
IV. ENVIRONMENTAL IMPACT ANALYSIS

I. NOISE

NOISE CHARACTERISTICS AND EFFECTS

Characteristics of Sound

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 3 to 140 dBA.

Definitions

This noise analysis discusses sound levels in terms of Community Noise Equivalent Level (CNEL) and Equivalent Noise Level (Leq).

Community Noise Equivalent Level. CNEL is an average sound level during a 24-hour day. 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 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 10 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 10 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.

Equivalent Noise Level. Leq is the average noise level on an energy basis for any specific time period. The Leq 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. Leq 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 ranges 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 is approximately three decibels. A change of at least five decibels would be noticeable and would likely evoke a negative community reaction. A ten decibel increase is subjectively heard as approximately a doubling in loudness and would most certainly cause a negative community reaction.

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 decibels over hard surfaces and nine decibels 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.

ENVIRONMENTAL SETTING

Existing Noise Setting

The Sepulveda/Rosecrans Rezoning Site is located in an urbanized area within the City of El Segundo, with several uses in the general vicinity. These uses include roadways, railroad tracks, research and development, light manufacturing, commercial and retail activities, offices, mixed uses, residential uses, parking and an international airport (i.e., LAX). The existing noise environment of the Sepulveda/Rosecrans Rezoning Site and its immediate vicinity is characterized by noise sources from all these uses, but primarily traffic noise from Rosecrans Avenue and Sepulveda Boulevard. In essence, vehicular traffic is the primary source of noise in the vicinity of the Sepulveda/Rosecrans Rezoning Site.

City of El Segundo Noise Standards

The Noise Element of the City of El Segundo lists the “Provision of a Noise-Safe Environment” as its first Goal (Goal N1). The basis of this goal is to encourage a high quality environment within all parts of the City of El Segundo where the public’s health, safety, and welfare are not adversely affected by excessive noise. To achieve this first goal, the City has set an objective (Objective N1-1) to ensure that City residents are not exposed to mobile noise levels in excess of the interior and exterior noise standards or the single event noise standards specified in the El Segundo Municipal Code.

Section 7-2-4 (Noise Standards) of the City of El Segundo Municipal Code specifies that “No person shall, at any location within the City, create any noise, nor shall any person allow the creation of any noise within the person’s control on public or private (herein after “noise source”), which causes the

noise level when measured on any other property (hereinafter “receptor property”), to exceed the applicable noise standard, except as set forth in subsection C1 of this Section”:

- A. Residential Property: Five (5) dBA above the ambient noise level.
- B. Commercial and Industrial Property: Eight (8) dBA above ambient noise level.
- C. Adjustments:
 - 1. Increases to the noise standards as set forth in subsections A and B of this Section may be permitted in accordance with the following:

Noise Standards Adjustments

<u>Permitted Increase (dBA)</u>	<u>Duration of Increase (minutes*)</u>
0	30
5	15
10	5
15	1
20	Less than 1

* Cumulative minutes during any one (1) hour.

- 2. If the receptor property is located on a boundary between two (2) different noise zones, the lower noise level standard for the quieter zone shall apply (Ord 1242, 1-16-1996)

Sensitive Receptors

Land uses that are considered sensitive to noise impacts are referred to as “sensitive receptors.” Noise sensitive receptors consist of, but are not limited to, schools, residences, libraries, hospitals, and other care facilities. Noise sensitive receptors in the immediate project area include a residential area located west of Sepulveda Boulevard and south of Rosecrans Avenue, within the City of Manhattan Beach. This residential area is separated from the proposed Sepulveda/Rosecrans Rezoning Site by commercial development that is currently located along Sepulveda Boulevard. A second sensitive receptor in the vicinity of the proposed Sepulveda/Rosecrans Rezoning Site is the Lakes at El Segundo Golf Course, located along Sepulveda Boulevard within the City of El Segundo. Other noise sensitive receptors including schools and parks are located in the general vicinity of the site, within the cities of Hawthorne, Manhattan Beach and El Segundo. However, they are located at a greater distance from the Sepulveda/Rosecrans Rezoning Site than the receptors described above and are separated from the Sepulveda/Rosecrans Rezoning Site by intervening developments that are noise generating. The closest noise sensitive receptors located within the immediate vicinity of the Sepulveda/Rosecrans Rezoning Site are the single-family residential units located along Oak Avenue, one block west of Sepulveda Boulevard. Of these single-family residences, the nearest to the Sepulveda/Rosecrans Rezoning Site is the first building located at the intersection of Rosecrans Avenue and Oak Avenue (3633 North Oak

Avenue). This receptor is located at a distance of approximately 850 feet from the southwestern edge of the Sepulveda/Rosecrans Rezoning Site.

