4.8 NOISE

4.8.1 Introduction

This section of the EIR addresses the existing acoustical environment on and adjacent to the project site and evaluates off-site noise impacts related to project implementation. A noise analysis for the proposed Specific Plan project was prepared by Mestre Greve Associates, December 7, 2006, to specifically address potential impacts related to project construction as well as effects on the existing land uses adjacent to the site. The Noise Analysis is included in this EIR as Appendix F.

4.8.2 Environmental Setting

The Ontario Gateway Specific Plan project site encompasses approximately 41.29-acres. The project site is bounded by I-10 to the north and Haven Avenue to the west. The Union Pacific Railroad (UPRR) is located to the south. The project is located in the City of Ontario. The project site is currently occupied by an industrial/warehouse facility with an approximate 200,000 square foot metal industrial building, and approximately 9,600 square feet of office space which is situated on the southern portion of the project site. The land on the northern one-third of the project site is vacant.

The project proposes the development of mixed land uses that may include a 400-room hotel, a 200-bed hospital, 250,000 square feet of office, 75,000 square feet of medical office, and 80,000 square feet of auto dealership.

Background Information on Noise and the Acoustical Environment

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dB higher than another is judged to be twice as loud; and 20 dB higher four times as loud; and so forth. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud).

Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. Community noise levels are measured in terms of the "A-weighted decibel," abbreviated dBA.

Sound levels decrease as a function of distance from the source as a result of wave divergence, atmospheric absorption and ground attenuation. As the sound wave form travels away from the source, the sound energy is dispersed over a greater area, thereby dispersing the sound power of the wave. Atmospheric absorption also influences the levels that are received by the observer. The greater the distance traveled, the greater the influence and the resultant fluctuations. The

degree of absorption is a function of the frequency of the sound as well as the humidity and temperature of the air. Turbulence and gradients of wind, temperature and humidity also play a significant role in determining the degree of attenuation. Intervening topography can also have a substantial effect on the effective perceived noise levels.

Noise Assessment Metrics

Noise has been defined as unwanted sound and it is known to have several adverse effects on people. From these known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. This criteria is based on such known impacts of noise on people as hearing loss, speech interference, sleep interference, physiological responses and annoyance.

The description, analysis and reporting of community noise levels around communities is made difficult by the complexity of human response to noise and the myriad of noise metrics that have been developed for describing noise impacts. Each of these metrics attempts to quantify noise levels with respect to community response. Most of the metrics use the A-Weighted noise level to quantify noise impacts on humans.

Noise metrics can be divided into two categories: single event and cumulative. Single-event metrics describe the noise levels from an individual event such as an aircraft fly over or perhaps a heavy equipment pass-by. Cumulative metrics average the total noise over a specific time period, which is typically 1 or 24-hours for community noise problems. For this type of analysis, cumulative noise metrics will be used.

Several rating scales have been developed for measurement of community noise. These account for:

- parameters of noise that have been shown to contribute to the effects of noise on humans;
- variety of noises found in the environment;
- variations in noise levels that occur as a person moves through the environment; and
- variations associated with the time of day.

They are designed to account for the known health effects of noise on people described previously. Based on these effects, the observation has been made that the potential for a noise to impact people is dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for this observation. Two of the predominate noise scales are the: Equivalent Noise Level (LEQ) and the Community Noise Equivalent Level (CNEL) that are described below.

LEQ is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. LEQ is the "energy" average noise level during the time period of the sample. LEQ can be measured for any time period, but is typically measured for 1 hour. This 1 hour noise level can also be referred to as the Hourly Noise Level (HNL). It is the energy sum of all the events and background noise levels that occur during that time period.

CNEL, Community Noise Equivalent Level, is the predominant rating scale now in use in California for land use compatibility assessment. The CNEL scale represents a time weighted 24-hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. The evening time period (7 p.m. to 10 p.m.) penalizes noises by 5 dBA, while nighttime (10 p.m. to 7 a.m.) noises are penalized by 10 dBA. These time periods and penalties were selected to reflect people's increased sensitivity to noise during these time periods. A CNEL noise level may be reported as a "CNEL of 60 dBA," "60 dBA CNEL," or simply "60 CNEL."

Ldn, the day-night scale is similar to the CNEL scale except that evening noises are not penalized. It is a measure of the overall noise experienced during an entire day. The time-weighted refers to the fact that noise that occurs during certain sensitive time periods is penalized for occurring at these times. In the Ldn scale, those noise levels that occur during the night (10 pm to 7 am) are penalized by 10 dB. This penalty was selected to attempt to account for increased human sensitivity to noise during the quieter period of a day, when persons are most likely to be home and sleep is the most probable activity.

L(%) is a statistical method of describing noise which accounts for variance in noise levels throughout a given measurement period. L(%) is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example since 5 minutes is 25 percent of 20 minutes, L(25) is the noise level that is equal to or exceeded for five minutes in a twenty minute measurement period. It is L(%) that is used for most noise ordinance standards. For example most daytime city, state and county noise ordinances use an ordinance standard of 55 dBA for 30 minutes per hour or an L(50) level of 55 dBA. In other words the noise ordinance states that no noise level should exceed 55 dBA for more that fifty percent of a given period.

City of Ontario Noise Standards

City of Ontario Noise Element

The City of Ontario General Plan Noise Element specifies outdoor and indoor noise standards for various land uses impacted by transportation noise sources. The City's noise standards are consistent with the State of California's noise standards. The interior and exterior noise standards are in terms of the Community Noise Equivalent Level (CNEL). The standards specify that the interior of commercial buildings shall not exceed 45 CNEL for hospital and hotel uses, 50 CNEL for office and 55 CNEL for retail uses. The City of Ontario has established 65 dB CNEL outdoor noise level for hospital[1] and hotel uses. No outdoor noise level standards have been defined for office and retail uses.

City of Ontario Noise Ordinance

A noise ordinance is designed to control unnecessary, excessive and annoying sounds from stationary (non-transportation) noise sources. Noise ordinance requirements cannot be applied to mobile noise sources such as heavy trucks when traveling on public roadways. Federal and state laws preempt control of mobile noise sources on public roads. Noise ordinance standards

[1] Outdoor environment limited to hospital patio.

typically apply to industrial and commercial noise sources impacting residential areas. They are also applicable to noise generated at parks and schools impacting residential areas.

The City of Ontario noise ordinance is contained in Title 9 (Development Code), Chapter 1 (Zoning and Land Use Requirements), Article 33 (Environmental Performance Standards), Section 9-1.3305 (Noise) of the City's municipal code. The noise ordinance standards are presented in Table 4.8-1.

The City of Ontario has applied 65 dBA Leq (1-hour) daytime (7 a.m. to 10 p.m.) and 45 dBA Leq (1-hour) nighttime (10 p.m. to 7 a.m.) noise standards to fixed (stationary) noise sources. This means that a fixed noise source cannot cause the Leq noise level for 1-hour to exceed 65 dBA during the daytime or 45 dBA at the nearest residential property line. Also, a fixed noise source cannot exceed 65 dBA Leq during the daytime and 60 dBA Leq during the nighttime at the nearest commercial land uses.

