INTRODUCTION

This section discusses and analyzes the ambient noise characteristics of the Rancho Cordova Planning Area. The information provided in this section is based on the Sacramento County General Plan (1993), the proposed City of Rancho Cordova General Plan (2006), and technical assessment by Bollard Acoustical Consultants, Inc.

4.7.1 SETTING

BACKGROUND AND TERMINOLOGY

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers is a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. **Table 4.7-1** shows examples of noise levels for several common noise sources and environments.

TABLE 4.7-1
TYPICAL A-WEIGHTED SOUND LEVELS OF COMMON NOISE SOURCES

Decibels	Description
130	Threshold of pain
120	Jet aircraft take-off at 100 feet
110	Riveting machine at operators position
100	Shotgun at 200 feet
90	Bulldozer at 50 feet
80	Diesel locomotive at 300 feet
70	Commercial jet aircraft interior during flight
60	Normal conversation speech at 5 - 10 feet
50	Open office background level
40	Background level within a residence
30	Soft whisper at 2 feet
20	Interior of recording studio

EFFECTS OF NOISE ON PEOPLE

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in decibels.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}) over a given time period (usually one hour). The L_{eq} is the foundation of the Day-Night Average Level noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The Day-night Average Level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Noise in the community has been cited as being a health problem, not in terms of actual physiological damages such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities such as sleep, speech, recreation and tasks demanding concentration or coordination. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases, and the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well-being are the bases for policies preventing exposures to excessive community noise levels.

To control noise from fixed sources which have developed from processes other than zoning or land use planning, many jurisdictions have adopted community noise control ordinances. Such ordinances are intended to abate noise nuisances and to control noise from existing sources. They may also be used as performance standards to judge the creation of a potential nuisance, or potential encroachment of sensitive uses upon noise-producing facilities. Community noise control ordinances are generally designed to resolve noise problems on a short-term basis (usually by means of hourly noise level criteria), rather than on the basis of 24-hour or annual cumulative noise exposures.

In addition to the A-weighted noise level, other factors should be considered in establishing criteria for noise sensitive land uses. For example, sounds with noticeable tonal content such as whistles, horns, droning or high-pitched sounds may be more annoying than the A-weighted sound level along suggests. Many noise standards apply a penalty, or correction, or 5 dBA to such sounds. The effects of unusual tonal content are generally more of a concern at nighttime, when residents may notice the sound in contrast to low levels of background noise.

Because many rural residential areas experience very low noise levels, residents may express concern about the loss of "peace and quiet" due to the introduction of a sound which was not audible previously. In very quiet environments, the introduction of virtually any change in local activities will cause an increase in noise levels. A change in noise level and the loss of "peace

and quiet" is the inevitable result of land use or activity changes in such areas. Audibility of a new noise source and/or increases in noise levels within recognized acceptable limits are not usually considered to be significant noise impacts, but these concerns should be addressed and considered in the planning and environmental review processes.

EXISTING AND FUTURE NOISE CONDITIONS IN THE PLANNING AREA

The major noise sources in the City of Rancho Cordova and Planning Area consist of State Route 16, U.S. 50 and local traffic on streets, commercial and industrial uses, active recreation of parks, outdoor play areas of schools, and railroad operations. Each of these noise sources is discussed individually below.

Transportation Noise Sources

Roadway Traffic Noise Levels

Major roadways within the City of Rancho Cordova include State Routes 50 and 16, Sunrise Boulevard, Folsom Boulevard, White Rock Road, Zinfandel Drive, Bradshaw Road, and others. The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108), with the Calveno vehicle noise emission curves, was used to predict existing and cumulative traffic noise levels for these roadways and others within the City of Rancho Cordova.

Tables 4.7-2 through **4.7-3** show existing and year 2030 (under the proposed General Plan) traffic volumes, noise levels and distances to traffic noise contours for the major roadways located within the City of Rancho Cordova. The future scenarios represent cumulative traffic conditions under the proposed land use It is recognized that vehicle speeds vary considerably on roadways in the City of Rancho Cordova, particularly due to the fact that the reductions in speed are frequently necessary because of traffic signals and stop signs at roadway intersections. In order to provide a generally worst-case estimate of existing traffic noise along the roadways within City of Rancho Cordova, a normalized speed of 65 mph was applied to highways and a speed of 45 mph was applied to all other roadways in the modeling effort. The contour distances should also be considered conservative in that they do not account for local topographic or structural shielding.

TABLE 4.7-2
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL DATA INPUTS AND DISTANCES FROM CENTERLINE TO 60 AND 65 DB L_{DN} CONTOURS
CITY OF RANCHO CORDOVA NOISE ELEMENT - EXISTING CONDITIONS

Roadway	From	To	Existing ADT	Ldn @ 100 ft.	Distance (ft) to 70 dB Ldn	Distance (ft) to 65 dB Ldn	Distance (ft) to 60 dB Ldn
SR 16	Excelsior Rd	Eagles Nest Rd	11,400	68	69	150	322
SR 16	Sunrise Blvd	Grant Line Rd	15,400	69	85	183	394
SR 16	Grant Line Rd	East of Grant Line Rd	12,300	68	73	157	339
SR 16	Excelsior Rd	Bradshaw Rd	13,700	68	79	169	364
Kiefer Blvd	Grant Line Rd	SR 16	1,625	55	10	21	45
Mather Blvd	Femoyer St	Douglas	6,000	61	23	50	108
Douglas Rd	Mather Blvd	Sunrise	5,000	60	21	44	96
Douglas Rd	Sunrise Blvd	Grant Line	2,300	56	12	26	57
International Dr	South White Rock Rd	Zinfandel	12,000	64	37	80	172
International Dr	Zinfandel Dr	Kilgore	6,800	61	25	55	117
White Rock Rd	Zinfandel Dr	Sunrise	17,900	65	48	104	224
White Rock Rd	Sunrise Blvd	Grant Line	4,400	59	19	41	88
Folsom Blvd	Sunrise Blvd	Hazel	13,300	64	40	85	184
Folsom Blvd	Watt	Bradshaw	24,900	67	60	130	279
Folsom Blvd	Bradshaw	Mather	22,700	66	57	122	262
Folsom Blvd	Mather	Coloma	33,500	68	73	158	340
Folsom Blvd	Coloma	Zinfandel	26,100	67	62	134	288
Folsom Blvd	Zinfandel	Sunrise	17,000	65	47	100	216
Mather Field Rd	Folsom Blvd	US-50 WB ramps	26,400	67	63	135	290
Mather Field Rd	US-50 EB Ramps	International	33,700	68	74	159	342
Zinfandel Dr	Folsom Blvd	US-50 WB Ramps	22,700	66	57	122	262
Zinfandel Dr	US-50 EB Ramps	White Rock	41,900	69	85	183	395
Zinfandel Dr	White Rock Rd	International	19,700	66	51	111	239

Roadway	From	To	Existing ADT	Ldn @ 100 ft.	Distance (ft) to 70 dB Ldn	Distance (ft) to 65 dB Ldn	Distance (ft) to 60 dB Ldn
Zinfandel Dr	Folsom Blvd	Sunrise	10,600	63	34	73	158
Sunrise Blvd	Gold Country Blvd	Coloma	75,800	72	126	272	586
Sunrise Blvd	Coloma Rd	US-50 WB Ramps	82,400	72	134	288	620
Sunrise Blvd	US-50 EB Ramps	Folsom Blvd	52,100	70	98	212	457
Sunrise Blvd	Folsom Blvd	White Rock	37,200	68	79	169	365
Sunrise Blvd	White Rock Rd	Douglas	24,600	67	60	129	277
Sunrise Blvd	Douglas Rd	SR 16	20,000	66	52	112	241
Sunrise Blvd	SR 16	Grant Line Rd	13,600	64	40	87	186
Hazel Ave	US-50 WB Ramps	Winding Way	53,000	70	100	214	462
Grant Line Rd	White Rock Rd	Douglas	6,000	61	23	50	108
Grant Line Rd	Douglas Rd	SR 16	6,700	61	25	54	116
Grant Line Rd	SR 16	Sunrise	5,600	60	22	48	103
Coloma Rd	Sunrise Blvd	Folsom	20,400	66	53	113	244
Gold Country	Sunrise Blvd	Hazel	9,700	63	32	69	149
Bradshaw Rd	Old Placerville Rd	Kiefer	33,900	68	74	159	343
Rancho Cordova Pkwy	US-50	White Rock	NA	NA	NA	NA	NA
Rancho Cordova Pkwy	White Rock	Douglas	NA	NA	NA	NA	NA
International	Rancho Cordova Pkwy	Sunrise	NA	NA	NA	NA	NA
International	Sunrise	White Rock	NA	NA	NA	NA	NA
International	White Rock	Bradshaw	NA	NA	NA	NA	NA
US-50	Bradshaw Rd	Mather Field Rd	184,000	80	497	1071	2307
US-50	Mather Field Rd	Zinfandel	168,000	80	468	1008	2171
US-50	Zinfandel Blvd	Sunrise	149,000	80	432	930	2004
US-50	Sunrise Blvd	Hazel	122,000	79	378	814	1754
US-50	Folsom Blvd	Hazel Ave	108,000	78	348	751	1617
US-50	Folsom Blvd	Prairie City Rd	95,000	78	320	689	1485

