4.9 NOISE

4.9.1 METHODOLOGY

This noise assessment follows City of Burbank guidelines on the preparation of noise studies, which include the City's Noise Element and Noise Control Ordinance. This study assesses noise impacts by discussing the current noise environment, evaluating short-term construction equipment noise, assessing long-term noise effects from project related mobile and stationary sources, and identifying mitigation measures and their effectiveness.

As commonly practiced in the acoustical industry, noise impacts can be classified in three categories. The first category is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 decibels (dB) or more, since this level of change has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise level changes has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant. Common sounds in decibels found in communities are shown in Figure 4.9.1. Appendix K1 contains a description of the characteristics and effects of sound and noise.

Noise levels are characterized in three ways in the analysis below: 1) in Ldn decibels for a 24 hour period, averaged and weighed; 2) in Lmax decibels of short duration, usually an instant reading from a stationary source; and 3) CNEL decibels, community noise equivalency for a 24 hour period, averaged and weighed, usually from a moving source along an established transportation route such as a roadway or air traffic route.

This noise impact analysis examines impacts associated with construction and occupation/use of the project site. Evaluation of the noise impacts includes assessment of the following:

- Existing ambient noise levels on and around the project site;
- Short-term construction noise impacts associated with Development Options A, D1-A, D1-B, or D1-C;
- Long-term traffic noise impacts associated with Development Options A, D1-A, D1-B, or D1-C;
- Long-term stationary noise impacts from on-site project activities, including operations, loading/unloading, and parking activities.

The City of Burbank's noise criteria have been used in this analysis to assess the project's impacts on and off site. Mitigation measures are identified where necessary to reduce the noise impacts to less than significant levels.

COMMON OUTDOOR SOUND LEVELS	NOISE LEVEL dB(A)	COMMON INDOOR SOUND LEVELS
	-110-	ROCK BAND
CONCORDE LANDING AT 370ft. 707 LANDING AT 370ft.		
707 TAKEOFF AT 1000ft.	-100-	INSIDE SUBWAY TRAIN (New York)
GAS LAWN MOWER AT 3ft.		
	-90-	
DIESEL TRUCK AT 50ft.		FOOD BLENDER AT 3ft.
NOISY URBAN DAYTIME	-80-	GARBAGE DISPOSAL AT 3ft. SHOUTING AT 3ft.
747 TAKEOFF AT 1000ft.	-70-	VACUUM CLEANER AT 10ft.
COMMERCIAL AREA		NORMAL SPEECH AT 3ft.
	-60-	
		LARGE BUSINESS OFFICE
QUIET URBAN DAYTIME	-50-	DISHWASHER NEXT ROOM
QUIET URBAN NIGHTTIME	-40-	SMALL THEATRE, LARGE CONFERENCE ROOM (Background)
QUIET SUBURBAN NIGHTTIME		LIBRARY
	-30-	
QUIET RURAL NIGHTTIME		BEDROOM AT NIGHT CONCERT HALL (Background)
	-20-	
		BROADCAST & RECORDING STUDIO
	-10-	
		THRESHOLD OF HEARING
	-0-	

Source: Brüel & Kjaer Instruments, Inc.

1/22/98(BUR730)

Figure 4.9.1

LSA

Common Noise Levels and Their Noise Sources

4.9.2 EXISTING ENVIRONMENTAL SETTING

Sensitive Land Uses in the Project Vicinity

There are existing one-story and two-story single family and multifamily residential uses located approximately 100 feet to the south of the larger parcel (B-1) of the project site, across the Union Pacific Railroad tracks. Single family residences are located to the west of the B-199 parcel. These land uses would be affected by construction on the project site, as well as future operations associated with Development Option A. Land uses to the north and east of the project site that could be affected by project related operational noise or traffic noise are commercial and industrial in nature, and are not considered noise sensitive. Residential areas farther north and west of the project site's B-1 subarea are at a distance of approximately 500 minimum, and up to 2,000 feet, and would not be affected by noise generated on site.

Overview of the Existing Noise Environment

The primary existing noise sources in the project area are transportation facilities. Traffic on Interstate 5 (I-5), Empire Avenue, San Fernando Boulevard/Victory Place, and Victory Boulevard near the site is a continuous source of area ambient noise in the project vicinity. Union Pacific Railroad train operations on the Coast Line and Main-line/Valleyline tracks generate high intermittent noise levels in the project vicinity. Frequent aircraft overflight from the nearby Burbank-Glendale-Pasadena Airport, considered one of the busiest general aviation airports, also contributes to the ambient noise. There are no other significant noise generators in the project vicinity (within 500 feet of the property boundaries, the maximum distance from which a noise source could possibly effect adjacent properties with cumulative noise impacts) that would substantially affect the project environs. The existing noise levels in the vicinity of the project site are described below.

Ambient Noise Monitoring in the Project Vicinity

Measurements of ambient noise levels were taken in the project area on December 16, 1997. Noise measurements were taken at 20 minute periods. Three measurements were taken to document existing ambient noise levels at representative existing noise sensitive receptor locations to the south of and adjacent to the project site. Additional two noise measurements were taken to the north of the site along Empire Avenue and Victory Place.

Table 4.9.A summarizes noise measurement data for these monitoring locations. As shown, the ambient noise levels range from 55.7 to 73.3 dBA Leq. Location 1 was near the southeast corner of the project site, at the north end of Mariposa Street. Location 2 is to the south of the project site, at the corner of Orchard Street and Pacific Avenue. Location 3 is at the corner of Buena Vista Street and Vanowen Street next to the rail-road tracks. The above three noise monitoring locations are adjacent to existing

Table 4.9.A - Ambient Noise Monitoring Results

Location	Time	Leq (dBA)	Noise Sources	Remark
1. At north end of Mariposa Street, west of the south parcel	10:45 a.m.	55.7	traffic on I-5 and Victory Boulevard, aircraft overflight	birds, dogs, and a lawn mower also contributed to ambient noise; near residential uses
2. Corner of Orchard Drive and Pacific Avenue, south of the north parcel	11:15 a.m.	73.3	freight train and Metrolink, traffic on Orchard Drive and Pacific Avenue, aircraft overflight	birds, dogs, fire trucks (remote) also contributed to ambient noise; near residential uses
3. Corner of Buena Vista Street and Vanowen Street, 25' from edge of Buena Vista Street	11:45 a.m.	68.5	traffic on Buena Vista Street and Vanowen Street, aircraft overflight	project site is located across from the railroad tracks; no train noise recorded; near residential uses
4. Corner of Lincoln Street and Empire Avenue, 50' from edge of Empire Avenue by a site gate	1:10 p.m.	62.5	traffic on Empire Avenue and Lincoln Street, aircraft overflight	I-5 is approximately 1/3 mile away; a bus stop is located across the street; near commercial uses
5. On Victory Place, midway between Empire Avenue and Coast Line rail tracks, 10' from edge of Victory Place	1:35 p.m.	70.8	traffic on Victory Place and I-5 (200 feet away); aircraft overflight	heavy equipment on the project site passing by; Mainline rail tracks between Victory Place and I-5; no train noise recorded; no existing uses adjacent

Source: LSA Associates, Inc., 1998

residences that are considered representative noise sensitive uses. Location 4 is at the corner of Lincoln Street and Empire Avenue, approximately 50 feet from Empire Avenue. Location 5 is along Victory Place midway between Empire Avenue and Coast Line railroad tracks. The last two noise monitoring locations were chosen to document existing ambient noise levels on the north side of the project site. Figure 4.9.2 depicts these noise monitoring locations.