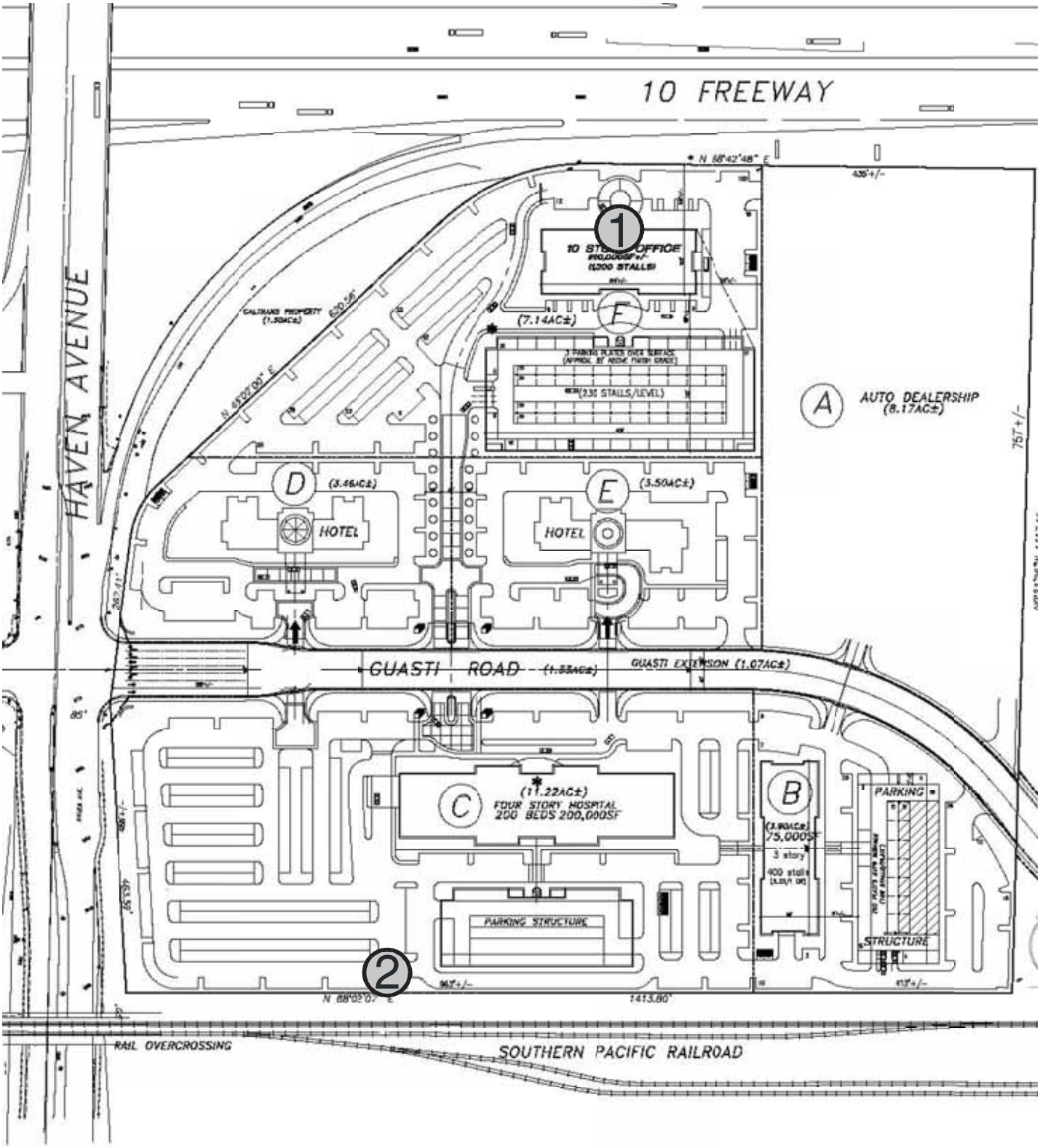
Table 4.8-1
City of Ontario Environmental Performance (Noise Ordinance) Standards

Receiving Land Use Category	Noise Metric	Noise Level Not To Be Exceeded	
		7 a.m. to 10 p.m. (Daytime)	10 p.m. to 7 a.m. (Nighttime)
Exterior Noise Standards			
Residential (except multi-family)	Leq (1hr)	65 dBA	45 dBA
Multi-family and Mobile Home Park	Leq (1hr)	65 dBA	50 dBA
Commercial (all C zones, including AP)	Leq (1hr)	65 dBA	60 dBA
Light industrial (M1, M2)	Leq (1hr)	70 dBA	70 dBA
Heavy industrial	Leq (1hr)	70 dBA	70 dBA
Interior Noise Standards (Multi-family)			
5 Minute/Hour	L8.3	45 dBA	35 dBA
1 Minute/Hour	L1.7	50 dBA	40 dBA
Any period of time	Lmax	45 dBA	35 dBA

Existing Noise Measurements

To document the existing noise environment at the project site, ambient noise measurements were made on October 13, 2006 between 11:00 a.m. and 1:00 p.m. at two locations. Measurement Site 1 was located along I-10, approximately 100 feet from the edge of the freeway, and Site 2 was located near the south boundary of the project site adjacent to the UPRR. The existing on-site noise includes heavy trucks and forklift activities from the distribution warehouse center. The locations of the noise measurement sites are shown in Figure 4.8-1.

Two 10-minute measurements were made at each of the measurement sites. The measurements were made with a Brüel & Kjær Modular Precision Sound Level Meter, Type 2236. The system was calibrated before and after each measurement series with calibration traceable to the National Institute of Standards and Technology. The wind speeds during the time of measurements were light (0 to 5 miles per hour).



1 On-Site Noise Measurement Locations

Source: Mestre Greve Assoc., 12/06.

Noise Measurement Locations

Ontario Gateway Specific Plan
City of Ontario, California

LILBURN CORPORATION

Figure 4.8-1

The measurement results are presented in Table 4.8-2. The noise measurement levels are in terms of the equivalent noise levels (Leq), maximum noise levels, minimum noise levels and percentile noise levels (L%). L(%) is a way of expressing the noise level exceeded for a percentage of time in a given measurement period. For example, L(25) is the noise level that is equal to or exceeded for five minutes in a twenty minute measurement period since 5 minutes is 25 percent of 20 minutes. Similarly, the L50 percentile level represents the noise levels exceeded 50 percent of the time, and usually represent the average ambient noise level. The L90 noise levels represent the background noise levels which are exceeded 90 percent of the time. The other percentile levels as well as the L50 relate to the Noise Ordinance limits presented previously.