Non-Sensitive Receptor Properties

As indicated above, the City of El Segundo Noise Standards (within its Municipal Code) does not specifically identify nor define what constitutes a sensitive receptor. However, it does address “receptor properties” that include residential, commercial and industrial properties and provides allowable levels for which the increase in ambient noise levels at these receptor properties cannot be exceeded, making certain adjustments for short-term noise increases beyond the normally permitted increases. Based on the City’s Municipal Code, adjacent uses that are not noise sensitive but could potentially be impacted by the proposed Sepulveda/Rosecrans Site Rezoning and Plaza El Segundo Development, because they fall under the umbrella of “receptor property”, were identified for inclusion in the noise analysis, in addition to the two noise-sensitive receptors described above (Oak Avenue Residential and Lakes Golf Course). These non-sensitive receptor properties include the commercial and office uses located to the immediate east of the Sepulveda/Rosecrans Rezoning Site (along Nash Street/Park Place), the closest of which is the Pacific Theatre building, and the office and warehouse uses located to the immediate north of the site (along Allied Way, the closest of which is the Federal Express Facility). Although the nearest structures to the Sepulveda/Rosecrans Rezoning Site are located approximately 600 feet from the Sepulveda/Rosecrans Rezoning Site, the parking lots of these receptor locations are located with 400 feet from the northern and eastern edges of the site.

Field Monitoring

Noise monitoring was conducted at the three closest receptor property locations¹ on November 10, 2003 (between the hours of 9 a.m. and 12 noon), using a Quest Type 2200 Integrating Sound Level Meter, which satisfies the American National Standards Institute (ANSI) standards, Type II, for community environmental noise measurement instrumentation. A random incidence microphone, with windshield was used given the outdoor and free-field conditions of the monitoring. Consistent with Section 7-2-5 of the City’s Noise Standards, the microphone was positioned approximately four feet above ground level, and at least 5 feet from the nearest wall or structure at these locations. Wind speeds during noise monitoring ranged from 5 to 7 miles per hour and conditions were clear.

¹ Because noise attenuates with distance, receptors located at a greater distance from the Sepulveda/Rosecrans Rezoning Site would not be expected to be impacted by noise generated on the Sepulveda/Rosecrans Rezoning Site. For this reason, noise monitoring was not conducted at the golf course location, since it is located further away from the Sepulveda/Rosecrans Rezoning Site than the other identified locations. Ambient noise levels at the golf course are rather characterized by roadway traffic noise due to its proximity to Sepulveda Boulevard.

These readings were used to establish existing ambient conditions and provide a baseline from which to evaluate construction noise impacts. The locations of the noise monitoring positions are shown in Figure IV.I-1. These locations consist of receptor properties that could potentially be impacted by noise generated within the Sepulveda/Rosecrans Rezoning Site. With regards to construction noise impacts, the Golf Course would be represented by the receptor properties located immediately north of the Sepulveda/Rosecrans Rezoning Site on Allied Way, since those properties are located nearer to the site than the Golf Course. Noise readings were taken in 60-seconds Leq, with 10 samples taken at each location, for a total of 20 minutes. To obtain noise measurements that were representative of the existing conditions in the vicinity of the proposed Sepulveda/Rosecrans Rezoning Site, all 10 sample readings from each of the three locations were weighted, using standard mathematical and logarithmic equations (see Appendix I). The existing noise levels, as recorded and weighted, are listed in Table IV.I-1. Existing ambient sound levels range between 55.0 and 63.0 dBA (Leq). Sensitive receptors located at a greater distance from the Sepulveda/Rosecrans Rezoning Site were not included in this analysis because sound generated on the Sepulveda/Rosecrans Rezoning Site would not rise above ambient noise levels and would therefore not be audible at these locations because of their distance from the Sepulveda/Rosecrans Rezoning Site.²

**Table IV.I-1
Existing Noise Levels**

Noise Monitoring Position	Sound Level (dBA, Leq)
1. 3633 North Oak Avenue (Residential)	63.0
2. Pacific Theatre Building (Non-Residential)	55.0
3. Federal Express Facility (Non-Residential)	55.0

Source: MPS, November 2003.