Source: Bollard Acoustical Consultants, 2006

TABLE 4.7-3
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODELED NOISE LEVELS AND DISTANCES FROM CENTERLINE TO 60, 65, AND 70 DB LDN CONTOURS
CITY OF RANCHO CORDOVA NOISE ELEMENT - YEAR 2030 CONDITIONS UNDER THE PROPOSED GENERAL PLAN

Roadway	From	To	Post 2030 Roadway Network Build Out	Ldn @ 100 ft.	Distance (ft) to 70 dB Ldn	Distance (ft) to 65 dB Ldn	Distance (ft) to 60 dB Ldn
SR 16	Excelsior Rd	Eagles Nest Rd	47,700	74	180	389	837
SR 16	Sunrise Blvd	Grant Line Rd	35,300	73	148	318	685
SR 16	Grant Line Rd	East of Grant Line Rd	28,900	72	129	278	599
SR 16	Excelsior Rd	Bradshaw Rd	53,800	74	195	421	907
Kiefer Blvd	Grant Line Rd	SR 16	24,800	67	60	129	278
Mather Blvd	Femoyer St	Douglas	28,800	67	66	143	308
Douglas Rd	Mather Blvd	Sunrise	26,200	67	62	134	289
Douglas Rd	Sunrise Blvd	Grant Line	23,100	66	57	123	265
International Dr	South White Rock Rd	Zinfandel	71,400	71	121	261	563
International Dr	Zinfandel Dr	Kilgore	70,600	71	120	260	559
White Rock Rd	Zinfandel Dr	Sunrise	39,000	69	81	175	376
White Rock Rd	Sunrise Blvd	Grant Line	48,800	70	94	203	437
Folsom Blvd	Sunrise Blvd	Hazel	29,200	67	67	144	310
Folsom Blvd	Watt	Bradshaw	25,900	67	62	133	287
Folsom Blvd	Bradshaw	Mather	26,900	67	63	136	294
Folsom Blvd	Mather	Coloma	39,900	69	82	177	382
Folsom Blvd	Coloma	Zinfandel	30,000	67	68	147	316
Folsom Blvd	Zinfandel	Sunrise	24,800	67	60	129	278
Mather Field Rd	Folsom Blvd	US-50 WB ramps	39,300	69	82	176	378
Mather Field Rd	US-50 EB Ramps	International	64,600	71	114	245	527
Zinfandel Dr	Folsom Blvd	US-50 WB Ramps	31,500	68	70	152	326

Roadway	From	To	Post 2030 Roadway Network Build Out	Ldn @ 100 ft.	Distance (ft) to 70 dB Ldn	Distance (ft) to 65 dB Ldn	Distance (ft) to 60 dB Ldn
Zinfandel Dr	US-50 EB Ramps	White Rock	80,100	72	131	282	608
Zinfandel Dr	White Rock Rd	International	44,500	69	89	191	411
Zinfandel Dr	Folsom Blvd	Sunrise	12,400	64	38	81	175
Sunrise Blvd	Gold Country Blvd	Coloma	95,700	73	148	318	685
Sunrise Blvd	Coloma Rd	US-50 WB Ramps	109,100	73	161	347	747
Sunrise Blvd	US-50 EB Ramps	Folsom Blvd	65,300	71	114	246	531
Sunrise Blvd	Folsom Blvd	White Rock	43,700	69	87	188	406
Sunrise Blvd	White Rock Rd	Douglas	44,700	69	89	191	412
Sunrise Blvd	Douglas Rd	SR 16	43,400	69	87	188	404
Sunrise Blvd	SR 16	Grant Line Rd	30,000	67	68	147	316
Hazel Ave	US-50 WB Ramps	Winding Way	117,900	73	170	365	787
Grant Line Rd	White Rock Rd	Douglas	68,400	71	118	254	547
Grant Line Rd	Douglas Rd	SR 16	45,800	69	90	194	419
Grant Line Rd	SR 16	Sunrise	34,000	68	74	159	344
Coloma Rd	Sunrise Blvd	Folsom	25,800	67	62	133	286
Gold Country	Sunrise Blvd	Hazel	13,100	64	39	84	182
Bradshaw Rd	Old Placerville Rd	Kiefer	75,100	71	126	270	583
Rancho Cordova Pkwy	US-50	White Rock	48,700	70	94	203	437
Rancho Cordova Pkwy	White Rock	Douglas	24,100	67	59	127	273
International	Rancho Cordova Pkwy	Sunrise	18,000	65	48	104	225
International	Sunrise	White Rock	71,300	71	121	261	563
International	White Rock	Bradshaw	62,000	71	110	238	513
US-50	Bradshaw Rd	Mather Field Rd	213,500	81	549	1182	2547

Roadway	From	To	Post 2030 Roadway Network Build Out	Ldn @ 100 ft.	Distance (ft) to 70 dB Ldn	Distance (ft) to 65 dB Ldn	Distance (ft) to 60 dB Ldn
US-50	Mather Field Rd	Zinfandel	189,300	81	506	1091	2351
US-50	Zinfandel Blvd	Sunrise	168,600	80	469	1010	2176
US-50	Sunrise Blvd	Hazel	153,300	80	440	948	2042
US-50	Folsom Blvd	Hazel Ave	133,000	79	400	862	1858
US-50	Folsom Blvd	Prairie City Rd	118,800	79	371	800	1723

Source: Bollard Acoustical Consultants, 2006

Railroads

There is no current freight train activity in the City of Rancho Cordova, but the City is served by Regional Transit Light Rail along the Folsom Boulevard / U.S. 50 corridor.

In order to quantify train activity and the associated noise levels along the light-rail tracks, a short-term noise monitoring survey of light-rail train activity was conducted along the tracks between the Hazel Avenue and Iron Point Stations on January 5-6, 2006. The results were compared to similar data previously collected adjacent to light rail tracks.

Based on the Sacramento Regional Transit Gold Line Light Rail Schedule, it was determined that approximately 137 train pass-bys occur per day along the double tracks west of Hazel Avenue and approximately 59 train pass-bys occur per day along the single tracks east of Hazel Avenue. The Sound Exposure Level (SEL) of individual trains was recorded along with the duration and maximum noise level during the monitoring survey. The aggregate of the data collected indicates that at a distance of 100 feet, the average train operating on these tracks will produce an SEL of approximately 90 dB with usage of the warning horn, and approximately 86 dB without the usage of the horn. Trains are generally required to sound warning horns as they approach at-grade crossings located within the City of Rancho Cordova.

Table 4.7-4 shows the computed light rail train noise levels in terms of Ldn at a distance of 100 feet from the tracks. **Table 4.7-5** shows the predicted distances to the light rail noise contours in feet. These tables are broken into three categories corresponding to locations where no warning horns are applied (approximately 500+ feet from at grade crossings), locations where warning horns are applied but sufficiently removed from warning bells (approximately 100 to 500 feet from the intersection), and locations affected by both warning horns and warning bells (within 100 feet from the at-grade intersection).

TABLE 4.7-4
COMPUTED LIGHT-RAIL L_{DN}
RANCHO CORDOVA, CA

Light Rail Operations	Ldn @ 100' from Center Line of Tracks - within various proximities to grade crossing (G/C)		
	0-100' from G/C	100'-500' from G/C	500'+ from G/C
East of Hazel Ave.	62	60	58
Hazel Ave. to Watt Ave.	67	65	63

Source: Bollard Acoustical Consultants, Inc., 2006.

TABLE 4.7-5
DISTANCES TO 60 dB L_{DN} LIGHT RAIL NOISE LEVEL CONTOUR
RANCHO CORDOVA, CA

Light-Rail Operations	Distance from Center Line of Tracks to 60 dB L_{dn} Noise Level Contour in Feet – within various proximities to grade crossing (G/C)		
	0-100' from G/C	100'-500' from G/C	500'+ from G/C
East of Hazel Ave.	140	100	75
Hazel Ave. to Watt Ave.	270	200	150

Source: Bollard Acoustical Consultants, Inc., 2006.

Airports

Mather Airport (formerly Mather Air Force Base [AFB]) has been open as a public-use air cargo and general aviation airport since May 5, 1995. Managed by the County Department of Airports, the airport, which operates 24 hours per day, consists of two primary runways, one 11,300 feet long and the other 6,100 feet long, generally aligned in a northeast-to-southwest direction. Mather Airport is a joint-use facility, supporting both military and commercial operations, and is rapidly developing as an air cargo depot. The airport includes approximately 40 acres of exclusive air cargo ramp space.

Following the closure of Mather AFB in 1988, the County adopted a reuse plan for Mather Airport in fall 1991. The Mather Airport Comprehensive Land Use Plan (CLUP) was subsequently adopted in May 1997. SACOG is in the process of updating the CLUP and renaming it the Mather Airport Land Use Compatibility Plan (ALUCP). As depicted in **Figure 4.1-5** in Section 4.1 (Land Use) of this EIR, portions of the project site are located within the currently adopted 60- and 65-dBA CNEL noise contours of the CLUP for Mather Airport. These noise contours, however, have been proposed for revision as part of the development of the Mather Airport Master Plan, which is currently being prepared by the Sacramento County Airport System. The noise contours are being revised to account for existing and projected changes in aircraft operations that have occurred since development of the CLUP for Mather Airport.