At Site 1, the dominant source of noise was traffic on I-10. Noise from Haven Avenue and a train event also contributed to the noise environment along with occasional truck activities on the project site. The ambient L50 noise levels were in the 65 dBA range. A train horn was the cause of the maximum noise level during the first measurement. A heavy truck caused the maximum noise level during the second measurement.

At Site 2, the dominant source of noise was traffic on Haven Avenue, on-site heavy truck/forklift activities, and occasionally the aircraft departing from LA/Ontario International Airport. The ambient L50 noise levels were in the low 50 dBA range. Traffic on Haven Avenue and heavy truck and forklift activities on-site were the cause of the maximum noise levels.

Table 4.8-2
Existing Noise Measurements (dBA)

Site	Time	Leq	Lmax	Lmin	L1.7	L8.3	L25	L50	L90
1	11:50 am	65.9	73.4	61.1	69.0	68.0	66.5	65.5	63.0
		66.2	78.2	61.4	71.0	68.0	66.0	65.0	63.0
2	12:12 pm	53.3	63.5	46.8	60.0	56.5	53.5	51.0	48.5
		52.4	62.5	47.5	57.0	55.0	52.5	51.0	49.0

Existing Roadway Noise Levels

The highway noise levels were computed using the Highway Noise Model published by the Federal Highway Administration ("FHWA Highway Traffic Noise Prediction Model," FHWA-RD-77-108, December, 1978). The FHWA Model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the "equivalent noise level." A computer code has been written which computes equivalent noise levels for each of the time periods used in the calculation of CNEL. Weighting these noise levels and summing them results in the CNEL for the traffic projections used. CNEL contours are found by iterating over many distances until the distances to the 60, 65, and 70 CNEL contours are found. For the roadway analysis, worst-case assumptions about future motor vehicle traffic and noise levels have been made and were incorporated in the modeling effort, specifically, no reductions in motor vehicle noise have been assumed in spite of legislation requiring quieter vehicles at the time of manufacture.

Traffic volumes and estimated speeds were used with the FHWA Model to estimate the noise levels in terms of CNEL. Existing traffic volumes for arterials utilized were obtained from the traffic study prepared by Kunzman Associates, September 20, 2006

The distances to the CNEL contours for the roadways in the vicinity of the project site are given in Table 4.8-3. These represent the distance from the centerline of the road to the contour value shown. The values given in Table 4.8-3 do not take into account the effect of any noise barriers or topography that may affect ambient noise levels.

Table 4.8-3 shows that major noise corridors occur along Haven Avenue, Milliken Avenue, Etiwanda Street, I-15, Arrow Route, I-10, SR-60 and portions of Jurupa Street. The areas in the immediate vicinity of these roadways experience noise levels in excess of 70 CNEL. Noise levels along 6th Street, 4th Street, Inland Empire Boulevard, Airport Drive, Mission Boulevard, and a portion of Archibald Avenue are in excess of 65 dBA. Areas adjacent to Guasti Road, and a portion of Archibald Avenue experience noise levels in excess of 60 CNEL, but less than 65 CNEL. 8th Street experiences low level of traffic and hence low level of noise.

Existing Aircraft Noise Levels

The project is located on Haven Avenue near the northeast corner of LA/Ontario International Airport. Noise contours for aircraft operations at the airport were obtained from the "Noise Technical Report-Pacific Gateway Cargo Center" prepared by URS, March 2006. The airport's runways run from east to west with departures typically in the easterly direction. The project site is not subject to any direct over flights but will be exposed to sideline noise as aircraft depart the airport under normal operations. Currently, the existing noise levels from the aircraft are less than 65 CNEL on the project site.

Existing Railroad Noise Levels

The UPRR line is located adjacent to the southern boundary of the project site. To determine train noise levels, the Wyle Model was used ("Assessment of Noise Environments Around Railroad Operations," Wyle Laboratories Report WCR-73-5, July, 1973). The noise generated by train operations can be divided into two components; noise generated by the engine or locomotive, and noise generated the railroad cars. The characteristic frequency of the engine is different than the characteristic frequency of the cars. The noise generated by the engine is the result of the mechanical movements of the engine parts, and to a lesser extent, the exhaust system. The noise generated by the cars is a result of the interaction between the wheels and the railroad track. A zero source height is used for the car noise, and a source height of 10 feet is utilized for the locomotive.

Existing railroad operations were obtained from Mr. Freddy Chung at the UPRR on October 10, 2006. Mr. Chung stated that there are approximately 36 freight train operations with more than half occurring at night. Amtrak and Metrolink trains also utilized the railroad. Currently, there are two Amtrak operations scheduled in the daytime. There are also seven Metrolink operations in the daytime, two in the evening time and three at nighttime. Existing Metrolink operations were obtained from Ms. Joanna Capella on October 30, 2006. It should be noted that railroads are free to change operations at their discretion. The total number of operations and the times at which they occur are therefore subject to change.

Table 4.8-3
Modeled Existing Roadway Traffic Noise Levels

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour (feet)†		
		70 CNEL	65 CNEL	60 CNEL
Haven Avenue				
North of Arrow Route	67.8	71	154	332
Arrow Route to 8th St.	69.1	86	186	401
8th St. to 6th St.	68.8	84	180	389
6th St. to 4th St.	68.8	84	180	389
4th St. to Inland Empire Blvd.	69.0	86	185	399
Inland Empire Blvd. to I-10	70.3	104	225	484
I-10 to Guasti Rd.	70.3	104	225	484
Guasti Rd. to Airport Dr.	69.6	94	203	438
Airport Dr. to Jurupa St.	69.0	85	184	396
Jurupa St. to Mission Blvd.	68.4	79	169	365
Mission Blvd. to SR-60	67.9	72	156	336
South of SR-60	64.9	46	99	212
Archibald Avenue				
North of Airport Dr.	64.8	45	97	210
South of Airport Dr.	58.5	RW	37	79
Milliken Avenue				
North of I-10	68.1	75	161	347
I-10 to Guasti Rd.	68.1	74	160	344
Guasti Rd. to Airport Dr.	67.2	65	139	300
Airport Dr. to Jurupa St.	66.4	57	123	265
South of Jurupa St.	67.3	66	143	307
Etiwanda Street				
North of Ontario Mills Pkwy.	65.4	49	107	229
Ontario Mills Pkwy. to I-10	65.9	54	115	249
Arrow Route				
East of Haven Ave.	67.9	72	156	336
West of Haven Ave.	66.9	63	135	290
8th Street				
West of Haven Ave.	52.5	RW	RW	32
6th Street				
East of Haven Ave.	61.2	RW	56	120
West of Haven Ave.	60.5	RW	50	109
4th Street				
East of Haven Ave.	63.5	37	79	171
West of Haven Ave.	62.0	RW	63	137
Inland Empire Boulevard				
East of Haven Ave.	64.7	44	96	206
West of Haven Ave.	64.4	42	91	197
Guasti Road				
East of Milliken Ave.	56.9	RW	RW	62
Milliken Ave. to Project Site	59.2	RW	41	88
East of Haven Ave.	48.5	RW	RW	RW
West of Haven Ave.	60.0	RW	46	100