Vehicular Traffic

As stated earlier, vehicular traffic is the predominant noise source in the project vicinity. Using existing traffic volumes provided by the project traffic consultant and Federal Highway Administration (FHWA) RD-77-108 noise calculation formulas, a CNEL (24-hour average noise level) has been calculated at the two sensitive receptor locations representing the Lakes Golf Course and the homes located near the southwestern corner of the intersection of Sepulveda Boulevard and Rosecrans Avenue (Oak Avenue residential). The CNEL is used as a baseline to measure the proposed Sepulveda/Rosecrans Site Rezoning and Plaza El Segundo project's operational noise impacts (see Table IV.I-2)³. The estimated noise levels represent the most conservative scenario, which assume that no shielding is provided (i.e., there is a direct line of sight) between the traffic noise sources and the location of each sensitive receptor. The existing CNEL at the Oak Avenue residential location was calibrated with the noise measurement taken at that location (Table IV.I-1). The existing CNEL at the

² For this reason, the sensitive receptor locations studied in the noise analysis differ from the locations studied in the air quality analysis (See Section IV.C).

³ The assumptions used in developing vehicular noise levels are provided in Appendix I.

Golf Course is reflective of the high traffic levels on Sepulveda Boulevard. The modeled roadway segments represent the highest levels of background and project-related traffic in the area of the proposed Sepulveda/Rosecrans Rezoning Site.

Figure IV.I-1, Noise Monitoring Positions

**Table IV.I-2
Existing Estimated Community Noise Equivalent Level**

Sensitive Receptor	Nearest Roadway^a	Estimated dBA, CNEL
1. 3600 Block of North Oak Ave.	Rosecrans Ave. west of Sepulveda Blvd.	62.5
2. El Segundo Golf Course	Sepulveda Blvd. North of Rosecrans Ave.	72.3

*a. The nearest roadway analyzed in the project traffic report.
Source: MPS, February 2004. Model run output is provided in Appendix I of this EIR.*

ENVIRONMENTAL IMPACTS

Threshold of Significance

Criteria for determining the significance of impacts were obtained from the City of El Segundo Noise Standards. Generally, a project would result in significant noise impacts if the City of El Segundo's Noise Standards presented above, were not complied with. For the purposes of the proposed Sepulveda/Rosecrans Site Rezoning and Plaza El Segundo Development, the criteria listed below, which are based on the City's General Plan Noise Element and Noise Standards, were used to determine whether potential noise impacts associated with the proposed Sepulveda/Rosecrans Site Rezoning and Plaza El Segundo Development would be significant. Significance criteria for noise include determinations for temporary construction, type of land use, and vehicular traffic in relation to the City's Noise Standards. The significance criteria are discussed below.

Construction Phase Significance Criteria

A significant construction impact would occur if the proposed Sepulveda/Rosecrans Site Rezoning and Plaza El Segundo Development would result in temporary construction noise levels that exceed 65 dBA at receptor property locations.⁴ If the existing ambient noise level at the receptor property location is 65 dBA or more, then an incremental increase of 5 dBA for receptor properties that are residential and 8 dBA for non-residential properties, over the existing ambient sound level would be considered significant. For temporary noise levels that exceed the above limits, any increases that exceed the permitted increases and durations as provided in the City's Noise Standards Adjustment would be considered significant.

Operational Phase Significance Criteria

The proposed Sepulveda/Rosecrans Site Rezoning and Plaza El Segundo Development would result in a significant impact during the operational phase if it causes a change in the noise environment, measured

⁴ City of El Segundo Noise Standards, Section 7-2-10.

by the CNEL (24-hour average), of five decibels or more above the existing noise level, at a sensitive noise receptor.⁵

Project Impacts

Construction Impacts

The Proposed Circulation Element Update Draft EIR requires analysis of potential impacts related to construction noise for later projects that would implement the proposed Circulation Element Update. The proposed connection of Park Place between Sepulveda Boulevard and Nash Street and connection of Park Place to Hughes Way via Allied Way through the Sepulveda/Rosecrans Rezoning Site would constitute a project that implements the Circulation Element Update policies. The analysis below provides the project specific construction noise analysis that identifies specific receptor locations that would be impacted by construction activities within the proposed Sepulveda/Rosecrans Rezoning Site. Although this analysis does not identify new effects related to construction noise (i.e., the proposed Circulation Element Update Draft EIR identified that construction noise impacts associated with implementing the Circulation Element Update would be significant and unavoidable), it does identify the receptor locations that would be affected, which were not specifically examined in the Program EIR for the proposed Circulation Element Update.