Locations 3, 4, and 5 are all near a major roadway; therefore, traffic noise contributed to the higher ambient noise during the monitoring periods. Locations 1 and 2 are not near any major street with heavy traffic. However, Location 2 is approximately 50 feet from the Mainline tracks and experienced two high noise episodes from one freight train and one Metrolink train; therefore, this site recorded the highest ambient noise levels. A freight train with one locomotive and approximately 24 cars generated a maximum of 91 dBA (Lmax) from the locomotive and 85 dBA (Lmax) from the rail cars. The freight train did not sound its horn until after it passed this monitoring location (when it was approaching Buena Vista Street crossing); it registered 60 dBA by sounding the train horn at this monitoring location. The Metrolink train was relatively quiet when approaching the monitoring location (the sound level meter). However, the sounding horn warning people near the tracks resulted in a maximum of 98 dBA at 30 feet from the sound level meter. Passing locomotive and cars (ranging from three to six cars) associated with Metrolink operations generated approximately 85 dBA at a distance of 30 feet from the sound level meter. Relatively frequent aircraft overflight (ranging from 55 to 66 dBA Lmax) associated with the Glendale-Burbank-Pasadena Airport and other community noise events such as lawnmowers, fire trucks (remote), barking dogs (62 dBA Lmax), and chirping birds (48 dBA Lmax), also contributed to the measured ambient noise to a lesser degree.

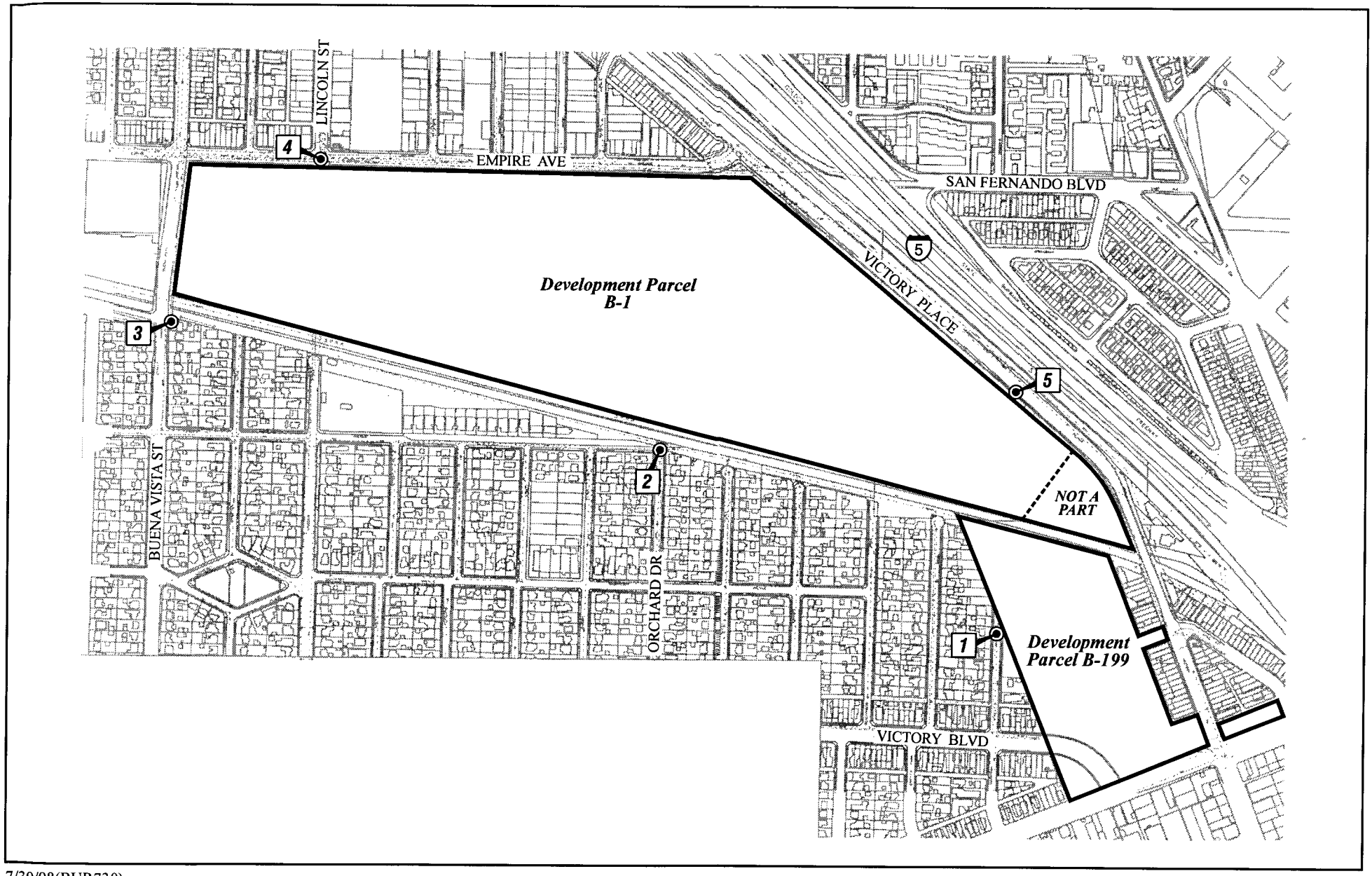
Existing Rail Noise

Per weekday, there are an average of eight freight trains and 22 Metrolink train operations along the Antelope Valley Line, and eight freight trains, 18 Metrolink train operations, and eight Amtrak trains on the Ventura County Line. The larger parcel of the project site (B-1) is located between these two rail line tracks. The smaller parcel of the project site (B-199) is located south of the Ventura County Line. Train operations on both tracks would contribute noise to the project site and areas adjacent to these tracks.

Among the Metrolink train operations, five trains pass before 7:00 a.m. and are considered to be operating in the more sensitive nighttime hours. The rest of Metrolink operations, a total of 35 trains, pass between 7 a.m. and 10 p.m.[1] Typically, Metrolink trains include one locomotive and two to six cars. In the project area, Metrolink trains would travel at speeds up to 79 miles per hour (mph).

---

[1] Memorandum, Karen Sakoda, Metrolink, November 19, 1999.



7/30/98(BUR730)

N

LSA No Scale

Figure 4.9.2

Burbank Empire Center
Noise Monitoring Locations

Amtrak operates approximately nine passenger trains bound for San Diego, daily through the project area. Typically, Amtrak trains include one locomotive and six to eight cars.

Amtrak also operates two Coast Starlight trains daily through the project area, one from south to north and one from north to south, between San Diego and Seattle. These trains typically include two locomotives and up to 15 cars per train.

Union Pacific Railroad operates a total of 16 freight trains through the project area daily. Freight trains vary in length and the number of locomotives or cars in each operation. An average freight train includes four locomotives and up to 40 cars, traveling at a speed up to 50 mph in the project vicinity. There is no fixed schedule for freight train operations.[1] However, it is assumed that it is a 24 hour operation, depending on market demands. Therefore, it is assumed that half of the freight train operations would pass during the day, and half would pass during nighttime hours.

As stated above, the measured train operation noise was approximately 91 dBA Lmax from the locomotive and 85 dBA Lmax from rail cars. These noise levels are very similar to train noise measured and documented in other studies of both freight trains and Amtrak operations, with a difference of one decibel (which is within the degree of uncertainty for noise measurement). The noise contours adjacent to the rail tracks can therefore be estimated for the existing conditions. The 75 dBA CNEL or Ldn noise contour would fall within the distance of 10 to 30 feet from the rail tracks; the 70 dBA CNEL/Ldn, 30 to 60 feet; the 65 dBA CNEL/Ldn, 60 to 120 feet; the 60 dBA CNEL/Ldn, 120 to 240 feet; the 55 dBA CNEL/Ldn. 240 to 500 feet; the 50 dBA CNEL/Ldn, 500 to 800 feet; and the 45 dBA CNEL/Ldn, beyond 800 feet from the rail tracks. Many of the existing residences located closest to and along the rail tracks are currently exposed to train noise exceeding the 60 dBA CNEL/Ldn, and possibly over 65 dBA CNEL/Ldn.