Roadway Segment	CNEL @ 100' †	Distance To CNEL Contour (feet)†		
		70 CNEL	65 CNEL	60 CNEL
Airport Drive				
East of Milliken Ave.	63.3	36	77	167
West of Milliken Ave.	61.5	RW	58	126
East of Haven Ave.	63.9	34	72	156
West of Haven Ave.	63.3	36	77	167
West of Archibald Ave.	62.7	33	70	152
Jurupa Street				
East of Milliken Ave.	67.5	68	147	317
Milliken Ave. to Haven Ave.	66.0	54	116	251
West of Haven Ave.	64.5	43	92	198
Mission Boulevard				
East of Haven Ave.	63.6	37	80	173
West of Haven Ave.	64.6	43	94	202
I-10				
East of Etiwanda Street	81.2	559	1,204	2,595
Etiwanda St. to I-15	81.5	582	1,254	2,702
I-15 to Milliken Avenue	81.7	605	1,303	2,807
Milliken Ave. to Haven Ave.	81.8	613	1,320	2,845
West of Haven Ave.	81.8	616	1,327	2,859
I-15				
North of I-10	82.4	674	1,452	3,128
South of I-10	82.8	715	1,541	3,320

†From roadway centerline
RW-Noise contour falls within roadway right-of-way

The existing operational data was utilized in conjunction with the Wyle Model to project train noise levels on the project site. Table 4.8-4 presents the distance to the existing CNEL contours from the track centerline. Note that the projection does not include topography or barriers that may reduce the noise level.

Table 4.8-4
Existing Railroad Noise Levels Impacting Project Site

	70 CNEL	65 CNEL	60 CNEL
Distance to Contour (ft)†	296	539	989

† From track centerline

Applicable Plans and Policies

State

The California Government Code requires that a noise element be included in the General Plan of each county and city.

Local

City of Ontario General Plan

The Noise Element of the General Plan identifies sources of noise in the City and provides objectives and policies that ensure that noise from various sources would not create an unacceptable noise environment. It is a tool that City planners use to achieve and maintain land uses with compatible environmental noise levels. The City of Ontario's Noise Section is incorporated within the Hazards Element. Following are the goals and policies related to this section:

Goal 8.0 Provide for the reduction of noise where the noise environment is unacceptable.

Goal 9.0 Provide sufficient information regarding the community noise levels so that noise can be objectively considered in land use planning. Protect and maintain those areas having acceptable noise environments.

4.8.3 Impacts and Mitigation Measures

Thresholds of Significance

Potential noise impacts are commonly divided into two groups; temporary and long term. Temporary impacts are usually associated with noise generated by construction activities. Long-term impacts are the impacts on surrounding land uses due to increased traffic noise generated by the project as well as noise generated on the project site.

The proposed project would have a significant effect on the ambient noise environment if it would:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise.

In a community noise assessment, changes in noise levels greater than 3 dB are often identified as significant, while changes less than 1 dB will not be discernible to local residents. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. Note that there is no scientific evidence is available to support the use of 3 dB as the significance threshold. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dB. In a community noise situation, however, noise exposures are over a long time period, and changes in noise levels occur over years, rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dB, and 3 dB appears to be appropriate for most people.

Impacts Determined to Have No Impact

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

According to the 2006 first quarter Noise Contour Maps provided by the LA/Ontario International Airport's noise management office, the project site is located outside of the 65CNEL noise contour. Therefore, no impacts are anticipated.

For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The project site is not located within the vicinity of a private airstrip. Therefore, no impacts are anticipated.

Impacts Determined to be Potentially Significant

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

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

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

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

Impact N-1

Construction noise represents a short-term impact on ambient noise levels. The primary source of construction noise is heavy equipment. Noise generated by

construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach high levels. Grading will generate the highest levels of noise during construction. This is a potentially significant impact.

Worst-case examples of construction noise at 50 feet are presented in Figure 4.8-2. The peak noise level for most of the equipment that will be used during the construction is 70 to 95 dBA at a distance of 50 feet. At 200 feet, the peak construction noise levels range from 58 to 83 dBA. At 400 feet, the peak noise levels range from 52 to 77 dBA. These noise levels are based upon worst-case conditions. Typically, noise levels near the site will be less. Noise measurements made by Mestre Greve Associates for other projects show that the noise levels generated by commonly used grading equipment (i.e. loaders, graders and trucks) generate noise levels that typically do not exceed the middle of the range shown in Figure 4.8-2.

The nearest existing residential areas are located a minimum of 2,100 feet to the northwest of the project site. Based on this distance, the nearest homes may experience worst-case unmitigated peak construction noise levels between 38 and 63 dBA. Average noise levels are not expected to exceed 45 dBA at the nearest residences. I-10 is located between the project site and the nearest residential area, therefore, noise generated by traffic on I-10 will typically mask any construction noise at the nearest residences. Construction of the project will not result in a significant short-term noise impact at the nearest residential areas.

The project site is located adjacent to commercial uses to the west. The closest is an existing commercial parking lot while the nearest commercial buildings are located approximately 315 feet away. Based on this distance, the worst-case peak construction noise could range between 54 and 79 dBA. However, actual construction noise on-site would be more subdued. The average noise levels are typically 5 to 15 dB lower than the peak noise levels. Therefore, the closest commercial buildings could experience average noise between 49 and 64 dBA due to construction noise on the project site. Construction of the project will not result in a significant short-term noise impact at the nearest commercial buildings and no mitigation is required.