Construction activities 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 to nearby receptor locations. 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 pieces of equipment, such as jackhammers, pneumatic impact equipment, saws, and tractors. Typical noise levels from various types of equipment that may be used during construction are listed in Table IV.I-3. The table shows noise levels at distances of 50 and 100 feet from the construction noise source.

Table IV.I-3 shows the typical noise level associated with each construction phase. The noise levels 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 United States Environmental Protection Agency (USEPA) in the early 1970's. 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.I-4 represent worst-case conditions. As the table shows, the

⁵ City of El Segundo Noise Standards, Section 7-2-4.

highest noise levels are expected to occur during the grading/excavation and finishing phases of construction.

**Table IV.I-3
Maximum Noise Levels of Common Construction Machines**

Noise Source	Noise Level (dBA) ^a	
	50 Feet	100 Feet
Jackhammer	82	76
Steamroller	83	77
Street Paver	80	74
Backhoe	83	77
Street Compressor	67	61
Front-end Loader	79	73
Street Cleaner	70	64
Idling Haul Truck	72	66
Cement Mixer	72	66

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: Cowan, James P., Handbook of Environmental Acoustics, p. 230, 1994.

**Table IV.I-4
Outdoor Construction Noise Levels**

Construction Phase	Noise Level (dBA)	
	At 50 Feet	At 50 Feet with Mufflers
Ground Clearing	84	82
Grading/Excavation	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

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

Sepulveda/Rosecrans Site Rezoning

To ascertain worst-case noise impacts at receptor property locations, construction noise has been modeled by introducing the noise level associated with the grading phase of a typical development. The selection of construction equipment is consistent with that of Section IV.C, Air Quality.⁶ The noise sources were assumed to be active for 40 percent of the eight-hour work-day (consistent with the EPA studies of construction noise), generating a noise level of 89 dBA (Leq) at the reference distance of 50 feet.

⁶ The construction equipment mix for the Air Quality Section was prototypically generated by URBEMIS 2002 mode, based on inputs such as the size of the site, construction schedule, and the proposed land uses.

The noise level during the construction period that would be experienced at each of the three closest receptor locations to the proposed Sepulveda/Rosecrans Rezoning Site was calculated (See Appendix I).⁷ The estimated construction noise levels at the receptor locations are shown in Table IV.I-5. As noted above, the Golf Course location would experience lower construction noise levels than the Federal Express facility located immediately north of the proposed Sepulveda/Rosecrans Rezoning Site. As indicated in Table IV.I-5, construction activities associated with the Sepulveda/Rosecrans Site Rezoning would result in an increase of 4.0 decibels to the ambient noise levels at the Oak Avenue residential community, within the City of Manhattan Beach. Although this increase would not exceed the significance threshold of a 5 decibel increase in ambient noise levels at residential receptor property locations per the City’s Noise Standards, the construction activity would cause the existing ambient noise level to exceed 65 dBA during the periods of highest noise-generating construction activity. The non-residential receptor property locations located at the closest northern (Fedex facility) and eastern (Pacific Theatre) edges of the proposed Sepulveda/Rosecrans Rezoning Site would be significantly impacted due to an increase in ambient noise levels at these locations of 26.0 and 14.0 decibels, respectively. This is because the increases in ambient noise levels exceed the allowable 8.0 decibel increase at non-residential locations, per the City’s Noise Standards. In addition, construction activity on the proposed Sepulveda/Rosecrans Rezoning Site would cause the ambient noise levels at these locations to exceed 65 dBA. As such, construction noise impacts associated with the proposed Sepulveda/Rosecrans Rezoning Site would be significant.

**Table IV.I-5
Sepulveda/Rosecrans Site Rezoning Construction Noise Impact**

Receptor Location	Ambient Noise Level (dBA)	Construction Noise Level (dBA)	Net Increase (dBA)
1. 3633 North Oak Ave. (Residential)	63.0	67*	4.0
2. Pacific Theater Building (Non-residential)	55.0	81	26.0*
3. Federal Express Facility (Non-residential)	55.0	69	14.0*

Source: MPS, November 2003.
** Significant Impact*

Under the proposed Sepulveda/Rosecrans Site Rezoning, it is also conceivable that there could be construction occurring on the Sepulveda/Rosecrans Rezoning Site at the same time that a commercial development on the Sepulveda/Rosecrans Rezoning Site is operating. The following addresses impacts of operations occurring simultaneously with construction.

As previously indicated in Table IV.I-5, construction of the Sepulveda/Rosecrans Site Rezoning will result in impacts to the receptor properties located to the north and east of the Sepulveda/Rosecrans

⁷ United States Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974.