Single-event noise associated with aircraft overflight is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of Lmax, which is the maximum sound level recorded for each event. A different measurement of single-event noise, also commonly used when evaluating aircraft noise, is the SEL. The SEL describes the event's mean energy level over the duration of the noise event. As would be expected, single-event noise levels for aircraft overflights within the Planning Area would be greatest and most frequent near the airport's primary flight paths.

Non-transportation Noise Sources

The production of noise is a result of many processes and activities, even when best available noise control technology is applied. Noise exposures within industrial facilities are controlled by Federal and State employee health and safety regulations (OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses.

From a land use planning perspective, fixed-source (also referred to as "stationary" or "non-transportation") noise control issues focus upon two goals: to prevent the introduction of new noise-producing uses in noise-sensitive areas, and to prevent encroachment of noise-sensitive land uses upon existing noise facilities. The first goal can be achieved by applying noise performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in proximity to noise-producing facilities include mitigation measures to ensure compliance with those noise performance standards.

Descriptions of representative fixed noise sources in the City of Rancho Cordova are provided below. These uses are intended to be representative of the relative noise generation of such uses, and are intended to identify specific noise sources which should be considered in the review of development proposals. The following examples are not intended to be a comprehensive list of noise sources within the City. Site-specific noise analyses should be

performed where noise sensitive land uses are proposed in proximity to these (or similar) noise sources, or where similar sources are proposed to be located near noise-sensitive land uses.

General Service Commercial and Light Industrial Uses

Noise sources associated with service commercial uses such as automotive repair facilities, wrecking yards, tire installation centers, car washes, loading docks, etc., are found at various locations within the City of Rancho Cordova. The noise emissions of these types of uses are dependent on many factors, and are therefore, difficult to quantify precisely. Nonetheless, noise generated by these uses contribute to the ambient noise environment in the immediate vicinity of these uses, and should be considered where either new noise-sensitive uses are proposed nearby or where similar uses are proposed in existing residential areas.

Parks and School Playing Fields

There are several park and school uses within the City. These uses are spread throughout the City. Noise generated by these uses depends on the age and number of people utilizing the respective facility at a given time, and the types of activities they are engaged in. School playing field activities tend to generate more noise than those of neighborhood parks, as the intensity of school playground usage tends to be higher. At a distance of 100 feet from an elementary school playground being used by 100 students, average and maximum noise levels of 60 and 75 dB, respectively, can be expected. At organized events such as high school football games with large crowds and public address systems, the noise generation is often significantly higher. As with service commercial uses, the noise generation of parks and school playing fields is variable.

Aerojet General

Aerojet, a GenCorp Inc. company, is a major space and defense contractor specializing in missile and space propulsion, and defense and armaments. It is located south of Highway 50 between Hazel Avenue and Prairie City Road. Although much of the manufacturing/production which takes place at Aerojet occurs within insulated buildings, there are several noise producing activities/types of equipment which occur or are used in outdoor areas of the facility. According to Aerojet representatives, such activities include, but are not limited to, compressors, air dryers, cooling towers, fluid pumps, boilers, vacuum pumps, alarms, Low water boiler (fog horn type), building fire sirens, detonation warning siren in test facility, rocket testing (1-240 second burst of noise), Impact noise from Hazard Testing Lab NOL car gap tests, Groundwater Extraction Tower (GET) facilities, pumps, fans, ventilators, vacuum pumps, stream jets, diesel fire pumps, HVAC units, grinders, saws, drills, weed eaters, leaf blowers, trimmers, mowers, chain saws, spray booths, case burst testing, sand blasting, cranes, PA systems (announcements), well pumping stations, construction/demolition and operation of a wastewater treatment facility. The 65- and 75 dBA noise contours associated with test firing of rockets extend approximately 7,920 feet and 4,224 feet respectively from the test location.

Cordova Shooting Center

The Cordova Shooting Center is located on Douglas Road west of Sunrise Boulevard. The facility is used for small arms, rifle and shotgun firing and is open 7 day a week with hours beginning as early as 9 am and ending as late as 7 pm. Firearms used at this facility and similar shooting ranges generate maximum noise levels ranging from approximately 95 dB to 115 dB at a distance of 50 feet. Due to the impulsive nature of the noise generated at this facility, and the fact that impulsive noises have been found to be more annoying than steady state noises,

proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

Aggregate Facilities

There are various aggregate mining and processing facilities within the Planning Area. Operations at aggregate facilities typically consist of the excavation of aggregate material using front-loaders and or self elevating scrapers, the transfer of that material via truck or conveyor to the processing plant, where it is crushed and screened into various sized products, and the load out of the material via heavy trucks. Some facilities include asphalt concrete plants and Portland cement concrete plants. The noise generation of such facilities varies by size, type of equipment, and hours of operation, but processing plant equipment normally ranges from 80 to 90 dB Leq at a distance of 100 feet from the processing plant equipment. Because of the early startup hours normally associated with these types of uses, and the high noise generation of the mining and processing equipment, proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

Sacramento Rendering Company

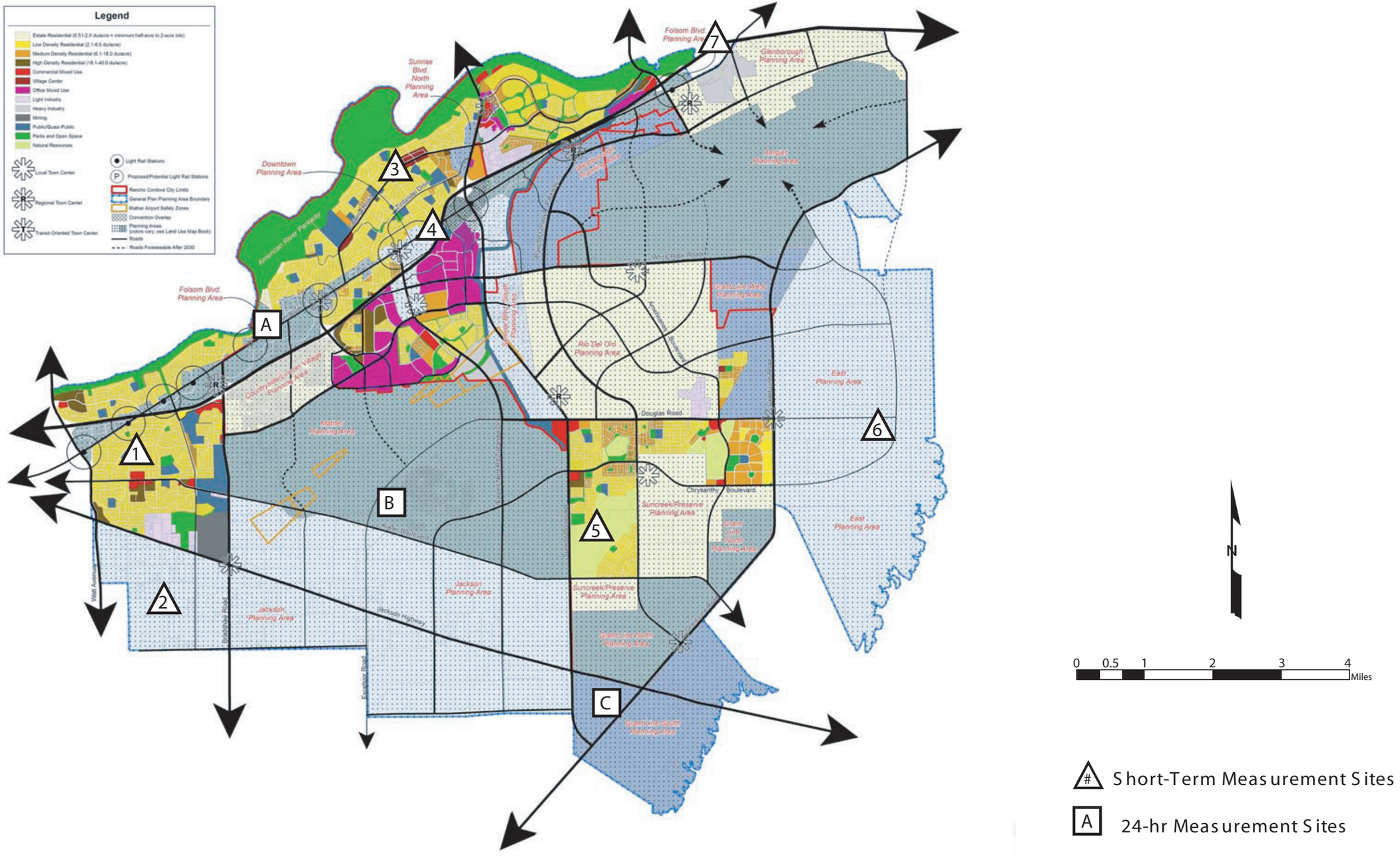
The Sacramento Rendering Company is located at 11350 Kiefer Boulevard, west of Douglas Boulevard. Activities at this facility consist of the recycling of byproducts from the meat and poultry industries. The facility normally operates 6 days a week, 24-hours per day. Most of the noise-generating processes are located within the facility, and the principal noise source is heavy truck traffic associated with approximately 90 deliveries per day. When the noise levels were measured in 2001/2002 as part of the Sunrise Douglas Community Plan/Sunridge Specific Plan EIR, the plant entrance on Kiefer Road had a noise measurement of 50 dBA (Sacramento County, 2002).