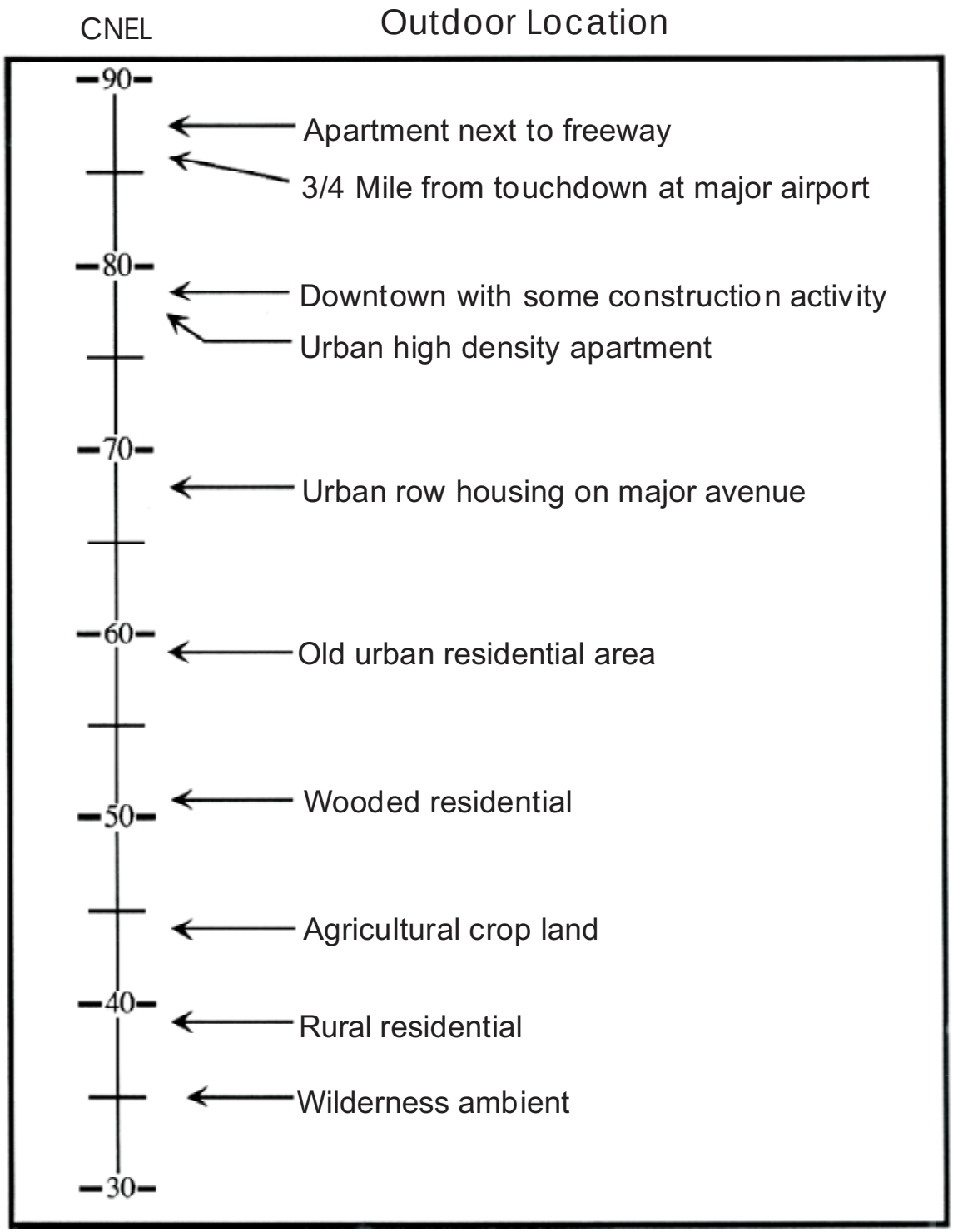
Impact N-2

The surrounding land uses may be subject to noise levels in excess of the City Noise Standards during operation of the Specific Plan developments both due to increased traffic and on-site activities. This is a potentially significant impact.

Noise impacts from the proposed project on the surrounding land uses, specifically traffic noise increases due to the project as well as potential noise impacts from activities on the project site are examined. The uses proposed that have the potential to result in noise impacts from on-site activities are parking lots and delivery trucks.

Traffic Noise

Table 4.8-5 shows the incremental traffic noise level increases on roadways in the vicinity of the project. Noise level increases are presented for the expected project opening year of 2008 and planning horizon year of 2030. The first column shows the roadway and segment for which the



Source: Mestre Greve Assoc., 12/06.

Construction Equipment Noise Levels

Ontario Gateway Specific Plan
City of Ontario, California

Figure 4.8-2

Table 4.8-5
Traffic Noise CNEL Increases (dB)

Roadway Segment	2008		2030	
	Over Existing	Due to Project	Over Existing	Due to Project
Haven Avenue				
North of Arrow Route	0.5	0.1	0.8	0.0
Arrow Route to 8th Street	0.5	0.0	0.7	0.0
8th Street to 6th Street	0.5	0.1	0.6	0.1
6th Street to 4th Street	0.5	0.1	0.8	0.1
4th Street to Inland Empire Boulevard	0.5	0.1	0.8	0.1
Inland Empire Boulevard to I-10	0.5	0.1	1.0	0.1
I-10 to Guasti Road	0.4	0.4	1.1	0.3
Guasti Road to Airport Drive	0.6	0.2	1.3	0.1
Airport Drive to Jurupa Street	0.5	0.1	1.3	0.1
Jurupa Street to Mission Boulevard	0.5	0.1	1.6	0.0
Mission Boulevard to SR-60	0.5	0.1	1.6	0.1
South of SR-60	0.5	0.1	2.7	0.1
Archibald Avenue				
North of Airport Drive	0.4	0.0	***3.1***	0.0
South of Airport Drive	2.5	0.2	***9.8***	0.0
Milliken Avenue				
North of I-10	0.5	0.0	1.6	0.0
I-10 to Guasti Road	0.6	0.2	2.1	0.2
Guasti Road to Airport Drive	0.5	0.1	2.3	0.1
Airport Drive to Jurupa Street	0.5	0.1	2.3	0.1
South of Jurupa Street	0.4	0.0	1.5	0.0
Etiwanda Street				
North of Ontario Mills Parkway	0.4	0.0	1.5	0.0
Ontario Mills Parkway to I-10	0.4	0.0	1.9	0.0
Arrow Route				
East of Haven Avenue	0.4	0.0	0.5	0.0
West of Haven Avenue	0.4	0.0	0.8	0.0
8th Street				
West of Haven Avenue	1.0	0.0	***6.1***	0.0
6th Street				
East of Haven Avenue	0.4	0.0	1.7	0.0
West of Haven Avenue	0.4	0.0	1.7	0.0
4th Street				
East of Haven Avenue	0.4	0.0	2.3	0.0
West of Haven Avenue	0.5	0.1	***3.3***	0.1
Imperial Empire Boulevard				
East of Haven Avenue	0.5	0.1	2.2	0.0
West of Haven Avenue	0.5	0.1	1.9	0.1

Roadway Segment	2008		2030	
	Over Existing	Due to Project	Over Existing	Due to Project
Guasti Road				
East of Milliken Avenue	0.4	0.0	0.4	0.0
Milliken Avenue to Project Site	1.9	1.5	1.9	1.5
East of Haven Avenue	***12.2***	***11.5***	***12.2***	***11.5***
West of Haven Avenue	0.4	0.0	2.8	0.0
Airport Drive				
East of Milliken Avenue	0.4	0.0	2.3	0.0
West of Milliken Avenue	0.5	0.0	2.7	0.0
East of Haven Avenue	0.5	0.1	2.3	0.0
West of Haven Avenue	0.6	0.2	2.5	0.1
West of Archibald Avenue	0.5	0.1	***3.1***	0.1
Jupura Street				
East of Milliken Avenue	0.5	0.0	1.9	0.0
Milliken Avenue to Haven Avenue	0.5	0.1	2.0	0.0
West of Haven Avenue	0.5	0.0	1.8	0.0
Mission Boulevard				
East of Haven Avenue	0.4	0.0	2.1	0.0
West of Haven Avenue	0.4	0.0	2.0	0.0
I-10				
East of Etiwanda Street	0.4	0.0	1.3	0.0
Etiwanda Street to I-15	0.4	0.0	1.0	0.0
I-15 to Milliken Avenue	0.5	0.0	2.1	0.0
Milliken Avenue to Haven Avenue	0.5	0.0	2.1	0.0
West of Haven Avenue	0.6	0.0	2.0	0.0
I-15				
North of I-10	0.7	0.0	2.3	0.0
South of I-10	0.7	0.0	1.6	0.0

increase is shown. The next two columns show the projected traffic noise level increases in 2008. The first of these columns “Over Existing” is the projected increase in noise levels over existing conditions due to all projected growth. This value is used to assess cumulative impacts due to the project. The second “Due to Project” is the amount of the noise level increase that results from the project. The rightmost two columns show the same data for the year 2030. Noise levels increases greater than 3 dB are shown in bold-italics.