Existing Aircraft Noise/Aircraft Noise Exposure

Per CEQA Guidelines Section 21096, analysis of existing aircraft noise and aircraft noise exposure is provided. The project site is located southeast of the Burbank-Glendale-Pasadena Airport and is less than one mile from the airport. The project site is not within the 60 dBA Ldn noise contour of the airport. However, aircraft overflights from the airport contribute to ambient noise in the project area. According to the Final Environmental Impact Statement for the Burbank-Glendale-Pasadena Airport Acquisition and Replacement Terminal Project (September, 1995), both the existing (year 1990) and projected (year 2010) noise contours for the 65 CNEL noise exposure are primarily between Clybourn Avenue and Hollywood Way (Exhibit 5-3, Burbank-Glendale-Pasadena Airport Land Acquisition and Terminal Expansion Final EIS, September, 1995). The western boundary of the B-1 site is approximately 1,000 feet from the 65 CNEL noise contour. Since the project site is not located within the 65

---

[1] Telephone conversation with Mr. Paul Romero, Union Pacific Railroad Company.

dBA CNEL noise contour of the airport, no significant adverse impacts related to airport operation/noise are anticipated.

Existing Traffic Noise

Existing average daily traffic data were not calculated for the project area; therefore, existing roadway traffic noise levels were not calculated. However, existing traffic noise was monitored by LSA and is documented in Table 4.9.A. As demonstrated in Table 4.9.A, the project area experiences moderate (50 to 65 dBA) to high (greater than 65 dBA) traffic noise levels along major arterials and low (less than 50 dBA) to moderate roadway traffic noise levels along secondary roadways.

4.9.3 THRESHOLD OF SIGNIFICANCE CRITERIA

City of Burbank Noise Criteria

The applicable noise standards governing the project site and adjacent areas are the criteria in the City's Noise Element and Noise Control Ordinance. The following summarizes these noise criteria.

Noise Element of the General Plan

The City of Burbank adopted its Noise Element of the General Plan in 1992. The City's Noise Element has noise standards for various land uses potentially affected by mobile sources, most commonly affected by transportation facilities. These standards address the long-term impacts of noise from transportation sources, such as freeways/highways, railroads and the Burbank-Glendale-Pasadena Airport. The City identifies outdoor and indoor long-term noise limits for residential uses, places of worship, educational facilities, hospitals, hotels/motels, commercial and other land uses. The noise standard for exterior living areas is 60 dBA Ldn. Non-residential noise sensitive land uses, such as hospitals, rest homes, convalescent hospitals, places of worship and schools, also have a maximum outdoor noise criteria of 60 dBA Ldn, unless appropriate mitigation measures are included such that the interior noise standards contained in the General Plan Noise Element and in appropriate State and federal codes are met.

The long-term indoor noise standard for habitable rooms is 45 dBA Ldn, which is consistent with the standard in the California Noise Insulation Standard or Title 24, Part 2 of the California Code of Regulations. The City also enforces building sound transmission and indoor fresh air ventilation requirements specified in Chapter 35 of the Uniform Building Code.

Outdoor living areas are spaces that are associated with residential land uses typically used for passive recreational activities or other noise sensitive uses. Such spaces include patio areas, barbecue areas, Jacuzzi areas, etc., associated with residential uses;

outdoor patient recovery or resting areas, etc., associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship that have a significant role in services or other noise sensitive activities; and outdoor school facilities routinely used for educational purposes that may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas). The City does not specify noise standards for non-residential areas, except for sensitive land uses noted above.

In addition, the General Plan Noise Element includes a policy that all residential buildings or structures to be located within exterior Ldn or CNEL contours of 60 dBA or greater of an existing or adopted freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise sources shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior Ldn or CNEL of 45 dBA.

Noise Control Ordinance (Stationary Sources)

In its Municipal Code Chapter 21 (Environmental Protection), Article 2, Noise Control, the City adopted policy and restrictions on noise within the city limits. The City declared that "It is the policy of the City to prohibit unnecessary, excessive and annoying sounds which at certain levels and frequencies are detrimental to the health and welfare of the City's inhabitants and in the public interest must be systematically proscribed."

The City has established ambient noise levels that shall not be exceeded by more than five (5) decibels by any person with stationary sources, such as operating any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device (City of Burbank Noise Control Ordinance, 1987). The stationary source ambient noise base level for various land uses are listed in Table 4.9.B.

Table 4.9.B - Ambient Noise Base Level (Stationary Sources)

Base Levels	Time	Zone
45 dBA	nighttime	residential
55 dBA	daytime	residential
65 dBA	anytime	commercial
70 dBA	anytime	all other zones

Source: City of Burbank Noise Control Ordinance, 1987

When the ambient noise base level for the property on which the machinery, equipment, pump, fan, air conditioning apparatus, or similar device is located is higher than the ambient noise base level for adjacent property, the ambient noise base level for the adjacent property shall apply (City of Burbank Noise Control Ordinance, 1987).

For construction noise, the City requires that no person in a residential zone of the City, or within a radius of 500 feet from any residential zone, shall perform any outside construction during the nighttime (10:00 p.m. to 7:00 a.m.) in such manner that a reasonable person of normal sensitiveness residing in the residential zone is caused discomfort or annoyance. Construction noise during the allowed construction time periods are exempted from the noise level restrictions.

Emergency work necessary to restore property to a safe condition following a public calamity, or work required to protect persons or property from an imminent exposure to danger, or work by a private or public utility when restoring utility services shall not be restricted by the Noise Control Ordinance.

4.9.4 IMPACTS - DEVELOPMENT OPTION A

Less than Significant Impacts

Long-Term Aircraft Noise

The project site is not within the 60 dBA Ldn noise contour of the Burbank-Glendale-Pasadena Airport. Development Option A is not proposing noise sensitive land uses. Aircraft overflight from the airport would continue to contribute to ambient noise in the project area, but would not result in significant noise impacts on the project site.

Long-Term Rail Noise

Development Option A would not result in significant changes in the rail operations in the project area. Existing residents currently experience train noise exceeding 60 dBA Ldn, and high single event noise from train operations would continue to be exposed to similar train noise. The structural wall proposed on the project site would have a small effect on train noise in the residential neighborhood to the south of the tracks. Direct train noise to these residences is significantly higher than train noise bounced off the structural wall shown on project plans as a broken pattern, not a straight line of structures, and through the moving train to the residences; therefore, the reflected train noise would add little to the direct train noise. It is important to note that, after public comment at the City sponsored EIR scoping meeting, the applicant changed the project to delete a planned block wall directly adjacent to the train tracks and, instead, is proposing a screened chain link fence. However, it has been determined that an eight foot high block wall is necessary along the property lines adjacent to residences in order to mitigate long-term impacts from vehicle parking areas and loading/unloading areas in the rear of the commercial uses. A wall designed with a variegated surface would slightly reduce reflected train noise that might cause an impact to residences if the wall

were constructed of solid/flat plane concrete block. Long-term rail noise is considered a less than significant impact.

Long-Term Traffic Noise

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic related noise conditions in the vicinity of the project. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed and roadway geometry, to compute typical equivalent noise levels during daytime, evening and nighttime hours. The future with and without project conditions average daily traffic (ADT) volumes in the area were calculated from the peak hour traffic volumes prepared for this project by Parsons Brinckerhoff Quade & Douglas, Inc. (January 1998). The resultant noise levels are weighted and summed over 24 hour periods to determine the Ldn value. Ldn contours are derived through a series of computerized iterations to isolate the 60, 65, and 70 dBA Ldn contours for future traffic noise levels in the area.

Table 4.9.C provides the future with Development Option A conditions noise levels adjacent to roads near the project site. These noise levels represent the worst case scenario, which assumes that no shielding is provided between the highway traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix K2.