Kiefer Landfill

Sacramento County operates the Kiefer Landfill at 12701 Kiefer Blvd. Noise sources associated with this facility consist primarily of trucks arriving and departing the site, and heavy earthmoving equipment used in day-to-day landfill operations. Typical hours of operation at this facility are from 7 am to 5 pm. The landfill is surrounded by undeveloped rolling terrain. Significant noise sources at this location include bulldozers, backup warning devices, garbage trucks, and private and commercial traffic using the landfill. Noise measurements conducted at the landfill in 1989 yielded an average noise level of 71 dBA at a distance of 100 feet from the main dump activity area. Due to historic conflicts which arise from the development of noise-sensitive land uses in the vicinities of landfills, proposals for development of noise-sensitive land uses in the general vicinity of this use should be carefully evaluated for noise impact.

COMMUNITY NOISE SURVEY

To quantify existing noise levels at areas within the City of Rancho Cordova that are removed from the more significant noise sources identified above, a community noise survey was performed at 7 locations within predominately residential areas (see **Figure 4.7-1**). These locations were each monitored for short-term periods at various times including both day and night. The results of the community noise survey are provided in **Table 4.7-6**.



Source: Bollard Acoustic Consultants, 2006

T:\Rancho Cordova\General Plan EIR\AI Files\Figure 4.7-1.ai, February 2006

City of Rancho Cordova
Planning Department

Figure 4.7-1
Noise Measurement Locations

TABLE 4.7-6
COMMUNITY NOISE MEASUREMENT SURVEY RESULTS

Site	Location	Dates	Time Period	L_{eq}	L_{max}	L_{50}	Estimated L_{dn}	Sources
1	Rosemont Community Park off Americana Way.	1/12/06	Morning	52	64	50	50-55	Parking lot activity, distant Hwy. 50 traffic, aircraft flyovers, neighborhood activity
		1/10/06	Afternoon	48	61	44		
		1/19/06	Nighttime	49	55	49		
2	Off Mayhew Rd. just north of Elder Creek Rd.	1/12/06	Morning	45	57	43	50	Distant tractor, aircraft flyovers, natural sounds, distant Bradshaw Rd. traffic
		1/10/06	Afternoon	47	63	43		
		1/19/06	Nighttime	47	52	47		
3	Dave Roberts Community Park II	1/12/06	Morning	51	61	50	55-60	Hwy. 50 traffic, natural sounds, aircraft flyovers, local traffic, kids playing at nearby school
		1/6/06	Afternoon	54	59	53		
		1/19/06	Nighttime	53	60	50		
4	Kilgore Cemetery off Kilgore Rd.	1/12/06	Morning	51	60	50	55-60	Local traffic, Hwy. 50 traffic, nearby construction, natural sounds
		1/6/06	Afternoon	54	70	53		
		1/19/06	Nighttime	54	61	54		
5	Off Jaeger Rd. north of Kiefer Rd.	1/12/06	Morning	40	51	38	45-50	Construction equipment/activity, aircraft flyovers, natural sounds
		1/10/06	Afternoon	48	63	41		
		1/19/06	Nighttime	41	56	41		
6	Near end of Glory Ln. off Grant Line Rd.	1/12/06	Morning	40	50	39	40-45	Aircraft flyovers, natural sounds, distant construction activity and Grant Line Rd. traffic
		1/10/06	Afternoon	42	57	40		
		1/19/06	Nighttime	38	51	37		
7	Off California Cir. just east of Alabama Ave./ Aerojet	1/12/06	Morning	47	56	46	50-55	Loading dock activity, at Aerojet, natural sounds, distant Folsom Blvd. and Hwy. 50 traffic
		1/10/06	Afternoon	44	54	42		
		1/19/06	Nighttime	49	59	48		
A	Lord Way Residence (Centennial Estates)	1/11/06	Daytime	75	82	75	78	Hwy 50 traffic
			Nighttime	71	80	68		
B	Nestlenook Way Residence (Near Mather Airport)	1/12/06	Daytime	51	76	46	55	Aircraft flyovers, natural sounds
			Nighttime	48	70	46		
C	Grant Line Rd. Residence	2/24/05	Daytime	67	88	55	70	Grant Line Rd. traffic, natural sounds
			Nighttime	62	82	43		

Source: Bollard Acoustical Consultants, Inc., 2006.

4.7.2 REGULATORY FRAMEWORK

LOCAL

Sacramento County General Plan

The 1993 Sacramento County General Plan Noise Element provides policies relevant to noise in the larger Sacramento County area, and is currently applicable to areas of the Rancho Cordova Planning Area outside of existing City boundaries. The Policy NO-1 provides a not to be exceeded standard of 60 dB L_{dn}/CNEL for new transportation noise sources at outdoor activity areas so as not to exceed of any affected residential lands or land use. However, if the best available noise-reduction technology cannot achieve the 60 dB L_{dn} CNEL standard, then an exterior noise level of 65 dB L_{dn} CNEL may be allowed in outdoor activity areas. Policies NO-2 and NO-3 implements standards and conditions for non-transportation noise. Policy NO-4 requires an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design for residential units under prescribed conditions. Policy NO-5 limits residential development in areas where non-transportation noise will exceed the non-transportation noise standards. Policy NO-6 requires compatibility of proposed non-residential projects and future transportation noise levels. Policy NO-7 requires that proposed development of residential land uses should not be permitted in certain noise impacted areas.

MATHER AIRPORT POLICY AREA

The Sacramento County General Plan contains Airport Land Use Policy, which supports the implementation of the Mather Airport CLUP. The Airport Land Use Policy applies to any project that requires an entitlement and falls within an airport noise or safety zone. The Airport Land Use Policy includes the Mather Airport Policy Area. The policy establishes that new residential development shall be prohibited within the 60 CNEL Mather Airport Policy Area and that new residential development outside of the 60 CNEL is subject to conditions requiring the following: (1) Minimum noise insulation to 45 dB within new residential dwellings with windows closed in any habitable room (including detached single-family residential; (2) notification in the California Department of Real Estate's *Public Report* disclosing to prospective buyers that the parcel is within the Mather Airport Policy Area; and (3) requiring an Avigation Easement acknowledging the property is located within the Mather Airport Policy Area and granting the right of flight and unobstructed passage of all aircraft into and out of Mather Airport (Sacramento County, 1993). The other exception is that new accessory residential dwellings are allowed within the Mather Airport Policy Area on parcels zoned Agricultural, Agricultural-Residential, Interim Agricultural, Interim General Agricultural, or Interim Limited Agricultural and between the 60 and 65 CNEL contours but would be subject to the conditions listed above. The policy is intended to increase the awareness of residents, in any future residential communities that are approved, of their possible exposure to aircraft operations, limit the potential for conflict between the airport and adjacent communities, and to protect future airport development and aircraft operations flexibility beyond that obtainable solely by relying upon the noise and safety land use guidelines contained within the Mather Airport CLUP.

Cordova Community Plan

The Land Use Goal of the Cordova Community Plan is to create an orderly, balanced, and integrated land use pattern that emphasizes revitalization of existing land uses; supports the diversity of business, particularly the transformation of Mather as a premiere business center and air-cargo facility; promotes a pedestrian-friendly, multi-modal environment that capitalizes on

the linkage opportunities of the LRT stations; and enhances the regional and local character, identity, and quality of development.

To achieve that goal, Land Use Objective LU-3 is to promote a balance between the growth of the air-cargo industry at Mather with the need for housing and residential lifestyles in adjacent neighborhoods.

Mather Airport Comprehensive Land Use Plan

The State of California has adopted airport noise and safety standards that are implemented through Comprehensive Land Use Plans (CLUPs) prepared for public-use airports. The CLUPs are prepared and maintained by the Airport Land Use Commissions (ALUCs). In Sacramento County, the Sacramento Area Council of Governments (SACOG) serves as the ALUC. The noise and safety standards identified in the CLUPs for local airports are implemented through the control of land use around airports with regard to the noise, safety, and height restrictions. SACOG also works with cities and counties to ensure consistency between local land use plans and CLUPs developed for local airports.

The Mather Airport CLUP was adopted in May 1997 and includes regional policies for land use compatibility with respect to aircraft noise. The CLUP for Mather Airport requires that as development occurs in the area near the airport, affected cities and counties should evaluate the impact of aircraft noise on proposed development. The CLUP prohibits new residential development within the 65-dBA CNEL noise contours. The CLUP noise contours (in CNEL) for Mather Airport, in relation to the plan area, are depicted in Figure 4.1-5 in Section 4.1 (Land Use) of this EIR.