The noise level increases were calculated using traffic volumes presented in the previously referenced traffic study prepared for the project by Kunzman Associates, September 20, 2006. The traffic volumes used are presented in the appendix.

According to Table 4.8-5, the proposed project is not projected to result in a substantial noise increase along any of the roadway segments except Guasti Road east of Haven Avenue. The project is projected to cause a maximum of 11.5 dB traffic noise level increase along Guasti

Road east of Haven Avenue. However, this segment of Guasti Road runs through the project site and therefore, the increase will not impact any off-site uses. Additionally, there are no sensitive land uses along this roadway segment, and as a result, the noise increase becomes insignificant. The project will not result in a significant off-site noise impact.

Table 4.8-5 shows that there are six roadway segments projected to experience substantial noise increases (greater than 3 dBA) over existing conditions; (1) Archibald Avenue north of Airport Drive, (2) Archibald Avenue, south of Airport Drive, (3) 8th Street west of Haven avenue, (4) 4th Street West of Haven Avenue, (5) Guasti Road east of Haven Avenue, and (6) Airport Drive west of Archibald. There are no existing noise sensitive uses along the Archibald Avenue, Guasti Road, and Airport Drive segments. There are residential uses located along 8th Street west of Haven Avenue and 4th Street West of Haven Avenue. The homes along 8th Street are located across a railroad track from 8th Street, more than 38 feet from the roadway centerline.

Future (2030) traffic noise levels are presented in Table 4.8-6. This table shows that future noise levels along 8th Street west of Haven Avenue will be less than 65 dB CNEL more than 38 feet from the centerline. Therefore, these homes will not be exposed to traffic noise levels exceeding 65 CNEL from traffic on 8th Street and will not be cumulatively impacted. Further, the project does not contribute to the projected noise level increase and the increase is due to other growth projected for the area.

There are multi-family residential units located along 4th Street west of Haven. The buildings are located approximately 80 feet from the roadway centerline. At this distance, the future traffic noise level is projected to be 66.8 CNEL. Any outdoor living areas within 105 feet of the road and with direct line of sight to the road would be exposed to noise levels exceeding 65 CNEL. However, any noise barriers that block the line of sight to the roadway would reduce the noise level to below 65 CNEL. Homes along 4th Street west of Haven Avenue without barriers will be significantly cumulatively impacted by traffic noise. However, the project contributes 0.1 dB to the projected overall increase of 3.3 dB over existing conditions and therefore the project's contribution to the overall increase is indiscernible. The projected traffic noise level increase causing the cumulative impact is due to other growth projected for the area and not the project. Therefore, the project is not required to mitigate the impact.

The distances to the future (2030) with project 60, 65 and 70 CNEL contours for the roadways in the vicinity of the proposed project site are presented in Table 4.8-6. These represent the distance from the centerline of the road to the contour value shown. The CNEL at 100 feet from the roadway centerline is also presented. The contours do not take into account the effect of any noise barriers or topography that may reduce traffic noise levels. Traffic volumes, speeds and traffic mixes used to calculate the noise levels are presented in the appendix.

According to Table 4.8-6, Haven Avenue, Archibald Avenue, Milliken Avenue, Etiwanda Street, I-15, Arrow Route, 4th Street, Inland Empire Boulevard, I-10, Jurupa Street, Mission Boulevard and portions of Airport Drive will continue to generate substantial noise levels. 6th Street and Guasti Road will continue to generate noise levels in excess of 65 CNEL. 8th Street will generate noise levels greater than 60 CNEL, but less than 65 CNEL.

Table 4.8-6
Future (2030) With Project Traffic Noise Levels

Roadway Segment	CNEL @ 100′†	Distance to CNEL Contour (feet)		
		70 CNEL	65 CNEL	60 CNEL
Haven Avenue				
North of Arrow Route	68.6	81	175	377
Arrow Route to 8th Street	69.7	96	207	447
8th Street to 6th Street	69.4	92	197	425
6th Street to 4th Street	69.6	94	203	437
4th Street to Inland Empire Boulevard	69.8	97	208	449
Inland Empire Boulevard to I-10	71.3	122	263	566
I-10 to Guasti Road	71.4	124	268	577
Guasti Road to Airport Drive	70.9	115	247	533
Airport Drive to Jurupa Street	70.2	103	223	480
Jurupa Street to Mission Boulevard	70.1	101	218	469
Mission Boulevard to SR-60	69.5	92	199	429
South of SR-60	67.6	69	149	320
Archibald Avenue				
North of Airport Drive	67.9	73	157	337
South of Airport Drive	68.3	77	165	356
Milliken Avenue				
North of I-10	69.7	96	206	444
I-10 to Guasti Road	70.1	102	220	474
Guasti Road to Airport Drive	69.5	93	200	431
Airport Drive to Jurupa Street	68.1	75	161	346
South of Jurupa Street	68.8	83	180	387
Etiwanda Street				
North of Ontario Mills Parkway	66.9	63	135	290
Ontario Mills Parkway to I-10	67.9	72	155	335
Arrow Route				
East of Haven Avenue	68.4	78	168	363
West of Haven Avenue	67.8	71	153	329
8th Street				
West of Haven Avenue	58.6	RW	38	81
6th Street				
East of Haven Avenue	62.9	33	72	155
West of Haven Avenue	62.3	31	66	142
4th Street				
East of Haven Avenue	65.8	53	114	245
West of Haven Avenue	65.3	49	105	226
Imperial Empire Boulevard				
East of Haven Avenue	66.9	62	134	289
West of Haven Avenue	66.3	57	122	264

