged at the Project site's Central Plaza.

The noise generated by an outdoor event would be partially attenuated by the shielding provided by proposed structures on the Project site and existing structures surrounding the Project site. The future L_{eq} would be approximately 44 dBA at the nearest apartments located north of Olympic Boulevard, 38 dBA at the apartment building located north of Olympic Boulevard and east of Flower Street, and 55 dBA at the apartment hotel located south of Pico Boulevard and west of Flower Street. These future noise levels would be less than existing ambient traffic noise levels and would be less than significant. However, because of the characteristics of amplified speech and crowd cheering, the noise generated during these events may be occasionally discernible at the nearby sensitive receptors.

Large scale events staged at the Central Plaza would be expected to include police security, helicopter coverage, and crowd control measures. Noise produced by police sirens, helicopter flyovers, car horns, and bullhorns would not be expected to cause significant noise impacts, but because of their intrusive nature, the noise may be a potential source of annoyance to residences. These temporary noise sources would be considered adverse, but not significant.

The 10th Street Elementary School is located approximately 2,200 feet northeast of the Central Plaza. Because of distance attenuation and shielding provided by intervening structures, noise produced during outdoor shows and events at the Central Plaza would be expected to be approximately 25 dBA or less at the school's eastern property line. The event noise would clearly be less than ambient noise levels and would be expected to be within LAUSD's noise guidelines.

(d) Parking Structure Noise

Noise generated by future parking operations in parking structures located at the Olympic West and Olympic North Properties has been estimated based on preliminary conceptual information regarding the expected number of vehicles and number of parking levels above ground for each parking structure.

The preliminary design of the parking structure located at the Olympic West Properties includes five levels above grade designated for guest parking. Guests would enter the structure on the north side via Olympic Boulevard and would utilize the internal ramps which connect the various levels of the structure with the first level. This parking structure would be expected to include two to three parking levels above grade for guest parking. Guests would enter the structure on either Georgia or Francisco Streets.

Future parking structure operations at the Olympic West Properties has been evaluated to predict the future L_{eq} from vehicular movements. During peak visitor hours, the L_{eq} would be approximately 40 dBA at the nearest apartment building located directly north of Olympic Boulevard and east of Francisco Street. Although this receptor is located nearest to the Olympic West parking structure, parking structure noise levels are anticipated to be less than the City's noise ordinance standard of 50 dBA, as well as below existing ambient noise levels, and would be less than significant. The L_{eq} generated by vehicular operations at the Olympic North structure would be as high as 49 dBA directly north and west of the parking structure. These future noise levels would also be less than the City's noise ordinance standard and would be less than significant. During simultaneous operations, the noise from both the Olympic North and West structures would be 49.1 dBA at the nearest apartment building located north of Olympic Boulevard and east of Francisco Street, and would be less than significant. Receptors located further away from these structures would experience even lower noise levels and would also be considered less than significant.

Parking structure noise would not be significant at the 10th Street Elementary School because the school is located approximately 2,200 feet northeast of the parking sites. The attenuation provided by distance (33 dB) and intervening structures, would reduce parking structure noise to below ambient noise levels.

(e) Parking Lot Noise

Various sounds, including automobile movement, car alarms, car horns, door slams, and tire squeals, may occur on the parking facilities on both the Figueroa and Olympic Properties. Future noise levels associated with each of these individual noise events at the nearest receptor locations would be expected to be similar to the noise levels currently generated within the existing parking lots. The predicted future noise levels from parking facility operations are shown in Table 42 on page 354. As indicated, the activation of car alarms and sounding of car horns would cause the highest noise levels at the nearest receptor locations of about 71 dBA. These maximum noise levels would occur periodically and may occasionally be audible during periods with lower ambient noise levels such as during the evening hours. Because the maximum level from parking lot activity at the nearest location (69 dBA at a distance of 50 feet, as identified on Table 42) is within the range of ambient noise levels, parking facility noise would not be expected to increase noise levels by 5 dB or more at any off-site location.