The Airport Noise Compatibility in the Mather Airport CLUP is based on the Federal Aviation Regulation (FAR) Part 150 Noise Compatibility Study, which was established by the Federal Aviation Study and Noise Abatement Act of 1979. A Noise Compatibility Study includes the development of a Noise Exposure Map and a Noise Compatibility Program, which identify appropriate uses for land surrounding airports and include noise mitigation programs to ensure benefits for the surrounding communities. The Noise Compatibility Study for the Mather Airport will be updated by SACOG after adoption of the final Mather Airport Master Plan by the Sacramento County Board of Supervisors. Land uses that are incompatible with the 65 dB CNEL noise contour are residential dwellings, public and private schools, hospitals and convalescent homes, churches, synagogues, temples and other places of worship. Acceptable land uses within the 65 dB CNEL include manufacturing, transportation/communications/utilities, wholesale trade, retail trade, business/personal services, shopping districts, recreation, agriculture, mining, and public uses if they can achieve interior noise standards of 45 dB CNEL or 50 dB CNEL. CLUP/ALUCP compliance would be further determined on a project-by-project basis. Given that portions of the Planning Area are located within the existing and proposed boundaries of the CLUP/ALUCP, implementation of the General Plan must comply with federal, State and local regulations so as to not conflict with operations of the airport facilities. Additionally, State Airport Land Use Commission (ALUC) law requires a jurisdiction to either amend its General Plan and other land use regulations to achieve consistency with airport CLUPs adopted by the ALUC.

The County is currently in the process of developing the *Mather Airport Master Plan*. The Master Plan will be used to guide airport development over the next 20 years, while attempting to resolve related aviation, environmental, and socioeconomic issues existing in the community. One of the primary issues to be addressed in the plan relates to the exposure of citizens in

nearby communities to noise generated by aircraft on approach and departure routes from Mather Airport.

City of Rancho Cordova Noise Ordinance

The City's noise ordinance, which is based on the County noise ordinance, establishes maximum allowable exterior and interior noise levels for affected land uses. The ordinance generally limits exterior noise levels (measured at residential land and agricultural land uses) to a maximum of 55 dBA during any cumulative 30-minute period during the daytime hours (7 a.m.–10 p.m.), and 50 dBA during any cumulative 30-minute period during the nighttime hours (10 p.m.–7 a.m.). The ordinance sets somewhat higher noise limits for noise of shorter duration; however, noise shall not exceed 75 dBA during the day and 70 dBA at night. Activities generally considered to be exempt from the noise standards include construction activities (provided that they occur between the daytime hours of 7 a.m.– 6 p.m., Monday through Saturday, and 9 a.m.–6 p.m. on Sunday), school athletic and entertainment events, activities conducted on public parks and playgrounds, and transportation noise. The City's noise ordinance would be applicable to areas within the Planning Area, but outside of the current City limits, when such areas are annexed into the City.

4.7.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

CEQA guidelines state that implementation of a project would result in significant noise impacts if the project would result in any of the following:

1) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies.

2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels without the project.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

5) 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, exposure of people residing or working in the area to excessive noise levels resulting from the proposed project.

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

METHODOLOGY

Because this Draft EIR considers the impacts associated with adoption of the City of Rancho Cordova General Plan, including new noise policies and standards, as well as the development

of both noise sensitive and noise-generating land uses, the following methodology is employed. Noise impacts are identified for new noise-sensitive developments located within areas impacted by existing or future, aircraft, traffic, light rail, industrial, or other significant noise sources. Noise impacts are also identified for noise-producing projects proposed near existing or proposed noise-sensitive areas. Noise impacts are also identified where implementation of the proposed General Plan policies pertaining to noise would themselves result in the exposure of people to excessive noise levels. Finally, noise impacts are evaluated by projecting traffic noise generation of the proposed General Plan roadways under year 2030 and buildout conditions. Potential noise impacts of each of these major noise sources are described below.

Traffic Noise Impact Assessment Methodology

Traffic noise impacts are assessed by comparing both the existing traffic noise levels and standards of significance to the predicted traffic noise levels within the Plan Area under year 2030 and buildout conditions under the proposed General Plan for both the General Plan Roadway System improvements expected by year 2030 and post-year 2030 General Plan Roadway System improvements. Traffic Noise Prediction Model

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used. The FHWA model is the analytical method currently favored for highway traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans).

The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions (see **Tables 4.7-2** and **4.7-3**). To predict L_{dn}/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The significance of the noise increase of all traffic-related noise sources shall be determined according to the following criteria:

- Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels will be considered significant; and

- Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels will be considered significant; and

- Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels will be considered significant.

Noise Impact Assessment Methodology for Noise-Producing Uses Within the Planning Area

There are a variety of stationary noise sources associated with implementation of the proposed General Plan which have the potential to create noise levels in excess of the proposed General Plan noise standards or result in annoyance at existing and future noise-sensitive developments in the Planning Area. Such uses/noise sources include, but are not limited to, commercial loading docks associated with grocery stores and other stores/shops, and neighborhood parks.

Because the General Plan does not include detailed site or grading plans, it is not feasible to identify specific noise impacts associated with future land uses. Rather, potential for these sources to generate excessive or annoying noise levels is identified.

Aircraft Noise Impact Assessment Methodology

Noise impacts associated with operations at Mather Airport could result if noise-sensitive land uses are proposed within the airport's noise impact boundaries (noise contours) associated with the adopted Mather Airport CLUP.

Construction Noise Impact Assessment Methodology

Implementation of the General Plan would result in subsequent development projects with associated construction noise impacts. These noise impacts would add to the noise environment in the Planning Area and could exceed normally acceptable sound levels at neighboring receptor locations.

Noise would be generated by increased truck traffic on area roadways and the operation of heavy equipment on a construction site. This noise increase would be temporary in duration and would most likely occur during daytime hours.

Activities involved in construction would generate maximum noise levels, as indicated in **Table 4.7-7**, ranging from 85 to 90 dB at a distance of 50 feet. While pile-driving is not a typical construction activity, pile-drive construction could occur in the Planning Area that can generate similar noise levels as well as excessive groundborne vibration.

TABLE 4.7-7
CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

PROJECT IMPACTS AND MITIGATION MEASURES

Construction Noise Impacts

Impact 4.7.1 Implementation of the proposed General Plan would result in subsequent development projects and cause an increase in construction noise levels that would exceed City of Rancho Cordova noise standards. This is considered a **potentially significant** impact.

Construction activities associated with the buildout of the General Plan would typically generate maximum noise levels ranging from 85 to 95 dB at a distance of 50 feet as well as generate groundborne vibration (see **Table 4.7-7**). Depending on the timing of the buildout of the General Plan planning areas, existing and future residents may be exposed to these excessive noise levels.

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items are contained in the proposed General Plan Noise Element address construction noise:

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

TABLE N-1
NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE EXPOSURE

Stationary Noise Source	Noise Level Descriptor	Daytime Maximum (7 a.m. to 10 p.m.)	Nighttime Maximum (10 p.m. to 7 a.m.)
Typical	Hourly Leq, dB	55	45
Tonal, impulsive, repetitive, or consist primarily of speech or music	Hourly Leq, dB	50	40

Notes: The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels. The types of uses which may typically produce the noise sources addressed below include, but are not limited to, industrial facilities including pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.
These noise level performance standards apply to new projects that are affected by or include non-transportation noise sources, with the exception of residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Policy N.1.4 *Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.*

Action N.1.4.1 *Limit construction activity to the hours of 7 a.m. to 7 p.m. weekdays and 8 a.m. to 6 p.m. weekends when construction is conducted in proximity to residential uses.*

Action N.1.4.2 *Consider restricting the hours of operation of loading docks, trash compactors, and other noise-producing uses in commercial areas that are adjacent to residential uses.*

Action N.1.4.3 *Require stationary construction equipment and construction staging areas to be set back from existing noise-sensitive land uses.*

Policy N.1.5 *Mitigate noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) to the maximum extent feasible to comply with the City's standards.*

Mitigation Measures

MM 4.7.1 The following shall be added as a new policy under Goal N.1:

To the extent feasible and appropriate, the City shall require the use of temporary construction noise control measures for public and private project that may include the use of temporary noise barriers, temporary relocation of noise-sensitive land uses or other appropriate measures.

While implementation of the above proposed General Plan policies and action items and Mitigation Measure MM 4.7.1 would reduce construction noise, it is not likely that excessive construction noise levels can be fully mitigated in all circumstances. Thus, this noise impact is considered a **significant and unavoidable**.

Traffic Noise Impacts

Impact 4.7.2 Implementation of the proposed General Plan would result in increases in traffic noise levels that would be in excess of City of Rancho Cordova noise standards. This is considered a **significant** impact.