Roadway Segment	CNEL @ 100′†	Distance to CNEL Contour (feet)		
		70 CNEL	65 CNEL	60 CNEL
Guasti Road				
East of Milliken Avenue	57.3	RW	31	66
Milliken Avenue to Project Site	61.1	RW	55	118
East of Haven Avenue	60.7	RW	52	112
West of Haven Avenue	62.8	33	71	154
Airport Drive				
East of Milliken Avenue	65.7	51	111	239
West of Milliken Avenue	64.2	41	89	191
East of Haven Avenue	65.2	48	103	222
West of Haven Avenue	65.8	52	113	244
West of Archibald Avenue	65.8	52	113	243
Jupura Street				
East of Milliken Avenue	69.4	92	198	426
Milliken Avenue to Haven Avenue	68.0	73	158	340
West of Haven Avenue	66.2	56	121	261
Mission Boulevard				
East of Haven Avenue	65.7	52	111	240
West of Haven Avenue	66.6	59	128	276
I-10				
East of Etiwanda Street	82.5	686	1,478	3,184
Etiwanda Street to I-15	82.5	682	1,470	3,166
I-15 to Milliken Avenue	83.9	841	1,811	3,902
Milliken Avenue to Haven Avenue	83.9	842	1,814	3,907
West of Haven Avenue	83.9	842	1,813	3,907
I-15				
North of I-10	84.7	956	2,059	4,435
South of I-10	84.4	913	1,967	4,238

RW – Noise contour falls within roadway right-of-way.
†From Roadway Centerline

On-site Activities

Noise levels generated on the project site must comply with the City's Noise Ordinance. The Noise Ordinance defines the noise level limits that can be generated at a residential area by a noise source on private property. Potential noise associated with the development of the site includes parking lots and delivery trucks. However, there are no residential land uses adjacent to the project site. The closest residential area is located a minimum of 2,100 feet to the northwest, and therefore, on-site parking lot and delivery truck activities are not considered to be significant noise sources.

The noise ordinance also regulates noise at adjacent commercial uses. The closest commercial use to the project site is the existing parking lot while the commercial buildings are located approximately 315 feet to the west. It is projected that parking lot and loading dock activities would not be expected to exceed the average Leq noise standards at these commercial areas.

Mechanical equipment, especially around a central plant, and repair facility at the car dealership could however, exceed the Leq standards. This could result in a significant impact and mitigation would be required.

The proposed hospital would include a helipad for emergency airlift services. Helicopter operations to and from the hospital helipad would not interfere with operations at the LA/Ontario International Airport and would typically approach the hospital from the west-northwest and depart to the east/northeast, parallel to airport operations. Only 12 to 15 helicopter operations per year are expected. The nearest noise sensitive, residential, receptors are located more than 3,500 feet from the proposed hospital. At this distance helicopters arriving and departing the hospital would be at a high enough elevation as they would pass the homes that they would not create considerable levels of noise. Depending on the specific operations the helicopter activities may be audible at the residences. However, the levels are expected to be similar to noise levels generated by individual commercial aircraft operations at the LA/Ontario International Airport.

Federal law prohibits local regulation of noise generated by the helicopter operations. Noise impacts generated by aircraft, along with most transportation sources, are typically evaluated against the CNEL criteria defined in the City's Noise Element. Due to the large distance to the nearest homes and the relatively few events expected, noise generated by the helicopter operations would not generate an appreciable CNEL noise level, nor would the helicopter operations affect CNEL noise levels experienced in the area. Based on this, an emergency helicopter pad at the proposed hospital would not result in a significant noise impact.

Mitigation Measure N-1

Prior to issuance of building permits, City staff shall review the detail designs for location and type of mechanical equipment and location of any auto repair bays for the proposed auto dealership. If staff determines that these sources have the potential to exceed the City's Noise Ordinance criteria, a detailed noise assessment shall be prepared to ensure that these specific sources do not violate the Noise Ordinance. The assessment shall be prepared by a qualified acoustical engineer and shall document the noise generation characteristics of the proposed equipment and the projected noise levels at the nearest use. Compliance with the Noise Ordinance shall be demonstrated and any measures required to comply with the Noise Ordinance will be included in the project plans. The report shall be completed and approved by the City prior to issuance of building permits.

Level of Significance After Mitigation

With this measure the potential impacts associated with the design of future development applications will be mitigated to a level that is less than significant.

Impact N-3

The proposed project would be impacted by traffic noise from the I-10 freeway and local streets, train noise from the railroad located along the southern boundary of the

project site, and aircraft noise from LA/Ontario International Airport. This is a potentially significant impact.

The project site is impacted by traffic noise from the I-10 freeway and local streets, train noise from the railroad located along the southern boundary of the project site, and aircraft noise from LA/Ontario International Airport. Noise generated by each of these sources is discussed here and the cumulative noise impacts on the project site are examined.

On-Site Traffic Noise Exposure

The distances to the future (2030) with project 60, 65 and 70 CNEL contours for the roadways in the vicinity of the proposed project site were presented above in Table 4.8-6. Road segments impacting the proposed project include I-10 from Milliken Avenue to Haven Avenue, Haven Avenue from I-10 to Guasti Road and Guasti Road to Airport Drive, and Guasti Road East of Haven Avenue.

The traffic data in Table 4.8-5 and the site plan indicate that limited portions of the project site proposed for commercial office and auto dealership uses adjacent to I-10 could experience traffic noise levels in excess of 75 CNEL without mitigation.

On-Site Aircraft Noise Exposure

The project is located on Haven Avenue near the northeast corner of LA/Ontario International Airport. Noise contours for aircraft operations at the airport were obtained from the report titled "Noise Technical Report-Pacific Gateway Cargo Center" prepared by URS, March 2006. These contours and the location of the project site are shown in Figure 4.8-3. Figure 4.8-3 shows that the aircraft noise levels from the LA/Ontario International Airport will not change significantly. The future aircraft noise levels will be less than 65 CNEL on the project site.

On-Site Railroad Noise Exposure

Projected future railroad operations were obtained from Mr. Freddy Chung at the UPRR on October 10, 2006. Mr. Chung stated that freight train operations would increase from 36 to up to 65 operations by 2015, and more than half may occur at night. Amtrak and Metrolink trains also utilized the railroad. Currently, there are two Amtrak operations scheduled in the daytime. There are also 12 Metrolink operations, with seven in the daytime, two in the evening time and three at nighttime. Based on a conversation with an Amtrak personnel, future changes in operations for Amtrak are not known. Future Metrolink operations were obtained from Ms. Joanna Capella on October 30, 2006. Metrolink operations are projected to increase to 46 operations by year 2030. It should be noted that railroads are free to change operations at their discretion. The total number of operations and the times at which they occur are therefore subject to change. The future train data used in the noise calculations are presented in the appendix.

The projected future operational data presented in the appendix was utilized in conjunction with the Wyle Model to project train noise levels on the project site. The results of the train noise projections are displayed in Table 4.8-7 in terms of the distances from the railroad centerline to the contour value shown. Note that these projections do not include topography or barriers that may reduce the noise levels.

Table 4.8-7
Future Railroad Noise Levels Impacting Project Site

	70 CNEL	**65 CNEL**	**60 CNEL**
Distance to Contour (ft)	485	892	1,647

The nearest office building face is estimated to be approximately 160 feet from the railroad tracks. At this distance, the worst-case noise level associated with future train operations was estimated to be approximately 79.2 CNEL.