Data in Table 4.9.C show that for most of the roadway segments analyzed in the project vicinity the 70 dBA Ldn would be confined within the roadway right-of-way, except along Buena Vista Street north of San Fernando Boulevard, Hollywood Way north of Thornton Avenue, and Burbank Boulevard west of San Fernando Boulevard, where the 70 dBA Ldn would extend to 54, 58, and 54 feet, respectively, from the roadway centerline. Traffic noise levels under future with Development Option A project would have an insignificant increase (one dBA or less) over the future no build (baseline) level, except along Buena Vista Street, where there would be a decrease (0.01 dB) from the no build scenario. The decrease in traffic noise would be due to a decrease in traffic volume along this segment of Buena Vista Street. Future with Development Option A traffic noise level increases would be less than three dB over their corresponding no build levels. These increases would be considered less than significant. Therefore, Development Option A would have less than significant traffic noise impacts on off-site sensitive land uses. No mitigation measures are necessary.

Potentially Significant Impacts

Short-Term Construction Noise

Short-term noise impacts would be associated with demolition, excavation, grading, and building on site during construction of Development Option A. The construction related short-term noise levels would be higher than the existing ambient noise levels

Table 4.9.C - Development Option A Traffic Noise Level

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Buena Vista St. N/O[1] San Fernando Blvd.	37,090	54	111	237	68.4	1.4
Buena Vista St. ST Thornton Ave.	21,505	< 50[2]	79	166	66.0	0.7
Buena Vista St. Thornton to Empire Ave.	21,260	< 50	78	164	66.0	0.9
Buena Vista St. Empire to Van Owen Ave.	34,360	< 50	106	226	68.0	1.1
Buena Vista St. Van Owen to Victory Blvd.	29,510	< 50	96	204	67.4	1.1
Buena Vista St. Victory to Burbank Blvd.	26,205	< 50	89	189	66.9	0.5
Buena Vista St. Burbank to Magnolia Ave.	26,820	< 50	90	192	67.0	0.3
Buena Vista St. Magnolia Ave to Olive Ave.	25,760	< 50	89	187	66.4	0.1
Buena Vista St. Olive Ave. to Alameda Ave.	25,870	< 50	90	188	66.4	0.0
Buena Vista St. S/O Alameda Ave.	29,080	< 50	96	203	66.9	0.1
Hollywood Way N/O Thornton Ave.	38,810	58	116	245	68.1	0.2
Hollywood Way Thornton to Victory Blvd.	33,325	< 50	105	222	67.5	0.3
Hollywood Way Victory to Magnolia Ave.	23,590	< 50	85	177	66.0	0.2
Hollywood Way Magnolia to Alameda Ave.	27,800	< 50	94	197	66.7	0.1
Hollywood Way S/O Alameda Ave.	24,410	< 50	87	181	66.1	0.0
San Fernando Blvd. N/O Burbank Blvd.	20,130	< 50	75	159	65.7	0.3
San Fernando Blvd. S/O Burbank Blvd.	13,120	< 50	60	121	63.4	0.5
San Fernando Blvd. W/O Buena Vista St.	25,530	< 50	88	185	66.7	0.2
San Fernando Blvd. E/O Buena Vista St.	33,680	< 50	105	223	68.0	1.0
Thornton Ave. W/O Hollywood Way	770	< 50	< 50	< 50	51.5	0.1
Thornton Ave. Hollywood to Buena Vista St.	6,455	< 50	< 50	76	60.8	1.1
Thornton Ave. E/O Buena Vista St.	5,200	< 50	< 50	66	59.8	1.1

[1] N/O = north of, S/O = south of, ST= south to, W/O = west of, E/O = east of

[2] Traffic noise level within 50 feet of roadway centerline requires site-specific analysis.

Table 4.9.C - Development Option A Traffic Noise Level (Continued)

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Empire Ave. W/O Buena Vista St.	13,880	< 50	60	124	64.1	1.5
Empire Ave. E/O Buena Vista St.	25,090	< 50	87	183	66.7	2.3
Van Owen Ave. W/O Buena Vista St.	13,020	< 50	55	118	64.9	0.7
Van Owen Ave E/O Buena Vista St.	2,290	< 50	< 50	< 50	57.4	0.0
Victory Blvd. W/O Hollywood Way	20,660	< 50	77	161	65.8	0.6
Victory Blvd. Hollywood Way to Buena Vista St.	19,905	< 50	75	157	65.7	0.4
Victory Blvd. E/O Buena Vista St.	21,160	< 50	78	164	65.9	0.5
Burbank Ave. W/O Buena Vista St.	18,820	< 50	72	152	65.4	0.4
Burbank Ave. E/O Buena Vista St.	18,480	< 50	71	150	65.3	0.3
Burbank Blvd. W/O San Fernando Blvd.	37,140	54	111	238	68.4	0.3
Burbank Blvd. E/O San Fernando Blvd.	19,870	< 50	75	157	65.7	0.2
Magnolia Ave. W/O Hollywood Way	18,350	< 50	71	149	65.3	0.2
Magnolia Ave. Hollywood Way to Buena Vista St.	22,775	< 50	81	172	66.3	0.2
Magnolia Ave. E/O Buena Vista St.	24,270	< 50	85	179	66.5	0.1
Olive Ave. W/O Buena Vista St.	24,190	< 50	88	183	66.2	0.3
Olive Ave. E/O Buena Vista St.	24,500	< 50	87	181	66.1	0.1
Alameda Ave. W/O Hollywood Way	27,520	< 50	95	196	66.3	0.1
Alameda Ave. Hollywood Way to Buena Vista St.	20,745	< 50	80	163	65.0	0.1
Alameda Ave. E/O Buena Vista St.	19,530	< 50	78	157	64.8	0.1

Source: LSA Associates, Inc. 1999

in the project area today, but would no longer occur once construction of the project is complete.

Two types of short-term noise impacts could occur during the construction of Development Option A. First, the transport of workers and construction equipment and materials to the site for Development Option A would incrementally increase noise levels on access roads leading to the project site. Even though there would be a relatively high single event noise exposure potential with passing trucks (a maximum level of 87 dBA at 50 feet from the truck causing possible short-term intermittent annoyances), the effect on long-term ambient noise levels would be small when added to existing levels and averaged over a longer time period. The short-term construction related impacts associated with worker and equipment travel to the project site would not result in significant adverse impacts on existing noise levels by themselves. However, these noise impacts will combine with on-site noise sources (described below) to create a potentially significant impact on noise sensitive receptors along the access routes leading to the project site. These short-term noise impacts and nuisances can be reduced by selecting a truck route during project construction and restricting the hours of construction at the project site. Mitigation is recommended to address both of these items (Mitigation Measures 9.1 and 9.4).

The second type of short-term noise impact is related to noise generated on site during grading and building construction on the project site. There are residences immediately to the south and west of the project boundaries that may be subject to short-term noise generated by construction equipment and noise generating activities on the project site.

Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. Table 4.9.D lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor. Typical noise levels range up to 91 dBA at 50 feet during the noisiest construction phases.

The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earth moving equipment. Earth moving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders, and earth moving and compacting equipment, which includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Maximum noise levels at 50 feet from earthmoving equipment range from 68 to 99 dBA.

Table 4.9.D - Typical Construction Equipment Noise Level Before and After Mitigation

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81 to 96	93
Rock Drills	83 to 99	96
Jack Hammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	68 to 80	77
Dozers	85 to 90	88
Tractors	77 to 82	80
Front-End Loaders	86 to 90	88
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 86	86
Trucks	81 to 87	86

Source: *Noise Control for Buildings and Manufacturing Plants*, Bolt, Beranek and Newman 1987.

Construction of Development Option A is expected to require the use of earthmovers such as bulldozers and scrapers, loaders and graders, water trucks, and pickup trucks. They would be used on the project site during the construction period. As shown in Table 4.9.D, the maximum noise level generated by each earthmover on the project site is assumed to be 88 dBA at 50 feet from the operating earthmover. The maximum noise level generated by water and pickup trucks is approximately 86 dBA at 50 feet from these vehicles. Each doubling of the sound sources with equal strength would increase the noise level by 3 dBA. Assuming each piece of construction equipment operates at some distance apart from the other equipment, the worst case combined noise level at the nearest residences during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from active construction area.