Table 42

NOISE LEVELS FROM INDIVIDUAL PARKING-RELATED NOISE EVENTS

Source	Reference Sound Level ^a	Reference Distance	Sound Level at 50 Feet
Automobile at 14 mph	50 dBA	50' ^b	46 dBA
Car Alarm	75 dBA	25'	71 dBA
Car Horn	75 dBA	25'	71 dBA
Door Slam	70 dBA	25'	66 dBA
Tire Squeal	80 dBA	10'	70 dBA

^a All reference sound levels are from actual measurements taken at various times.

^b Sound levels at 50 feet assume an attenuation rate of 4.5 dBA per doubling of distance.

Source: PCR Services Corporation.

Consequently, parking lot noise events would not be expected to violate the City Noise Ordinance, nor would they be expected to significantly affect the overall community noise environment. Impacts related to parking lot activity would therefore be less than significant. However, noise from the parking facilities even though intermittent and short-term in nature, may be intermittently audible to the nearest apartment and hotel receptors located north, east, and south of the Project sites, and would be considered an adverse but less than significant impact.

Similar to parking structure noise, parking lot noise at the 10th Street Elementary School would be less than significant because of the distance attenuation and shielding provided by intervening structures.

(f) Hotel/Retail/Office

The Project would include hotel, retail, and office uses in proximity to sensitive receptors. Aside from parking and mechanical operations, these Project components typically do not involve operations that generate noise levels that can result in significant impacts. Recreational facilities such as outdoor pools, spas, and potentially tennis courts would be expected to be shielded from direct line of sight from external premises. As such, noise from future hotel, retail, and office operations would not be expected to generate significant noise levels at nearby sensitive receptors and would be considered less than significant.

(g) Residential

Residential development as part of the Project would cause increases in traffic noise and parking noise, as well as noise from mechanical equipment operations. These increases are addressed in the Traffic, Parking, and Mechanical Equipment Noise sections of the analysis. Residential operations would not be expected to generate significant noise levels from outdoor activities such as a pool, spa, recreational facility, and club house. Typical high-rise residential developments include walls and barriers to shield these common outdoor areas. As such, noise generated by these facilities would not be expected to result in significant noise increases at the nearest sensitive receptors. Residential noise is therefore considered less than significant.

In addition, the impact of external noise sources onto the proposed residential development should be evaluated as part of the engineering and design process. A noise study would be required to be submitted to the City of Los Angeles Building Department during the design process to demonstrate that the Project would meet the City of Los Angeles Noise Standards and Guidelines, as well as the State of California Noise Insulation Standards.

(h) Mechanical Equipment

Project development would include mechanical equipment which could generate noise levels which are audible at off-site noise sensitive locations. Such equipment could include, but not be limited to, air conditioners, fans, blowers, compressors, and pumps that would be used to support the basic functioning of the facility. However, most of this mechanical equipment would be expected to be located within enclosures or behind new buildings or otherwise shielded from the nearby noise receptor locations. In addition to this physical shielding, proper engineering during the detailed design phases, including noise control engineering of the mechanical equipment, should ensure that the noise generated by mechanical equipment operations does not exceed the noise standards at the nearest noise receptor locations.

(i) Rail Noise

The Project is not anticipated to generate any new rail traffic on the Metro Blue Line or any other rail line. Future train noise levels would be expected to be similar to existing conditions and would not result in significant impacts as a result of the Project.