Rezoning Site. Based on logarithmic mathematics and project traffic volumes, traffic noise associated with the operation of Plaza El Segundo⁸ combined with construction occurring as part of the rezoning is not expected to increase the noise levels in excess of the 81 dB(A) and 69 dB(A) construction noise levels experienced at the non-residential receptor properties located to the east and north of the Sepulveda/Rosecrans Rezoning Site respectively.⁹ Therefore, significant noise impacts to the non-residential receptor locations during this period would be the same as the construction impacts associated with the Sepulveda/Rosecrans Site Rezoning as described above.

During construction of the Sepulveda/Rosecrans Site Rezoning, peak noise levels at the Oak Avenue residential community located southwest of the proposed Sepulveda/Rosecrans Rezoning Site would increase from an ambient level of 63 dB(A) to 67 dB(A), resulting in an increase of 4 dB(A) during construction. When the maximum 67-decibel construction noise level experienced at this receptor location during Sepulveda/Rosecrans Site Rezoning construction is added to the 62.8 dB(A) 2007 (Plaza El Segundo) traffic noise levels, a combined noise level of 68 dBA would result¹⁰, which is within the allowable 5 decibel increase (from a measured noise level of 63.0 to 68.0 decibels) in ambient noise levels at residential receptor property locations per the City's Noise Standards. However, construction activity on the proposed Sepulveda/Rosecrans Rezoning Site would cause the ambient noise level to increase above 65 dBA, which would constitute a significant impact. Therefore, construction and operation of two developments occurring simultaneously would result in a significant impact on the Oak Avenue residential community.

Plaza El Segundo

As indicated in Table IV.I-6, construction activities associated with the proposed Plaza El Segundo would not impact the Oak Avenue residential community located to the southwest of the proposed Sepulveda/Rosecrans Rezoning Site. This is because ambient noise levels will not increase at that location as a result of construction noise sources from the Plaza El Segundo site. This analysis reflects the greater distance (approximately 200 feet) between the Oak Avenue residential and the main part of the Plaza El Segundo Development site. However, when construction activities are taking place on the 4.5 net acre portion of the Plaza El Segundo Development site located immediately northeast of the Sepulveda/Rosecrans intersection, the effects would be the same as for construction activities occurring under the proposed Sepulveda/Rosecrans Site Rezoning (Table IV.I-7) and a significant impact related to construction noise would occur.

⁸ See discussion of operational impacts for Plaza El Segundo on page IV.I-12 for more information regarding these specific impacts.

⁹ Typically, it takes the doubling of traffic volumes along a particular roadway for a perceptible (3 decibels) increase in noise levels to occur, and the Project's 2007 Phase I traffic volumes show very negligible increase in volumes along the roadways near these receptor locations (i.e., Allied Way and Nash Street).

¹⁰ The resulting noise level is calculated by adding the two noise levels (67 dBA construction and 62.8 dBA traffic) logarithmically.

Construction activities on the proposed Plaza El Segundo Development site would impact the receptor locations located to the north and east of the site, due to their proximity. Specifically, ambient noise levels at these locations will experience temporary and occasional increases of 13 to 19 decibels (13 decibels at the Pacific Theatre and 19 decibels at the Fedex facility), which exceeds the 8.0 decibel increase in ambient noise levels allowed per the City of El Segundo's Noise Standards. Impacts to these receptor locations would be significant.

**Table IV.I-6
Plaza El Segundo Construction Noise Impact (North of UPRR)**

Receptor Location	Ambient Noise Level (dBA)	Construction Noise Level (dBA)	Net Increase (dBA)
1. 3633 North Oak Ave. (Residential)	63.0	60	-3.0 ¹
2. Pacific Theater Building (Non-residential)	55.0	68	13.0*
3. Federal Express Facility (Non-residential)	55.0	74	19.0*

Source: Manford Planning Services, November 2003.
¹ Construction noise levels from the proposed Plaza Del Segundo would not be greater than the ambient level at this location and would therefore not be audible.
 * denotes significant impact

**Table IV.I-7
Plaza El Segundo Construction Noise Impact (Construction Activity South of UPRR)**

Receptor Location	Ambient Noise Level (dBA)	Construction Noise Level (dBA)	Net Increase (dBA)
1. 3633 North Oak Ave. (Residential)	63.0	67*	4.0

Source: MPS, November 2003.
 * denotes significant impact

The analysis provided above regarding potential construction noise impacts associated with the proposed Plaza El Segundo Development is in accordance with the mitigation measures for the Sepulveda/Rosecrans Site Rezoning that require project specific evaluation of potential construction noise impacts and no further analysis of this issue beyond that set forth in the preceding paragraphs would be required for the proposed Plaza El Segundo Development. The analysis demonstrates that construction of this component of the proposed Sepulveda/Rosecrans Site Rezoning would not result in new effects related to construction noise that were not examined in the Program EIR for the proposed Sepulveda/Rosecrans Site Rezoning, as the same receptors that would be affected by construction activities occurring under the proposed Sepulveda/Rosecrans Rezoning would also be affected by construction activities associated with the proposed Plaza El Segundo Development.