City of Burbank requires that all construction vehicles and equipment, fixed or mobile, operated within 500 feet of a dwelling be equipped with properly operating and maintained mufflers. Stockpiling and/or vehicle staging areas are required to be located as far as practicable from dwellings. Construction activities are generally restricted to between 7:00 a.m. and 10:00 p.m. every day, with certain specific restrictions and exemptions.

The closest residential area immediately to the south and west of the project boundaries located at a distance of approximately 100 feet would potentially be exposed to construction noise levels exceeding 90 dBA L_{max} over a very short period of time when construction occurs at the project boundary near these residences. Construction noise during the allowed construction time periods are exempt from noise level restrictions. Compliance with the specified construction hours would be required to reduce the effects of this noise impact to a level less than significant. Construction of Development Option A would potentially result in noise levels exceeding 90 dBA L_{max} at the closest residences, approximately 100 feet from the project site. Somewhat lessening this potentially significant impact is the fact that construction would be temporary, and would affect the area directly adjacent to the active construction site. Nonetheless, the impacts created by vehicle trips to and from the site, combined with on-site noise sources during construction, produce a potentially significant impact. Mitigation Measures 9.1 and 9.2 are included to reduce construction noise impacts.

Long-Term On-Site Stationary Sources

The on-site stationary noise sources associated with commercial retail/restaurant/ office/hotel uses, such as outdoor speakers, outdoor paging, loading/unloading activities and parking lot activity, are potential point sources of noise that could affect noise sensitive receptors adjacent to these activities. As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a six decibel reduction in the noise level for each doubling of distance from a single point source of noise. An idling truck (approximately 75 dBA at 50 feet) waiting to unload would qualify as a point source of noise. A passing truck (approximately 87 dBA at 50 feet) and the loading/unloading activity (approximately 90 dBA at 50 feet) are also regarded as point sources.

On-site individual noise generating activity such as loading/unloading, trash pickup, door slams, and other parking related activity, may generate relatively high and intermittent noise, thereby potentially exceeding the City's noise standards in adjacent areas, especially during the more sensitive nighttime hours. Noise associated with on-site loading/unloading activities is not to exceed the City's established ambient noise base level, as listed in Table 4.9.B. Due to the proximity of the truck delivery and loading/unloading activities to existing residences, the City's noise standards would potentially be exceeded. Mitigation Measure 9.4 is included to reduce noise impacts from loading/unloading and trash pickup to below the City's noise standards.

Parking activities such as customers conversing, door slamming, and car braking, would generate approximately 60 dBA at 50 feet. This level of noise is much lower than that of the truck delivery and loading/unloading activities. However, due to the proximity of the proposed (employee) parking area to existing residences south of the project site, without restriction, this range of noise levels would exceed the City's 45 dBA nighttime and 55 dBA daytime ambient noise standards. In addition, car alarm activation would generate relatively high noise levels when it occurs in late evening hours.

Along the southern boundary of the B-1 site between the proposed retail and office uses and the residential area to the south, the railroad tracks are raised, and are higher than the ground floor of residences, therefore providing shielding to the backyards. However, some residences are not provided with such shielding due to the diminishing height of the railroad track berm on the western portion of the project, and will require mitigation for the project to comply with the City's noise standards. In addition, second floor bedrooms would be exposed to the loading/unloading and truck delivery noise exceeding the City's noise standards when windows are open. Noise reduction is provided through inclusion of Mitigation Measure 9.3, which provides for an eight foot masonry wall; noise in the parking lot and noise from loading/unloading is not anticipated to be a significant noise issue with respect to residences adjacent to the project site.

Overall, however, when the individual noise event is added to the typically lower ambient noise and averaged over a longer period of time throughout a 24 hour period, this causes the cumulative noise level to be lower than the maximum single event noise. Typical Southern California homes with windows open would achieve up to 15 dBA in exterior to interior noise reduction. When windows are closed, the noise attenuation increases to 25 dBA. Interior noise levels at the nearest noise sensitive receptor locations to the commercial retail/restaurant/office/hotel area would be below the State recommended 45 dBA CNEL/Ldn criterion. No significant noise impact is anticipated.

On-site loading/unloading activities, trash pickup, and parking lot activities associated with Development Option A would potentially result in noise that may exceed the City's noise standards at the closest residences during the more sensitive nighttime hours. Implementation of Mitigation Measures 9.3 and 9.5 will reduce potentially significant long-term on-site stationary noise impacts to below a level of significance.

4.9.5 MITIGATION MEASURES - DEVELOPMENT OPTION A

9.1 Prior to issuance of grading permits, the applicant shall specify construction hour restrictions on the grading plans. Due to the close proximity to residences, construction activity shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., everyday. The grading plan shall be submitted to and approved by the Director, Community Development..

9.2 Construction equipment shall be equipped with working muffler to minimize noise impacts during construction phase. Prior to issuance of grading permit, the applicant's on-site monitor (see Mitigation measure 8.1) shall submit an initial inspection report of all on-site equipment noting conditions of equipment mufflers. This report shall be updated on a weekly basis. All reports shall be submitted to and approved by the Director, Community Development, throughout the construction period of the project.

9.3 A sound barrier consisting of variegated concrete blocks or other suitable material with no gaps or other form of effective noise barrier shall be constructed between the proposed project and residences immediately adjacent to the project site where the railroad tracks do not provide noise shielding similar to an (effective) eight foot high barrier. The location, length, material and effective height of the sound barrier would be determined when final design of project layout and grading elevations are available and shall be verified by an acoustical study prior to issuance of permits for the wall by the Director, Community Development. The wall shall be constructed near the property lines adjacent to residences to effect a 3 to 6 dBA minimum noise level reduction, depending upon intervening topography and distance from the anticipated noise source prior to issuance of occupancy permits for uses on the B-199 site and uses along the southern property line on the B-1 site.

9.4 Prior to issuance of grading permits, the applicant shall prepare and submit for review and approval by the Director, Community Development, a planned route for construction equipment access and truck route to the project site that minimizes exposure of residential uses to construction related truck and equipment activity. Approved route maps shall be provided to contractors. A note shall be provided on all grading plans and building plans specifying the route to be followed for access to the site.

9.5 Outdoor speakers used for announcements and outdoor paging systems shall be prohibited throughout the site.

4.9.6 CUMULATIVE IMPACTS - DEVELOPMENT OPTION A

Construction activity and on-site stationary sources are localized noise sources and would affect only land uses immediately adjacent to the project site with direct line of sight. It is not anticipated that construction and operations (excluding vehicular traffic) at other off-site locations in the City of Burbank area would cumulatively add to project related noise impacts. In addition, each contractor will be required to comply with the

City Noise Ordinance. Therefore, cumulative construction noise impacts will be less than significant.

Table 4.9.C shows the cumulative traffic noise in the project vicinity in the future, with Development Option A. For all roadway segments analyzed, the 65 dBA Ldn extends more than 50 feet from the roadway centerline, except along Thornton Avenue. Cumulative traffic noise level increases over the baseline condition would be less than the three dBA threshold along all roadway segments analyzed. This is a less than significant noise impact. With the implementation of mitigation measures identified for each individual project, no significant cumulative noise impacts are anticipated.

4.9.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION - DEVELOPMENT OPTION A

With the implementation of the above mitigation measures, Development Option A would not result in significant construction noise, or experience significant adverse noise levels for residential uses.

4.9.8 IMPACTS - DEVELOPMENT OPTION D1-A

Less than Significant Impacts

Long-Term Aircraft Noise

Similar to Development Option A, aircraft overflight from the airport would continue to contribute to ambient noise in the project area, but would not result in significant noise impacts on the project site.

Long-Term Rail Noise

Implementation of Development Option D1-A would result in similar impacts to rail operations in the project area as Development Option A. An eight foot block wall is necessary along the property line adjacent to residences in order to mitigate long-term impacts from vehicle parking areas and loading/unloading areas in the rear of the commercial uses. With construction of the block wall, long-term rail noise is considered less than significant.

Long-Term Traffic Noise

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic related noise conditions in the vicinity of the project.