Implementation of the proposed General Plan would result in increased traffic noise levels from additional vehicle traffic on existing and future roadways. Implementation of the General Plan will result in new noise-sensitive land uses throughout the Planning Area along roadways projected to have substantial traffic volumes. Major Roadways such as Grant Line Road, Rancho Cordova Parkway, Chrysanthy Boulevard, Jackson Highway, US 50, Sunrise Boulevard, Bradshaw Road will contribute to transportation noise that will impact noise-sensitive land uses. **Table 4.7-8** compares existing traffic noise levels with noise levels after General Plan implementation, and shows a significant increase between existing L_{dn} and L_{dn} after implementation. Residential and other noise-sensitive uses adjacent to area roadways would be affected by increased traffic noise, especially those areas with no soundwalls adjacent to the roadway. Increased noise impacts to area roadways would also result in significant **[**traffic noise impacts outside of the City in parts of Sacramento County that are adjacent to Rancho Cordova.

TABLE 4.7-8
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODELED NOISE LEVELS AND PROJECT RELATED INCREASES
CITY OF RANCHO CORDOVA NOISE ELEMENT – GENERAL PLAN AREA BUILDOUT

Roadway	From	To	Predicted L_{dn} at 100 feet from Roadway Center Lines				
			Existing Conditions	Pre 2030 Roadway Network Build Out	ΔdB	Post 2030 Roadway Network Build Out	ΔdB
SR 16	Excelsior Rd	Eagles Nest Rd	68	74	+6	74	+6
SR 16	Sunrise Blvd	Grant Line Rd	69	73	+4	73	+4
SR 16	Grant Line Rd	East of Grant Line Rd	68	72	+4	72	+4
SR 16	Excelsior Rd	Bradshaw Rd	68	74	+6	74	+6
Kiefer Blvd	Grant Line Rd	SR 16	55	67	+12	67	+12
Mather Blvd	Femoyer St	Douglas	61	67	+6	67	+6
Douglas Rd	Mather Blvd	Sunrise	60	67	+7	67	+7
Douglas Rd	Sunrise Blvd	Grant Line	56	66	+10	66	+10
International Dr	South White Rock Rd	Zinfandel	64	71	+7	71	+7
International Dr	Zinfandel Dr	Kilgore	61	71	+10	71	+10
White Rock Rd	Zinfandel Dr	Sunrise	65	69	+4	69	+4
White Rock Rd	Sunrise Blvd	Grant Line	59	70	+11	70	+11
Folsom Blvd	Sunrise Blvd	Hazel	64	67	+3	67	+3
Folsom Blvd	Watt	Bradshaw	67	67	0	67	0
Folsom Blvd	Bradshaw	Mather	66	67	+1	67	+1
Folsom Blvd	Mather	Coloma	68	69	+1	69	+1
Folsom Blvd	Coloma	Zinfandel	67	67	0	67	0
Folsom Blvd	Zinfandel	Sunrise	65	67	+2	67	+2
Mather Field Rd	Folsom Blvd	US-50 WB ramps	67	69	+2	69	+2

Roadway	From	To	Predicted L_{dn} at 100 feet from Roadway Center Lines				
			Existing Conditions	Pre 2030 Roadway Network Build Out	ΔdB	Post 2030 Roadway Network Build Out	ΔdB
Mather Field Rd	US-50 EB Ramps	International	68	71	+3	71	+3
Zinfandel Dr	Folsom Blvd	US-50 WB Ramps	66	68	+2	68	+2
Zinfandel Dr	US-50 EB Ramps	White Rock	69	72	+3	72	+3
Zinfandel Dr	White Rock Rd	International	66	69	+3	69	+3
Zinfandel Dr	Folsom Blvd	Sunrise	63	64	+1	64	+1
Sunrise Blvd	Gold Country Blvd	Coloma	72	73	+1	73	+1
Sunrise Blvd	Coloma Rd	US-50 WB Ramps	72	73	+1	73	+1
Sunrise Blvd	US-50 EB Ramps	Folsom Blvd	70	71	+1	71	+1
Sunrise Blvd	Folsom Blvd	White Rock	68	69	+1	69	+1
Sunrise Blvd	White Rock Rd	Douglas	67	69	+2	69	+2
Sunrise Blvd	Douglas Rd	SR 16	66	69	+3	69	+3
Sunrise Blvd	SR 16	Grant Line Rd	64	67	+3	67	+3
Hazel Ave	US-50 WB Ramps	Winding Way	70	73	+3	73	+3
Grant Line Rd	White Rock Rd	Douglas	61	71	+10	71	+10
Grant Line Rd	Douglas Rd	SR 16	61	69	+8	69	+8
Grant Line Rd	SR 16	Sunrise	60	68	+8	68	+8
Coloma Rd	Sunrise Blvd	Folsom	66	67	+1	67	+1
Gold Country	Sunrise Blvd	Hazel	63	64	+1	64	+1
Bradshaw Rd	Old Placerville Rd	Kiefer	68	71	+3	71	+3
Rancho Cordova Pkwy	US-50	White Rock	n/a	70	n/a	70	n/a
Rancho Cordova Pkwy	White Rock	Douglas	n/a	67	n/a	67	n/a
International	Rancho Cordova Pkwy	Sunrise	n/a	65	n/a	65	n/a

Roadway	From	To	Predicted L_{dn} at 100 feet from Roadway Center Lines				
			Existing Conditions	Pre 2030 Roadway Network Build Out	ΔdB	Post 2030 Roadway Network Build Out	ΔdB
International	Sunrise	White Rock	n/a	71	n/a	71	n/a
International	White Rock	Bradshaw	n/a	71	n/a	71	n/a
US-50	Bradshaw Rd	Mather Field Rd	80	81	+1	81	+1
US-50	Mather Field Rd	Zinfandel	80	81	+1	81	+1
US-50	Zinfandel Blvd	Sunrise	80	80	0	80	0
US-50	Sunrise Blvd	Hazel	79	80	+1	80	+1
US-50	Folsom Blvd	Hazel Ave	78	79	+1	79	+1
US-50	Folsom Blvd	Prairie City Rd	78	79	+1	79	+1
Source: Traffic Section of General Plan, Caltrans, and FHWA-RD-77-108							

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items are contained in the proposed General Plan Noise Element address traffic noise:

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

TABLE N-2
NOISE LEVEL PERFORMANCE STANDARDS FOR MAXIMUM TRANSPORTATION NOISE EXPOSURE

Land Use	Outdoor Activity Areas1 Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB2
Residential	603	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (e.g., the passing of a single train)	603	405	--
Transient lodging	604	45	--
Hospitals, nursing homes	603	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, meeting halls	603	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2 As determined for a typical worst-case hour during periods of use.
3 Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4 In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
5 The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

Policy N.1.5 *Mitigate noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) to the maximum extent feasible to comply with the City's standards.*

Policy N.1.6 *Ensure that comfortable noise levels and adequate privacy are maintained in higher density development.*

Action N.1.6.1 *Develop guidelines, strategies, and standards specifically related to maintaining acceptable noise levels in higher density development. Consider design and construction standards that minimize noise conflicts between residents with shared walls or floors/ceilings.*

Policy N.2.1 *Strategically locate grade separations on existing or future light rail lines so that they will not result in adverse noise impacts to adjacent residential areas.*

Action N.2.1.1 *Encourage placement of light rail lines below the grade of the roadway in order to reduce noise impacts.*

Policy N.2.2 *Ensure that operational noise levels of new roadway projects will not result in significant noise impacts.*

Action N.2.2.1 *Assess the significance of the noise increase of all roadway improvement projects in existing areas according the following criteria:*

Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant;

Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and

Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant.

Policy N.2.3 *Emphasize mitigation methods other than soundwall installation to reduce noise to acceptable levels in residential areas originally constructed without soundwalls.*

Action N.2.3.1 *Adopt a Citywide noise reduction program to reduce traffic noise and other noise levels*

Policy N.2.4 *Emphasize site planning and project design when noise mitigation measures are required.*

Action N.2.4.1 *Consider the use of noise barriers to meet the noise standards only after all other practical design-related noise mitigation measures, including the use of distance from noise sources, have been integrated into the project.*

Mitigation Measures

While implementation of the above policies and actions would reduce noise associated with traffic, some traffic noise impacts cannot be mitigated to a less than significant level due to the proximity of noise-sensitive land uses to major roadways and highways, and because noise attenuation may not be feasible in all circumstances. Thus, this impact is considered **significant and unavoidable.**

Stationary Noise Impacts

Impact 4.7.3 Implementation of the proposed General Plan could result in future stationary noise sources that generate noise levels in excess of applicable noise standards for non-transportation noise sources. This is considered a **potentially significant** impact.

Implementation of the proposed General Plan could result in the future development of land uses that generate noise levels in excess of applicable City of Rancho Cordova noise standards for non-transportation noise sources. Such land uses may include commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, as well as recreational uses. While the General Plan does not specifically propose any new noise-generating uses, the Conceptual Land Plans for the Jackson Planning Area, Mather Planning Area, Rio del Oro Planning Area, Aerojet Planning Area, and Sunrise Boulevard South Planning Area include industrial land use designations, which may result in noise sources. Specific land use types that would locate in the City are not known at this time. Additionally, noise from existing stationary noise sources such as the Groundwater Extraction Tower (GET) facilities within the Westborough Planning Area, Kiefer Landfill, aggregate operations along Grant Line Road and Jackson Highway, and industrial uses such as the auto dismantlers along Sunrise Boulevard will continue to result in noises that may impact noise-sensitive land uses that may be located in their vicinity. In addition, General Plan growth would require the construction of schools and parks that could result in additional stationary noise source impacts that are not regulated by the City (e.g., school stadiums and sports park facilities).