Operational Noise Impacts

Sepulveda/Rosecrans Site Rezoning

The predominant noise source of the Sepulveda/Rosecrans Rezoning Site is vehicular traffic. According to the project traffic consultant, the proposed Sepulveda/Rosecrans Site Rezoning is forecasted to generate an additional 28,334 daily vehicle trips.

Increases of less than three decibels are hardly perceptible to the human ear. Noise level increases associated with project-generated traffic are predicted to be less than 3.0 dB(A) CNEL at all locations. As shown in Table IV.I-8, the incremental increase is expected to be less than 1 dB(A) at both sensitive receptor locations. This incremental increase does not exceed the significance threshold of a five decibel or more increase in the noise environment adjacent to the modeled roadway segments. Thus, traffic-related operational noise impacts for the Sepulveda/Rosecrans Site Rezoning are anticipated to be less than significant. All other sensitive receptors in the area would experience lower increases in noise levels as a result of vehicular traffic because the analyzed roadways represent the highest levels of project-related traffic. The potential increase in noise levels would not be audible at these locations and thus the impact would be less than significant.

**Table IV.I-8
2012 Estimated Community Noise Equivalent Level**

Sensitive Receptor	Nearest Roadway	Estimated CNEL, dBA		
		Existing	2012 With Project	Net Increase
1. 3600 Block of North Oak Avenue	Rosecrans Avenue west of Sepulveda Boulevard	62.5	63.0	0.5
2. El Segundo Golf Course	Sepulveda Boulevard north of Rosecrans Avenue	72.3	72.6	0.3

Source: MPS, February 2004. Model output is provided in Appendix I.

The Sepulveda/Rosecrans Site Rezoning would have the potential to generate noise from day-to-day activities. Such noise could include loading and unloading of storage containers and trucks, truck idling and beeping when reversing, car alarms, and other noise sources that are typically associated with commercial uses. During project operation, it is anticipated that the primary sources of noise occurring with the Sepulveda/Rosecrans Rezoning Site would be loading dock and parking lot activity. All these activities will be similar and consistent with activities occurring at the immediately adjacent non-residential uses (which also currently include parking lots and loading docks), including the receptor properties that have been identified above. These activities would be within ambient noise levels and thus would not change the existing noise environment. As such, impacts related to parking lot and loading dock noise would be less than significant.

Plaza El Segundo

Table IV.I-9 presents the predicted traffic noise levels associated with operation of Plaza El Segundo, which will result in a trip generation of 19,151 trips per day. As shown, noise increases associated with the Plaza El Segundo traffic generation would not be perceptible along any of the modeled roadways in the vicinity of the project, where sensitive receptors are located. Therefore, impacts from traffic associated with the Plaza El Segundo Development would be less than significant.

**Table IV.I-9
2007 Traffic Noise Impacts**

Sensitive Receptor	Nearest Roadway^a	Existing CNEL (dBA)	Estimated 2007 CNEL (dBA)	Net Increase, dBA
1. 3600 Block of North Oak Avenue	Rosecrans Avenue west of Sepulveda Boulevard	62.5	62.8	0.3
2. El Segundo Golf Course	Sepulveda Boulevard north of Rosecrans Avenue	72.3	73.0	0.7
a. The nearest roadway analyzed in the project traffic report. Source: MPS, February 2004. Model run output is provided in Appendix I of this EIR.				

Similar to the Sepulveda/Rosecrans Site Rezoning, the Plaza El Segundo Development would have the potential to generate noise from day-to-day activities. Such noise could include loading and unloading of storage containers and trucks, truck idling and beeping when reversing, car alarms, and other noise sources that are typically associated with commercial uses. During project operation, it is anticipated that the primary sources of noise occurring with the Plaza El Segundo site would be loading dock and parking lot activity. All these activities will be similar and consistent with activities occurring at the immediately adjacent non-residential uses (which also currently include parking lots and loading docks), including the receptor properties that have been identified above. These activities would be within ambient noise levels and thus would not change the existing noise environment. As such, impacts related to parking lot and loading dock noise would be less than significant.