Table 4.9.E provides the future Development Option D1-A condition noise levels adjacent to roads near the proposed project site. These noise levels represent the worst case scenario, which assumes that no shielding is provided between the highway traffic and the location where the noise contours are drawn.

Table 4.9.E - Development Option D1-A Traffic Noise Level

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Buena Vista St. N/O[1] San Fernando Blvd.	32,720	< 50[2]	103	219	67.8	0.8
Buena Vista St. Thornton Ave.	20,390	< 50	76	160	65.8	0.5
Buena Vista St. Thornton to Empire Ave.	20,000	< 50	75	158	65.7	0.7
Buena Vista St. Empire to Van Owen Ave.	32,750	< 50	103	219	67.8	0.9
Buena Vista St. Van Owen to Victory Blvd.	32,450	< 50	102	217	67.8	1.5
Buena Vista St. Victory to Burbank Blvd.	25,700	< 50	88	186	66.8	0.5
Buena Vista St. Burbank to Magnolia Ave.	26,170	< 50	89	189	66.9	0.2
Buena Vista St. Magnolia Ave to Olive Ave.	25,535	< 50	89	186	66.3	0.1
Buena Vista St. Olive Ave. to Alameda Ave.	25,740	< 50	89	187	66.4	0.0
Buena Vista St. S/O Alameda Ave.	28,840	< 50	96	202	66.8	0.0
Hollywood Way N/O Thornton Ave.	38,650	58	115	244	68.1	0.2
Hollywood Way Thornton to Victory Blvd.	33,505	< 50	105	222	67.5	0.3
Hollywood Way Victory to Magnolia Ave.	23,830	< 50	85	178	66.0	0.2
Hollywood Way Magnolia to Alameda Ave.	27,645	< 50	93	196	66.7	0.1
Hollywood Way S/O Alameda Ave.	24,830	< 50	87	183	66.2	0.1
San Fernando Blvd. N/O Burbank Blvd.	20,280	< 50	76	159	65.7	0.3
San Fernando Blvd. S/O Burbank Blvd.	6,870	< 50	< 50	81	60.6	-2.3
San Fernando Blvd. W/O Buena Vista St.	22,870	< 50	82	173	66.3	-0.2
San Fernando Blvd. E/O Buena Vista St.	33,730	< 50	105	223	68.0	1.0
Thornton Ave. W/O Hollywood Way	740	< 50	< 50	< 50	51.4	-0.1
Thornton Ave. Hollywood to Buena Vista St.	6,570	< 50	< 50	77	60.9	1.2
Thornton Ave. E/O Buena Vista St.	4,920	< 50	< 50	64	59.6	0.8

[1] N/O = north of, S/O = south of, ST= south to, W/O = west of, E/O = east of

[2] Traffic noise level within 50 feet of roadway centerline requires site-specific analysis.

Table 4.9.E - Development Option D1-A Traffic Noise Level (Continued)

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Empire Ave. W/O Buena Vista St.	12,960	< 50	57	119	63.8	1.2
Empire Ave. E/O Buena Vista St.	23,230	< 50	82	174	66.3	2.0
Van Owen Ave. W/O Buena Vista St.	19,030	< 50	71	152	66.5	2.4
Van Owen Ave E/O Buena Vista St.	2,175	< 50	< 50	< 50	57.1	-0.3
Victory Blvd. W/O Hollywood Way	20,060	< 50	75	158	65.7	0.5
Victory Blvd. Hollywood Way to Buena Vista St.	19,790	< 50	75	157	65.6	0.4
Victory Blvd. E/O Buena Vista St.	20,530	< 50	76	161	65.8	0.3
Burbank Ave. W/O Buena Vista St.	18,210	< 50	71	148	65.3	0.3
Burbank Ave. E/O Buena Vista St.	17,690	< 50	70	146	65.2	0.1
Burbank Blvd. W/O San Fernando Blvd.	30,820	< 50	99	210	67.6	-0.5
Burbank Blvd. E/O San Fernando Blvd.	19,330	< 50	73	154	65.5	0.1
Magnolia Ave. W/O Hollywood Way	18,080	< 50	70	148	65.3	0.2
Magnolia Ave. Hollywood Way to Buena Vista St.	22,590	< 50	81	171	66.2	0.2
Magnolia Ave. E/O Buena Vista St.	23,870	< 50	84	177	66.5	0.1
Olive Ave. W/O Buena Vista St.	24,610	< 50	87	182	66.2	0.2
Olive Ave. E/O Buena Vista St.	24,230	< 50	86	180	66.1	0.1
Alameda Ave. W/O Hollywood Way	27,750	< 50	95	197	66.3	0.1
Alameda Ave. Hollywood Way to Buena Vista St.	20,545	< 50	80	162	65.0	0.1
Alameda Ave. E/O Buena Vista St.	19,320	< 50	77	156	64.7	0.0

Source: LSA Associates, Inc. 1999

Data in Table 4.9.E illustrate that most of the roadway segments analyzed in the project vicinity of the 70 dBA Ldn would be confined within the roadway right-of-way, except along Hollywood Way north of Thornton Avenue, where the 70 dBA would extend to 58 feet from the roadway centerline. Traffic noise levels under future with Development Option D1-A project would have a small increase (one dBA or less) over the future no build (baseline) level. Future with Development Option D1-A traffic noise level increases would be less than three dBA over their corresponding no build levels and are considered less than significant. Therefore, Development Option D1-A would result in less than significant long-term traffic noise impacts on off-site sensitive land uses.

Potentially Significant Impacts

Short-Term Construction Noise

Noise impacts associated with short-term construction on the project site under Development Option D1-A are similar to those of Development Option A. As with Development Option A, construction of Development Option D1-A would potentially result in noise levels exceeding 90 dBA L_{max} at the closest residences. However, construction would be temporary, and would primarily affect the area directly adjacent to the active construction site. Implementation of Mitigation Measures 9.1, 9.2, and 9.4 would reduce short-term construction noise to below a level of significance.

On-Site Stationary Sources

Similar to Development Option A, the on-site stationary noise sources of Development Option D1-A associated with commercial retail/restaurant/office/auto sales uses, such as loading and unloading activities, outdoor paging, and car repair and maintenance activities, are potential point sources of noise that could affect noise sensitive receptors adjacent to these activities. Noise associated with on-site stationary source activities shall not exceed the City's established ambient noise base level, as listed in Section 4.9.3. On-site stationary source activities associated with this project alternative would potentially result in noise annoyance at the residences in the immediate vicinity during the more sensitive nighttime hours. These impacts are considered potentially significant without mitigation. Implementation of Mitigation Measures 9.3 and 9.5 will reduce potentially significant long-term on-site stationary noise impacts to below a level of significance.

Significant Impacts

Similar to Development Option A, no significant impacts would result with implementation of Development Option D1-A.

4.9.9 MITIGATION MEASURES - DEVELOPMENT OPTION D1-A

The mitigation measures for Development Option A also apply to Development Option D1-A.

4.9.10 CUMULATIVE IMPACTS - DEVELOPMENT OPTION D1-A

Development Option D1-A would have similar cumulative impacts to those of Development Option A. No significant cumulative noise impact would occur.

4.9.11 LEVEL OF SIGNIFICANCE AFTER MITIGATION - DEVELOPMENT OPTION D1-A

No significant noise impact would occur under Development Option D1-A after implementation of all mitigation measures identified in Section 4.9.5.

4.9.12 IMPACTS - DEVELOPMENT OPTION D1-B

Less than Significant Impacts

Long-Term Aircraft Noise

Similar to Development Option A, aircraft overflight from the airport would continue to contribute to ambient noise in the project area, but would not result in significant noise impacts on project employees or visitors.

Long-Term Rail Noise

Implementation of Development Option D1-B would result in similar impacts to rail operations in the project area as Development Option A. An eight foot block wall is necessary along the property line adjacent to residences in order to mitigate long-term impacts from vehicle parking areas and loading/unloading areas in the rear of the commercial uses. With implementation of the block wall (Mitigation Measure 9.3), long-term rail noise is considered less than significant.