Total On-Site Noise Exposure

Figure 4.8-4 shows the on-site noise exposure contours for the project site. This exhibit combines the traffic, railroad, and aircraft noise contours discussed above. The contours do not include the shielding effects of buildings, topography, or sound barriers that would lower the noise levels from what is shown in Figure 4.8-4. In general these effects would not be expected to be substantial.

Figure 4.8-4 shows that the entire project site is exposed to noise levels greater than 65 CNEL. Any outdoor recreation areas proposed for the hotels within the Entertainment Planning Area or patio areas proposed for the hospital within the Mixed Use Planning Area would be exposed to noise levels in excess of the City's 65 CNEL standard. At this time, the plans for the proposed project are not detailed enough to determine the existence or location of these features. If these features are included in the final project they would be significantly impacted without mitigation.

All of the other uses proposed by the project will be subject to interior noise standards. Typical commercial construction which includes mechanical ventilation to allow windows to remain closed achieves at least 20 dB of outdoor-to-indoor noise reduction. To demonstrate that a building achieves more than 20 dB of reduction, detailed calculations are required. These calculations require near complete architectural drawings for the proposed buildings, which are not available for this project at this time. Buildings requiring more than 20 dB of outdoor-to-indoor noise reduction to meet the applicable noise standard are potentially significantly impacted and will require mitigation to ensure they meet the City's noise standards.

Figure 4.8-4 shows that the office building proposed for Office 1 Planning Area in the northwest portion of the site will primarily be exposed to noise from the I-10 freeway. This building will be located approximately 260 feet from the centerline of the freeway and be exposed to a maximum noise level of approximately 75 CNEL. The building will be required to achieve 25 dB of outdoor-to-indoor noise reduction to meet the City's 50 CNEL interior noise standard. This is greater than the 20 dB threshold discussed above and the office building proposed for Office 1 Planning Area would be potentially significantly impacted by noise.

The hotels proposed for Entertainment Planning Area are exposed to noise from I-10 along their northern face and the southern face is exposed noise from the railroad tracks running along the southern boundary of the project. The buildings are proposed to be located approximately 620 feet from the centerline of I-10 and approximately 780 feet from the railroad tracks. The north face of the buildings will be exposed to noise levels of approximately 71 CNEL and the south face will be exposed to noise levels of approximately 68 CNEL. The north face of the buildings will be required to achieve 26 dB of outdoor-to-indoor noise reduction and the south face of the buildings will be required to achieve 23 dB to meet the City's 45 CNEL interior noise standard. This is greater than the 20 dB threshold discussed above and the hotels proposed for Entertainment Planning Area would be potentially significantly impacted by noise.

The office building proposed for Office 2 Planning Area is exposed to noise primarily from the railroad tracks running along the southern boundary of the project. The building is proposed to be located approximately 200 feet from the railroad tracks and will be exposed to noise levels of approximately 74 CNEL. The building will be required to achieve 24 dB of outdoor-to-indoor noise reduction to meet the City's 50 CNEL interior noise standard. This is greater than the 20 dB threshold discussed above and the office building proposed for Office 2 Planning Area is potentially significantly impacted by noise.

The hospital proposed for Mixed Use Planning Area is exposed to noise primarily from the railroad tracks running along the southern boundary of the project. The building is proposed to be located approximately 330 feet from the railroad tracks and the south face will be exposed to a noise level of approximately 72 CNEL. The north face of the building will be exposed to traffic noise from I-10 Freeway. The building is proposed to be located approximately 1100 feet from the centerline of I-10 and the north face of the building will be exposed to a noise level of approximately 69 CNEL. The north face of the building will be required to achieve 24 dB of outdoor-to-indoor noise reduction and the south face will be required to achieve 27 dB of noise reduction to meet the City's 45 CNEL interior noise standard. This is greater than the 20 dB threshold discussed above and the hospital proposed for Mixed Use Planning Area would be potentially significantly impacted by noise.

The location of any buildings for the car dealership proposed for Auto Planning Area has not been determined. Buildings located at the north end of the planning area could be as close as 170 feet from the I-10 freeway and exposed to noise levels as high as 77 CNEL. Buildings located in areas exposed to noise levels higher than 75 CNEL (i.e. within 391 feet of the centerline of I-10) will require more than 20 dB of outdoor-to-indoor reduction to meet the City's 55 CNEL interior noise standard. This is greater than the 20 dB threshold discussed above and the auto dealership proposed for Auto Planning Area would be potentially significantly impacted by noise.

The analysis presented in this section concluded that outdoor recreation areas of the proposed hotels and patio areas of the proposed hospital could be exposed to noise levels in excess of the City's 65 CNEL criteria. However, the existence of, or specific location of these features is not known at this time as the site plans have not been developed to this level. None of the areas where these features would be expected to be located is projected to be exposed to noise levels in excess of 75 CNEL. Therefore, less than 10 dB of noise reduction would be required to achieve

the standard. Noise barriers provide at least 5 dB of reduction when they break line of sight between the observer and the noise source and 10 dB of reduction is readily feasible. Therefore, noise barriers could be used to achieve the standard and mitigate the impact. Mitigation through site design, locating these features away from noise sources and/or behind intervening buildings would be a preferable method to mitigate the impact. Mitigation Measure N-2 will ensure that these uses meet the City's Standards and mitigate the potential significant impact.

The analysis also concluded that all buildings proposed by the project will require more than 20 dB of outdoor-to-indoor noise reduction to meet the City's interior noise standards. Typical commercial construction achieves at least 20 dB of outdoor-to-indoor noise reduction. Detailed calculations are required to demonstrate achievement of more than 20 dB of reduction. These calculations require near complete architectural drawings for the proposed buildings, which are not available for this project at this time. The worst-case building will require up to 27 dB of reduction. This level of reduction is achievable with upgraded windows. Up to 35 dB of reduction is achievable with significant building upgrades. Mitigation Measures N-2 and N-3 will ensure that the buildings proposed by the project meet the City's noise standards.

Mitigation Measure N-2

Prior to issuance of building permits for a hotel that features an outdoor recreation area or a hospital that features outdoor patio areas a detailed noise assessment shall be prepared to show that noise levels in those areas will not exceed the City's 65 CNEL standard. The noise assessment shall be prepared by a qualified acoustical consultant and shall document the sources of noise impacting the areas and describe any measures required to meet the City's standard. These measures shall be incorporated into the project plans. The report shall be completed and approved by the City prior to issuance of building permits.

Mitigation Measure N-3

Prior to issuance of building permits for any structure with interior noise standards specified by the City a detailed noise assessment shall be prepared to demonstrate that the interior noise levels will not exceed the applicable standard. The noise assessment shall be prepared by a qualified acoustical consultant and shall document the sources of noise impacting the building and describe any measures required to meet the City's standard. These measures will be incorporated into the project plans. The report shall be completed and approved by the City prior to issuance of building permits.

Level of Significance After Mitigation

With these measures the impacts will be mitigated to a level that is less than significant.