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items are contained in the proposed General Plan Noise Element address stationary noise:

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

TABLE N-1
NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE EXPOSURE

Stationary Noise Source	Noise Level Descriptor	Daytime Maximum (7 a.m. to 10 p.m.)	Nighttime Maximum (10 p.m. to 7 a.m.)
Typical	Hourly L_{eq}, dB	55	45
Tonal, impulsive, repetitive, or consist primarily of speech or music	Hourly Leq, dB	50	40

Notes: The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels. The types of uses which may typically produce the noise sources addressed below include, but are not limited to, industrial facilities including pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.

These noise level performance standards apply to new projects that are affected by or include non-transportation noise sources, with the exception of residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Policy N.1.2 *Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.*

Action N.1.2.1 *Require new development of noise-creating uses to conform with the City's maximum noise levels.*

Action N.1.2.2 *Require an acoustical analysis as part of the environmental review process when noise-sensitive land uses are proposed in areas where current or projected exterior noise levels exceed the City's standards.*

Action N.1.2.3 *Require any potential noise impacts identified during the acoustical analysis to be mitigated in the project design to the maximum extent feasible.*

Policy N.1.3 *Ensure that proposed non-residential land uses likely to exceed the City's standards do not create noise disturbances in existing noise-sensitive areas.*

Action N.1.3.1 *Require an acoustical analysis as part of the environmental review process when proposed non-residential land uses are likely to produce noise levels that exceed the City's noise standards. The acoustical analysis must be prepared by a qualified person experienced in environmental noise assessment and architectural acoustics, and must estimate existing and projected cumulative noise levels and compare those levels to the policies within this Element.*

Action N.1.3.2 *Require any noise impacts identified in the acoustical analysis to be mitigated in conjunction with the project design.*

Policy N.1.4 *Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.*

Action N.1.4.1 *Limit construction activity to the hours of 7 a.m. to 7 p.m. weekdays and 8 a.m. to 6 p.m. weekends when construction is conducted in proximity to residential uses.*

Action N.1.4.2 *Consider restricting the hours of operation of loading docks, trash compactors, and other noise-producing uses in commercial areas that are adjacent to residential uses.*

Action N.1.4.3 *Require stationary construction equipment and construction staging areas to be set back from existing noise-sensitive land uses.*

Policy N.1.5 *Mitigate noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) to the maximum extent feasible to comply with the City's standards.*

Policy N.2.3 *Emphasize mitigation methods other than soundwall installation to reduce noise to acceptable levels in residential areas originally constructed without soundwalls.*

Action N.2.3.1 *Adopt a Citywide noise reduction program to reduce traffic noise and other noise levels.*

Policy N.2.4 *Emphasize site planning and project design when noise mitigation measures are required.*

Action N.2.4.1 *Consider the use of noise barriers to meet the noise standards only after all other practical design-related noise mitigation measures, including the use of distance from noise sources, have been integrated into the project.*

Mitigation Measure

While implementation of the above policies and actions would reduce noise associated with new stationary noise sources and the placement of new noise-sensitive land uses that the City has jurisdiction (e.g., commercial and industrial sites, residential uses). However, some stationary noise impacts cannot be mitigated to a less than significant level due to limitations of the City to control the exact placement of substantial noise-generating uses (e.g., school facilities) in proximity to noise-sensitive land uses (e.g., residential). Accordingly, stationary source noise levels from activities on uses for which the City has limited control could result in noise levels that exceed the City's maximum allowable noise standards. Thus, this impact is considered **significant and unavoidable.**

Airport Noise Impacts

Impact 4.7.4 Implementation of the proposed General Plan would result in the creation of new noise-sensitive land uses within the 65 dB CNEL noise contours contained within the Mather Airport CLUP. Additionally, the implementation of the General Plan would result in the creation of new noise-sensitive land uses within over-flight areas of Mather Airport, thereby presenting the potential for annoyance from single event noise. This is considered a **significant** impact.

As discussed in Impact 4.1.3 in Section 4.1 (Land Use) of this EIR, there are five planning areas affected by the existing Mather Airport CLUP boundaries and 60 to 65 dB CNEL contour ranges: Mather Planning Area; Jackson Planning Area; Sunrise Boulevard South Planning Area; Rio del Oro Planning Area; and the Aerojet Planning Area. The General Plan Conceptual Land Plans for these planning areas have land use designations of heavy industrial, light industrial, office park, commercial mixed use, office mixed use, surface mining, regional town center, parks, and natural resources within the 60 and 65 dB CNEL. These proposed land uses within the 60 to 65 dB CNEL contours are consistent with the current Mather Airport CLUP, with one exception. . The only exception is the Rio del Oro Planning Area, which includes residential uses within the 65 dB CNEL contour. However, the proposed Conceptual Land Plan is consistent with the proposed new noise contours associated with new data on aircraft operations associated with the Mather Airport Master Plan. However, these new noise contours have yet to be adopted by the Airport Land Use Commission. Therefore, the proposed General Plan is not consistent with the existing CLUP. This would be a significant impact.

Single-event noise associated with aircraft overflights is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of Lmax, which is the maximum sound level recorded for each event. A different measurement

of single-event noise, also commonly used when evaluating aircraft noise, is the SEL. The SEL describes the event's mean energy level over the duration of the noise event. As would be expected, single-event noise levels for aircraft overflights within the Planning Area would be greatest and most frequent near the airport's primary flight paths. Noise measurements taken for the environmental review of the proposed Rio del Oro Specific Plan identified that single-event noise levels associated with aircraft overflights from Mather Airport ranged from 65 to 96 dBA Lmax (maximum noise level recorded for each event) in the Rio del Oro Planning Area.

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items contained in the General Plan Land Use and Noise Elements address noise:

Policy LU.3.10 *Ensure that land uses adjacent to or near Mather Airport are subject to the location, use, and height restrictions of the most recently adopted CLUP at the time of development consideration, except when the CLUP is under an update process. In the circumstance of a CLUP update, coordinate with the County in the review of development projects to determine the most appropriate development restrictions for the continued operation of the airport.*

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

TABLE N-2
NOISE LEVEL PERFORMANCE STANDARDS FOR MAXIMUM TRANSPORTATION NOISE EXPOSURE

Land Use	Outdoor Activity Areas[1] Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[2]
Residential	60[3]	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (e.g., the passing of a single train)	60[3]	40[5]	--
Transient lodging	60[4]	45	--
Hospitals, nursing homes	60[3]	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, meeting halls	60[3]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2 As determined for a typical worst-case hour during periods of use.
3 Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4 In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
5 The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

Policy N.1.2 *Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.*

Action N.1.2.11 *Require new development of noise-creating uses to conform with the City's maximum noise levels.*

Action N.1.2.2 *Require an acoustical analysis as part of the environmental review process when noise-sensitive land uses are proposed in areas where current or projected exterior noise levels exceed the City's standards.*

Action N.1.2.3 *Require any potential noise impacts identified during the acoustical analysis to be mitigated in the project design to the maximum extent feasible.*

Mitigation Measures

MM 4.7.4 The following shall be added as a new Policy under Goal N.1:

New residential development shall be prohibited within the 60 CNEL Mather Airport Policy Area and new residential development shall only be allowed inside of the 60 CNEL Mather Airport Policy Area if the following conditions are met:

1) Noise insulation is provided in all new residential dwelling units, which reduces interior noise levels to 45 dB with windows closed in any habitable room.

2) Prospective buyers are notified through the Public Report prepared by the California Department of Real Estate disclosing the fact that the parcel is located within the Mather Airport Policy Area.

3) An Aviation Easement is recorded on the property acknowledging that the property is located within the Mather Airport Policy Area. The easement shall grant the right of flight and unobstructed passage of all aircraft into and out of Mather Airport. The Avigation Easement shall be granted to the County of Sacramento, recorded with the Sacramento County Recorder and filed with the County Department of Airports.

Implementation of the above policies, actions and mitigation measure would reduce airport noise and conflicts with the Mather Airport. However, these provisions would not fully mitigate single-event aircraft noise issues or the Rio del Oro Planning Area's current conflict with the adopted Mather Airport CLUP. This impact would be **significant and unavoidable**.

Light Rail and Transit Noise Impacts

Impact 4.7.5 Implementation of the General Plan could expose future land uses and residents to light rail and public transit related noise. This is considered a **less than significant** impact.