Long-Term Traffic Noise

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic related noise conditions in the vicinity of the project.

Table 4.9.F provides the future Development Option D1-B condition noise levels adjacent to roads near the proposed project site. These noise levels represent the worst case scenario, which assumes that no shielding is provided between the highway traffic and the location where the noise contours are drawn.

Table 4.9.F - Development Option D1-B Traffic Noise Level

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Buena Vista St. N/O[1] San Fernando Blvd.	34,700	< 50[2]	107	227	68.1	1.1
Buena Vista St. Thornton Ave.	21,010	< 50	77	163	65.9	0.6
Buena Vista St. Thornton to Empire Ave.	20,260	< 50	76	159	65.7	0.7
Buena Vista St. Empire to Van Owen Ave.	33,080	< 50	103	220	67.9	1.0
Buena Vista St. Van Owen to Victory Blvd.	28,290	< 50	94	199	67.2	0.9
Buena Vista St. Victory to Burbank Blvd.	25,930	< 50	88	187	66.8	0.5
Buena Vista St. Burbank to Magnolia Ave.	26,220	< 50	89	189	66.9	0.2
Buena Vista St. Magnolia Ave to Olive Ave.	25,570	< 50	89	186	66.3	0.1
Buena Vista St. Olive Ave. to Alameda Ave.	25,740	< 50	89	187	66.4	0.0
Buena Vista St. S/O Alameda Ave.	28,720	< 50	96	201	66.8	0.0
Hollywood Way N/O Thornton Ave.	38,350	57	115	243	68.1	0.2
Hollywood Way Thornton to Victory Blvd.	32,810	< 50	104	219	67.4	0.2
Hollywood Way Victory to Magnolia Ave.	23,400	< 50	84	176	65.9	0.1
Hollywood Way Magnolia to Alameda Ave.	27,680	< 50	94	196	66.7	0.1
Hollywood Way S/O Alameda Ave.	24,430	< 50	87	181	66.1	0.0
San Fernando Blvd. N/O Burbank Blvd.	19,630	< 50	74	156	65.6	0.2
San Fernando Blvd. S/O Burbank Blvd.	12,120	< 50	57	115	63.1	0.2
San Fernando Blvd. W/O Buena Vista St.	25,300	< 50	87	184	66.7	0.2
San Fernando Blvd. E/O Buena Vista St.	32,150	< 50	102	216	67.8	0.8
Thornton Ave. W/O Hollywood Way	780	< 50	< 50	< 50	51.6	0.1
Thornton Ave. Hollywood to Buena Vista St.	6,090	< 50	< 50	73	60.5	0.8
Thornton Ave. E/O Buena Vista St.	4,880	< 50	< 50	64	59.6	0.8

[1] N/O = north of, S/O = south of, ST= south to, W/O = west of, E/O = east of

[2] Traffic noise level within 50 feet of roadway centerline requires site-specific analysis.

Table 4.9.F - Development Option D1-B Traffic Noise Level (Continued)

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Empire Ave. W/O Buena Vista St.	13,240	< 50	58	121	63.9	1.3
Empire Ave. E/O Buena Vista St.	23,440	< 50	83	175	66.4	2.1
Van Owen Ave. W/O Buena Vista St.	10,830	< 50	< 50	105	64.1	0.0
Van Owen Ave E/O Buena Vista St.	2,290	< 50	< 50	< 50	57.4	0.0
Victory Blvd. W/O Hollywood Way	20,100	< 50	75	158	65.7	0.5
Victory Blvd. Hollywood Way to Buena Vista St.	19,670	< 50	74	156	65.6	0.4
Victory Blvd. E/O Buena Vista St.	20,590	< 50	76	161	65.8	0.3
Burbank Ave. W/O Buena Vista St.	17,660	< 50	69	146	65.1	0.1
Burbank Ave. E/O Buena Vista St.	17,850	< 50	70	147	65.2	0.1
Burbank Blvd. W/O San Fernando Blvd.	35,280	< 50	108	230	68.2	-0.1
Burbank Blvd. E/O San Fernando Blvd.	19,350	< 50	74	155	65.5	0.1
Magnolia Ave. W/O Hollywood Way	18,120	< 50	71	148	65.3	0.2
Magnolia Ave. Hollywood Way to Buena Vista St.	22,610	< 50	81	171	66.2	0.2
Magnolia Ave. E/O Buena Vista St.	23,890	< 50	84	178	66.5	0.1
Olive Ave. W/O Buena Vista St.	24,610	< 50	87	182	66.2	0.2
Olive Ave. E/O Buena Vista St.	24,220	< 50	86	180	66.1	0.1
Alameda Ave. W/O Hollywood Way	27,360	< 50	95	195	66.2	0.0
Alameda Ave. Hollywood Way to Buena Vista St.	20,510	< 50	80	162	65.0	0.1
Alameda Ave. E/O Buena Vista St.	19,290	< 50	77	156	64.7	0.0

Source: LSA Associates, Inc. 1999

Data in Table 4.9.F show that for most of the roadway segments analyzed in the project vicinity the 70 dBA Ldn would be confined within the roadway right-of-way, except along Hollywood Way north of Thornton Avenue, where the 70 dBA Ldn would extend to 57 feet from the roadway centerline. Traffic noise levels under future Development Option D1-B conditions would increase slightly over the future (baseline) level. These increases would be fewer than three dB and would be considered less than significant. Therefore, the Development Option D1-B scenario would have a less than significant traffic noise impacts on off-site sensitive land uses, similar to the proposed project. No mitigation measures are required.

Potentially Significant Impacts

Construction Noise

Noise impacts associated with short-term construction on the project site under Development Option D1-B are similar to those of Development Option A. As with Development Option A, construction of Development Option D1-B would potentially result in noise levels exceeding 90 dBA L_{max} at the closest residences. However, construction would be temporary, and would primarily affect the area directly adjacent to the active construction site. Implementation of Mitigation Measures 9.1, 9.2, and 9.4 would reduce short-term construction noise to a level below significance.

On-Site Stationary Sources

Similar to Development Option A, the on-site stationary noise sources of Development Option D1-B associated with commercial retail/restaurant/office/auto sales uses, such as loading and unloading activities, outdoor paging, and car repair and maintenance activities, are potential point sources of noise that could affect noise sensitive receptors adjacent to these activities. Noise associated with on-site stationary source activities shall not exceed the City's established ambient noise base level, as listed in Section 4.9.3. On-site stationary source activities associated with this project alternative would potentially result in noise annoyance at the residences in the immediate vicinity during the more sensitive nighttime hours. These impacts are considered potentially significant without mitigation. Implementation of Mitigation Measures 9.3 and 9.5 will reduce potentially significant long-term on-site stationary noise impacts to below a level of significance.

Significant Impacts

Similar to Development Option A, no significant impacts would result with implementation of Development Option D1-B.

4.9.13 MITIGATION MEASURES - DEVELOPMENT OPTION D1-B

The mitigation measures for Development Option A also apply to Development Option D1-B.

4.9.14 CUMULATIVE IMPACTS - DEVELOPMENT OPTION D1-B

Development Option D1-B would have similar cumulative impacts to those of Development Option A. No significant cumulative noise impact would occur.

4.9.15 LEVEL OF SIGNIFICANCE AFTER MITIGATION - DEVELOPMENT OPTION D1-B

No significant noise impact would occur under Development Option D1-B after implementation of all mitigation measures identified in Section 4.9.5.

4.9.16 IMPACTS - DEVELOPMENT OPTION D1-C

Less Than Significant Impacts

Long-Term Aircraft Noise

Similar to Development Options A, D1-A, and D1-B, aircraft overflight from the airport would continue to contribute to ambient noise in the project area, but would not result in significant noise impacts on the project site.