CUMULATIVE IMPACTS

Sepulveda/Rosecrans Site Rezoning (2012)

Noise from construction activity associated with future development projects that would implement the proposed Sepulveda/Rosecrans Site Rezoning would increase community noise levels in the immediate vicinity of each individual construction site. Potential cumulative effects resulting from the incremental effect of the proposed Sepulveda/Rosecrans Rezoning, in conjunction with related projects' construction activity occurring in the same area, and at the same time, as the proposed Sepulveda/Rosecrans Rezoning projects could occur to the extent that high noise level events associated with these activities were to overlap. To the extent that this occurs, construction noise impacts would be cumulatively

considerable. However, such effects would be temporary and limited to any time period in which high noise-generating activity overlaps on two or more projects that are located in close proximity to one another.

Table IV.I-10 presents the traffic noise levels associated with the Sepulveda/Rosecrans Site Rezoning, in addition to future 2012 cumulative projects, compared with existing (2004) noise levels along the selected roadways where sensitive receptors are located. As shown in Table IV.I-10, the incremental increase does not exceed the significance threshold of a five decibel or more increase in ambient noise level at the modeled roadway segments. The highest noise increase of 0.9 decibels is below the perceptible noise increase of 3.0 decibels. Thus, the incremental impact of the proposed Sepulveda/Rosecrans Site Rezoning in conjunction with the related projects resulting from traffic noise would not be cumulatively considerable, and would be less than significant.

Table IV.I-10
2012 Estimated Community Noise Equivalent Level – Cumulative Impacts Scenario

Sensitive Receptor	Nearest Roadway	Estimated dBA, CNEL		
		Existing	With Project	Increase
1. 3600 Block of North Oak Avenue	Rosecrans Avenue west of Sepulveda Boulevard	62.5	63.4	0.9
2. El Segundo Golf Course	Sepulveda Boulevard north of Rosecrans Avenue	72.3	73.2	0.9

Source: MPS, February 2004. Model output is provided in Appendix I of this EIR.

Plaza El Segundo (2007)

Potential cumulative effects related to construction noise, resulting from the incremental effect of the proposed Plaza El Segundo, in conjunction with related projects' construction activity occurring in the same area, and at the same time, as the proposed Plaza El Segundo construction could occur. Such cumulative effects would be limited to time periods when high noise level events associated with these activities were to overlap. To the extent that this occurs, construction noise impacts would be cumulatively considerable. However, such effects would be temporary and limited to any time period in which high noise-generating activity overlaps on two or more projects that are located in close proximity to one another.

Traffic noise impacts of the proposed Plaza El Segundo Development in conjunction with the future 2007 cumulative projects would not increase the ambient noise level above the significance threshold of five decibels or more at the modeled roadway segments. As can be seen in Table IV.I-10, the 2012 estimated CNEL would increase a maximum of 1 dBA over existing conditions. Increases associated with the Plaza El Segundo Development are anticipated to be less than 1 dBA due to less related projects (48 versus 50) and a smaller volume of vehicles on the adjacent roadways. Therefore, the

incremental impacts of the proposed Plaza El Segundo in conjunction with related projects related to traffic noise would not be cumulatively considerable, and would be less than significant.

SUBSEQUENT ENVIRONMENTAL DOCUMENTATION

Subsequent environmental documentation must be prepared for development projects proposed to be constructed on the Sepulveda/Rosecrans site. The subsequent environmental documentation must address the following:

- I-1** A project-specific construction noise analysis must be prepared that calculates, based on project-specific parameters and identification of the site-specific sensitive receptors that could be affected by construction activities, the noise levels that would be experienced at sensitive receptors located adjacent to that site. If noise levels resulting from construction activity would result in temporary construction noise levels that exceed 65 dBA at a sensitive receptor, or cause an incremental increase of 5 dBA over the existing ambient sound level, if the existing ambient sound level at the sensitive receptor location is 65 dBA or more, then the study must identify feasible mitigation measures to be applied to that project from the list of mitigation measures provided below.

MITIGATION MEASURES

Sepulveda/Rosecrans Site Rezoning

The following mitigation measures are required to minimize construction related noise impacts associated with the Sepulveda/Rosecrans Site Rezoning.