3. MITIGATION MEASURES

The following mitigation measures are recommended for proposed development on the Project site.

a. Construction

Because noise associated with on-site construction activity would have the potential to exceed the level normally allowed under the City Noise Ordinance, the following measures are recommended to minimize construction-related noise impacts:

1. On-site construction activity that generates noise in excess of 75 dBA at a distance of 50 feet shall be limited to between 7:00 A.M. and 9:00 P.M. Monday through Friday and 8:00 A.M. and 6:00 P.M. on Saturdays, unless the City extends such hours.
2. The Los Angeles Unified School District shall be provided with a construction schedule.
3. All construction equipment shall be in proper operating condition and fitted with standard factory silencing features.
4. Sound blankets shall be used on all construction equipment for which use of sound blankets is technically feasible.
5. If noise levels from construction activity are found to exceed 75 dBA at the property line of an adjacent property and construction equipment is left stationary and continuously operating for more than one day, a temporary noise barrier shall be erected between the noise source and receptor.
6. All construction truck traffic shall be restricted to truck routes approved by the City of Los Angeles Department of Building and Safety, which shall avoid residential areas and other sensitive receptors to the extent feasible.

b. Operation

The following mitigation measures are recommended to address significant noise impacts occurring during the event and during the post-event hour and from the bus staging area.

7. Entrances and exits from parking lots in the Olympic and Figueroa Properties parking areas shall be located to minimize impact on residential, motel, or hotel units.
8. As part of the *South Park Area Parking and Circulation Management Plan (PCMP)*, an operational traffic plan shall be implemented which minimizes the amount of Project generated traffic passing by sensitive receptors by providing traffic control personnel to direct departing vehicles along corridors that will have the least impact on sensitive receptors in the area.

9. All events in the Central Plaza that would involve the use of public address systems shall be required to obtain a permit from the City for operating amplified sound and speech equipment.

4. ADVERSE EFFECTS

a. Construction

With the recommended mitigation measures, noise associated with construction activity would be reduced to the degree technically feasible. Nevertheless, impacts are likely to occur on the sensitive receptors located nearest to the Project site. Apartments located north, east, and south of the Project Site would occasionally experience high construction noise levels. This construction-related noise would constitute a significant unavoidable adverse impact of the Project.

b. Operation

Noise increases on Francisco Street north of Olympic Boulevard would be significant because of the increased vehicle traffic associated with the Project. This impact would be addressed by routing traffic onto Olympic Boulevard away from Francisco Street; however, this is not consistent with the Project's traffic analysis as reviewed and approved by LADOT. No other feasible mitigation measures are available to reduce this impact to less than significant. This impact is also expected to occur during weekend operations. This would be a significant and unavoidable adverse impact.

5. CUMULATIVE IMPACTS

a. Construction Noise

Construction noise events associated with future development projects would potentially generate noise levels of about 89 dBA at a distance of 50 feet from construction equipment without mitigation. Although noise from construction activity would increase community noise levels in the immediate vicinity of each individual development site, construction-related noise would be localized and short-term in nature. Consequently, it would not contribute to cumulative impacts at more distant locales. Even though all construction activity in the downtown area would be expected to be reduced to the extent feasible through compliance with the City Noise Ordinance, cumulative impacts related to construction noise would likely exceed the 75 dBA threshold and would therefore be considered significant.

b. Traffic Noise

Project-generated traffic would contribute to increased noise levels along all of the study roadway segments in the vicinity of the Project site. The cumulative increase in future CNEL above the existing condition, as shown in Table 41, would range from 0.9 to 7.3 dB. Cumulative increases along 9th Street, 11th Street, Figueroa Street, Flower Street, Hope Street, Olympic Boulevard, and Pico Boulevard would be less than 3 dB above existing conditions. Increases in traffic noise levels of less than 3 dBA are considered imperceptible and less than significant. Traffic on Francisco Street north of Olympic Boulevard would generate a cumulative increase of approximately 7.3 dBA above existing conditions. Increases above 5 dBA would be perceptible and are considered significant.

During a weekend Saturday, the cumulative increase in future CNEL along the same roadways would range from 0.9 to 5.6 dBA. Cumulative increases along 9th Street, 11th Street, Figueroa Street, Flower Street, Hope Street, Olympic Boulevard, and Pico Boulevard would be less than 3 dB above existing conditions. As such, the increases would be considered imperceptible and less than significant. Traffic on Francisco Street north of Olympic Boulevard would generate a cumulative increase of approximately 5.6 dBA above existing conditions. Increases above 5 dBA would be perceptible and are considered significant.