Long-Term Rail Noise

Implementation of Development Option D1-C would result in similar impacts to rail operations in the project area as Development Option A. An eight foot block wall is necessary along the property line adjacent to residences to mitigate long-term impacts from vehicle parking areas and loading/unloading areas in the rear of the commercial uses. With construction of the block wall, long-term rail noise is considered less than significant.

Long-Term Traffic Noise

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic related noise conditions in the vicinity of the project.

Table 4.9.G provides the future Development Option D1-C condition noise levels adjacent to roads near the proposed project site. These noise levels represent the worst case scenario, which assumes that no shielding is provided between the highway traffic

Table 4.9.G - Development Option D1-C Traffic Noise Level

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Buena Vista St. N/O[1] San Fernando Blvd.	34,950	< 50[2]	107	228	68.1	1.1
Buena Vista St. San Fernando Blvd. to Thornton Ave.	20,470	< 50	76	160	65.8	0.7
Buena Vista St. Thornton to Empire Ave.	18,440	< 50	71	150	65.3	0.3
Buena Vista St. Empire to Van Owen Ave.	30,080	< 50	97	207	67.5	0.6
Buena Vista St. Van Owen to Victory Blvd.	24,880	< 50	86	182	66.6	0.3
Buena Vista St. Victory to Burbank Blvd.	25,720	< 50	88	186	66.8	0.5
Buena Vista St. Burbank to Magnolia Ave.	26,480	< 50	90	190	66.9	0.2
Buena Vista St. Magnolia Ave to Olive Ave.	25,710	< 50	89	187	66.4	0.2
Buena Vista St. Olive Ave. to Alameda Ave.	25,760	< 50	89	187	66.4	0.0
Buena Vista St. S/O Alameda Ave.	28,840	< 50	96	201	66.8	0.0
Hollywood Way N/O Thornton Ave.	37,680	57	114	240	68.0	0.1
Hollywood Way Thornton to Victory Blvd.	32,180	< 50	103	217	67.3	0.1
Hollywood Way Victory to Magnolia Ave.	23,570	< 50	85	177	66.0	0.2
Hollywood Way Magnolia to Alameda Ave.	27,700	< 50	94	196	66.7	0.1
Hollywood Way S/O Alameda Ave.	24,480	< 50	87	181	66.1	0.0
San Fernando Blvd. N/O Burbank Blvd.	19,370	< 50	74	155	65.6	0.2
San Fernando Blvd. S/O Burbank Blvd.	11,850	< 50	57	113	63.0	0.1
San Fernando Blvd. W/O Buena Vista St.	25,870	< 50	88	187	66.8	0.3
San Fernando Blvd. E/O Buena Vista St.	33,120	< 50	104	220	67.9	0.9
Thornton Ave. W/O Hollywood Way	700	< 50	< 50	< 50	51.1	-0.4
Thornton Ave. Hollywood to Buena Vista St.	5,240	< 50	< 50	67	59.9	0.2

[1] N/O = north of, S/O = south of, ST= south to, W/O = west of, E/O = east of

[2] Traffic noise level within 50 feet of roadway centerline requires site-specific analysis.

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn 50 feet from Outer-most Lane	Increase from No Build Level (dBA)
Thornton Ave. E/O Buena Vista St.	2,040	< 50	< 50	< 50	59.8	0.7
Empire Ave. W/O Buena Vista St.	16,430	< 50	66	139	64.8	2.2
Empire Ave. E/O Buena Vista St.	27,850	< 50	93	196	67.1	2.8
Van Owen Ave. W/O Buena Vista St.	9,180	< 50	< 50	94	63.4	-0.7
Van Owen Ave E/O Buena Vista St.	0	< 50	< 50	< 50	N/A	N/A
Victory Blvd. W/O Hollywood Way	20,460	< 50	76	160	65.8	0.6
Victory Blvd. Hollywood Way to Buena Vista St.	38,600	55	114	244	68.5	3.3
Victory Blvd. E/O Buena Vista St.	20,020	< 50	75	158	65.7	0.2
Burbank Ave. W/O Buena Vista St.	18,060	< 50	70	148	65.2	0.2
Burbank Ave. E/O Buena Vista St.	17,220	< 50	68	143	65.0	-0.1
Burbank Blvd. W/O San Fernando Blvd.	31,350	< 50	100	212	67.6	-0.7
Burbank Blvd. E/O San Fernando Blvd.	18,370	< 50	71	149	65.3	-0.1
Magnolia Ave. W/O Hollywood Way	18,170	< 50	71	148	65.3	0.2
Magnolia Ave. Hollywood Way to Buena Vista St.	22,590	< 50	81	171	66.2	0.2
Magnolia Ave. E/O Buena Vista St.	24,450	< 50	85	180	66.6	0.2
Olive Ave. W/O Buena Vista St.	24,860	< 50	88	183	66.2	0.2
Olive Ave. E/O Buena Vista St.	24,360	< 50	86	180	66.1	0.1
Alameda Ave. W/O Hollywood Way	27,470	< 50	95	196	66.3	0.1
Alameda Ave. Hollywood Way to Buena Vista St.	20,350	< 50	80	161	65.0	0.1
Alameda Ave. E/O Buena Vista St.	19,370	< 50	77	156	64.7	0.0

Source: LSA Associates, Inc. 1999

and the location where the noise contours are drawn. The increase in traffic noise under this project alternative would be 3.3 dBA or less when compared to the No Build scenario. This range of noise level changes is considered less than significant.

Potentially Significant Impacts

Short-Term Construction Noise

Noise impacts associated with short-term construction on the B-1 portion of the project site under Development Option D1-C are similar to those of Development Option A. As with Development Option A, construction of Development Option D1-C would potentially result in noise levels exceeding 90 dBA L_{max} at the closest residences. However, construction would be temporary, and would primarily affect the area directly adjacent to the active construction site. Implementation of Mitigation Measures 9.1, 9.2, and 9.4 would reduce short-term construction noise to below a level of significance.

Construction noise on the B-199 portion of the project site for Option D1-C would also result in noise levels exceeding 90 dBA L_{max} at the closest residences located approximately 100 feet to the west. Although the retail club warehouse will be one large structure of approximately 155,804 sf, the overall total square footage would be similar to the other development options, which include several smaller buildings. Since the retail club warehouse is one structure, construction noise would occur in a concentrated amount of time, as opposed to construction of several smaller buildings (i.e., with Development Options A, D1-A, or D1-B) which could occur over a longer period of time. Construction noise would be temporary and would primarily affect the area directly adjacent to the active construction site. Implementation of Mitigation Measures 9.1, 9.2, and 9.4 would reduce short-term construction noise to below a level of significance.

On-Site Stationary Sources

Similar to Development Option A, the on-site stationary noise sources of Development Option D1-C associated with commercial retail/restaurant/office/auto sales uses/retail club warehouse, such as loading and unloading activities, outdoor paging, and car repair and maintenance activities, are potential point sources of noise that could affect noise sensitive receptors adjacent to these activities. Noise associated with on-site stationary source activities shall not exceed the City's established ambient noise base level, as listed in Section 4.9.3. On-site stationary source activities associated with this project alternative would potentially result in noise annoyance at the residences in the immediate vicinity during the more sensitive nighttime hours. These impacts are considered potentially significant without mitigation. Implementation of Mitigation Measures 9.3 and 9.5 will reduce potentially significant long-term on-site stationary noise impacts to below a level of significance.

Significant Impacts

Similar to Development Option A, no significant impacts would result with implementation of Development Option D1-C.

4.9.17 MITIGATION MEASURES - DEVELOPMENT OPTION D1-C

The mitigation measures for Development Option A also apply to Development Option D1-C.

4.9.18 CUMULATIVE IMPACTS - DEVELOPMENT OPTION D1-C

Development Option D1-C would have similar cumulative impacts to those of Development Option A. No significant cumulative noise impact would occur.

4.9.19 LEVEL OF SIGNIFICANCE AFTER MITIGATION - DEVELOPMENT OPTION D1-C

No significant noise impact would occur under Development Option D1-C after implementation of all mitigation measures identified in Section 4.9.5.