- I-1.** A project-specific construction noise analysis must be prepared that calculates, based on project-specific parameters and identification of the site-specific sensitive receptors that could be affected by construction activities, the noise levels that would be experienced at sensitive receptors located adjacent to that site. If noise levels resulting from construction activity would result in temporary construction noise levels that exceed 65 dBA at a sensitive receptor, or cause an incremental increase of 5 dBA over the existing ambient sound level, if the existing ambient sound level at the sensitive receptor location is 65 dBA or more, then the study must identify feasible mitigation measures to be applied to that project from the list of mitigation measures provided below.
- Construction contracts must specify that all construction equipment must be equipped with mufflers and other applicable noise attenuation devices.
 - During construction phases, the contractor must store and maintain equipment as far as possible from the adjacent receptor property locations to the southwest, north and east of the Sepulveda/Rosecrans Rezoning Site.

- As stated in the City of El Segundo Municipal Code, construction must be restricted to the hours of 7:00 a.m. to 6 p.m. Monday through Saturday, and prohibited at anytime on Sunday or a Federal holiday.
- Temporary plywood noise barriers must be constructed along the property lines of the Sepulveda/Rosecrans Rezoning Site during construction, which must be high enough to block the line-of-sight between the Sepulveda/Rosecrans Rezoning Site and receptor property locations to the southwest, north and east.

Plaza El Segundo

The following mitigation measures are required to minimize construction related noise impacts associated with the Plaza El Segundo Development.

- I-2. Construction contracts must specify that all construction equipment must be equipped with mufflers and other applicable noise attenuation devices.
- I-3. During construction phases, the contractor must store and maintain equipment as far as possible from the adjacent receptor property locations to the north and east of the Plaza El Segundo site.
- I-4. As stated in the City of El Segundo Municipal Code, construction must be restricted to the hours of 7:00 a.m. to 6 p.m. Monday through Saturday, and prohibited at anytime on Sunday or a Federal holiday.
- I-5. Temporary plywood noise barriers must be constructed along the property lines of the 4.5 net acre portion of the Plaza El Segundo site south of the UPRR tracks during construction, which must be high enough to block the line-of-sight (a minimum of 8 feet above existing grade) between the Plaza El Segundo site and receptor property locations to the southwest, north and east.

LEVEL OF IMPACT AFTER MITIGATION

Construction Impacts

Sepulveda/Rosecrans Site Rezoning

Construction impacts associated with the Sepulveda/Rosecrans Site Rezoning would be temporary, and intermittent. In addition, use of equipment mufflers and plywood barriers between the source of construction noise and affected receptor locations would reduce the noise level experienced at the receptor location by approximately 3 dBA each (i.e., approximately 6 dBA total). These mitigation measures would reduce the impact at the Oak Avenue residential location from 67 dBA to the ambient level of 63 dBA (i.e., construction activities would not be audible above the existing ambient noise

level). Thus, implementation of the mitigation measures listed above would reduce the construction noise impact at the Oak Avenue residential location to less than significant. Impacts at the Fedex and Pacific Theatres locations would be reduced to increases of 20 dBA and 8 dBA, respectively, which would still exceed the threshold of significance based on the City's noise standards. Noise levels at the Golf Course would be reduced by attenuation and mitigation measures to less than 55 dBA, which is below the 72.3 dBA ambient level. No impact would occur at this location. Construction noise impacts at these locations would be significant and unavoidable.

Plaza El Segundo

Construction impacts associated with the construction of the Plaza El Segundo Development would be temporary, and intermittent. With implementation of the mitigation measures listed above (equipment mufflers and plywood barriers), impacts at the Oak Avenue residential location would be reduced from 67 dBA to the ambient level of 63 dBA (i.e., construction activities would not be audible above the existing ambient noise level). Thus, implementation of the mitigation measures listed above would reduce the construction noise impact at the Oak Avenue residential location to less than significant. In addition, the resulting increase in noise level at the Pacific Theatres location would be reduced from 13 dBA to 7 dBA, which would reduce the impact at this location to less than significant. The resulting noise level increase at the Fedex facility would be reduced from 19 dBA to 13 dBA and would be significant and unavoidable. Noise levels at the Golf Course would be reduced by attenuation and mitigation measures to less than 60 dBA, which is below the 72.3 dBA ambient noise level. No impact would occur at this location.

Operational Impacts

Sepulveda/Rosecrans Site Rezoning

Operational impacts associated with the Sepulveda/Rosecrans Site Rezoning would be less than significant at both the project and cumulative levels. No mitigation measures would be required.

Plaza El Segundo

Operational impacts associated with the Plaza El Segundo Development would be less than significant at both the project and cumulative levels. No mitigation measures are required.