Buildout of the General Plan could expose future land uses and residents to light rail and public transit related noise. The Regional Transit light rail line currently runs east to west through Rancho

Cordova along the south side of Folsom Boulevard. **Table 4.7-5** shows the estimated distances to railroad noise contours for the light rail line that travels through the Folsom Boulevard Planning Area. According to the Table, the 60 dB L_{dn} noise standard would be met at distances from 150 to 270 feet from grade crossing. Currently there is residential development along Folsom Boulevard near the light rail tracks. Implementation of the General Plan would result in new residential development along Folsom Boulevard through infill projects with residential components. These projects may be subjected to noise from the light rail that exceeds the City's 60 dB noise standard. However, most projects will be further than 150 to 270 feet from the tracks. Additionally, implementation of the General Plan will locate new residential development throughout the Planning Area. These new residential units may be subjected to noise from light rail and other types of transit. The City is requiring new projects to participate in Community Service Areas, which may require shuttle service to employment centers and light rail stations. The City is also preparing a Transit Master Plan that will identify routes through the Planning Area and appropriate types of transit. The types of transit that will be used to provide public transportation throughout the Planning Area has not yet been identified, but may include a combination of light rail, trolleys, bus rapid transit, and shuttles. Because the types of transit and the routes have not been identified or analyzed for project-specific impacts, it is possible that new residents will be subjected to noise from transit that exceeds the City's 60 dB noise standard.

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items are contained in the proposed General Plan Noise Element to ensure that light rail and transit noise associated with buildout of the General Plan does not adversely affect existing communities and developments:

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

Policy N.1.2 *Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.*

Policy N.1.5 *Mitigate noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) to the maximum extent feasible to comply with the City's standards.*

Policy N.2.3 *Emphasize mitigation methods other than soundwall installation to reduce noise to acceptable levels in residential areas originally constructed without soundwalls.*

Action N.2.3.1 *Adopt a Citywide noise reduction program to reduce traffic noise and other noise levels.*

Policy N.2.4 *Emphasize site planning and project design when noise mitigation measures are required.*

Action N.2.4.1 *Consider the use of noise barriers to meet the noise standards only after all other practical design-related noise mitigation measures, including the use of distance from noise sources, have been integrated into the project.*

TABLE N-2
NOISE LEVEL PERFORMANCE STANDARDS FOR MAXIMUM TRANSPORTATION NOISE EXPOSURE

Land Use	Outdoor Activity Areas[1] Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[2]
Residential	60[3]	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (e.g., the passing of a single train)	60[3]	40[5]	--
Transient lodging	60[4]	45	--
Hospitals, nursing homes	60[3]	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, meeting halls	60[3]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

1 *Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.*
Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2 *As determined for a typical worst-case hour during periods of use.*
3 *Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.*
4 *In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.*
5 *The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.*

Implementation of the above policies and actions would reduce light rail and transit noise impacts to **less than significant.**

Mitigation Measures

None required.

4.7.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative noise setting takes into account existing development within the Planning Area, buildout of the General Plan, planned development under the Sacramento County General Plan, potential future urban development within the City of Folsom Sphere of Influence and the City of Elk Grove General Plan, as well as large-scale proposed and approved development projects identified in **Table 4.0-1**. Development in the region would change the intensity of land uses in the region and increase housing, employment, shopping and recreational opportunities, which would result in new noise generators and noise-sensitive land uses, and, in some instances, bring the two into closer proximity to one another than currently exists. This analysis also accounts for regional traffic volume conditions anticipated for year 2030 for US 50, Jackson Highway, Grant Line Road and other major roadways, expansions of light rail and transit service throughout the region, and the continued operations at Mather Airport, Kiefer Landfill,

Sacramento Rendering Company, continued and potential future surface mining, and the industrial uses expected throughout the Planning Area and surrounding communities. The future (cumulative) ambient noise environment will be affected by buildout of the General Plan and planned development in surrounding communities.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Traffic Noise

Impact 4.7.6 Implementation of the proposed General Plan in combination with regional growth and traffic conditions (pass-through traffic) would increase transportation noise along area roadways. This would be a **cumulatively considerable** impact.

Implementation of the proposed General Plan, along with regional growth and traffic conditions, would result in new roadways and increased traffic associated with new residential developments, employment centers, commercial development, services, schools, etc. The anticipated growth of the Planning Area and surrounding communities will cause traffic noise level increases ranging from 0 to 12 dB Ldn over existing traffic noise levels. Because a traffic noise level increase of 3 dB is commonly considered the threshold of significance for the identification of noise impacts, such impacts are expected to occur on many of the roadway segments analyzed in **Table 4.7-9**. Transportation noise projections in **Table 4.7-9** include regional traffic conditions in the Planning Area from anticipated regional growth described in Section 4.0 of this document.

In addition, the expansion of light rail service and other transit service throughout the Planning Area, in combination with light rail and transit service in adjacent communities would increase noise levels associated with the warning horns, track noise, etc. Changes in light rail noise environments in the City and surrounding communities are difficult to predict, as the specific routes and hours of operation which light rail and other transit services will be extended throughout the City and surrounding communities is unknown. As a result, future railroad noise levels could remain at existing levels, or could increase along new light rail lines.

The project's contribution to traffic noise under cumulative conditions is cumulatively considerable.

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items are contained in the proposed General Plan Noise Element address traffic noise:

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

Policy N.1.2 *Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.*

Policy N.1.5 *Mitigate noise created by the construction of new transportation noise sources (such as new roadways or new light rail service) to the maximum extent feasible to comply with the City's standards.*

TABLE N-2
NOISE LEVEL PERFORMANCE STANDARDS FOR MAXIMUM TRANSPORTATION NOISE EXPOSURE

Land Use	Outdoor Activity Areas[1] Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[2]
Residential	60[3]	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (e.g., the passing of a single train)	60[3]	40[5]	--
Transient lodging	60[4]	45	--
Hospitals, nursing homes	60[3]	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, meeting halls	60[3]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2 As determined for a typical worst-case hour during periods of use.
3 Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4 In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
5 The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

Policy N.2.2 *Ensure that operational noise levels of new roadway projects will not result in significant noise impacts.*

Action N.2.2.1 *Assess the significance of the noise increase of all roadway improvement projects in existing areas according the following criteria:*

- *Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant;*

- *Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and*

- *Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant.*

Policy N.2.3 *Emphasize mitigation methods other than soundwall installation to reduce noise to acceptable levels in residential areas originally constructed without soundwalls.*

Action N.2.3.1 *Adopt a Citywide noise reduction program to reduce traffic noise and other noise levels.*

Policy N.2.4 *Emphasize site planning and project design when noise mitigation measures are required.*

Action N.2.4.1 *Consider the use of noise barriers to meet the noise standards only after all other practical design-related noise mitigation measures, including the use of distance from noise sources, have been integrated into the project.*

Mitigation Measures

While implementation of the above proposed General Plan policies and action items would reduce traffic noise exposure associated with traffic under cumulative conditions, some traffic noise impacts cannot be mitigated to a less than cumulatively considerable level due to the proximity of noise-sensitive land uses to major roadways and highways in the Planning Area and region, and because noise attenuation may not be feasible in all circumstances. It will not be feasible to ensure that no existing residential uses will be exposed to future traffic noise levels in excess of the City's noise standards. In addition, growth within the City of Rancho Cordova will contribute to noise impacts at noise-sensitive land uses located beyond the Planning Area boundaries, that also cannot be mitigated to a level of less than cumulatively considerable. Thus, the project's contribution to cumulative traffic noise impacts is considered **cumulatively considerable** and **significant and unavoidable.**

Cumulative Stationary Noise

Impact 4.7.7 Implementation of the proposed General Plan, in combination with regional growth in surrounding communities outside of the Planning Area, would increase stationary noise. This is considered a **cumulatively considerable** impact.

Implementation of the proposed General Plan in combination with growth in the region and surrounding communities would increase the number of stationary noise sources (e.g., commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, as well as recreational uses, etc.). These uses would result in localized increases in ambient noise conditions that may be in excess of applicable City of Rancho Cordova noise standards or the standards of other jurisdictions, pertaining to non-transportation noise sources. Additionally, noise from existing stationary noise sources such as the Groundwater Extraction Tower (GET) facilities within the Westborough Planning Area, Kiefer Landfill, aggregate operations along Grant Line Road and Jackson Highway, and industrial uses such as the auto dismantlers along Sunrise Boulevard will continue to result in noises that may impact noise-sensitive land uses, including noise-sensitive land uses subsequently located in the vicinity of these stationary noise sources. The project's contribution to cumulative stationary noise would be a cumulatively considerable impact.

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items are contained in the proposed General Plan Noise Element address stationary noise:

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

TABLE N-1
NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE EXPOSURE

Stationary Noise Source	Noise Level Descriptor	Daytime Maximum (7 a.m. to 10 p.m.)	Nighttime Maximum (10 p.m. to 7 a.m.)
Typical	Hourly L_{eq}, dB	55	45
Tonal, impulsive, repetitive, or consist primarily of speech or music	Hourly Leq, dB	50	40

Notes: The City may impose noise level standards which are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels. The types of uses which may typically produce the noise sources addressed below include, but are not limited to, industrial facilities including pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.
These noise level performance standards apply to new projects that are affected by or include non-transportation noise sources, with the exception of residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Policy N.1.2 *Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.*

Action N.1.2.1 *Require new development of noise-creating uses to conform with the City's maximum noise levels.*

Action N.1.2.2 *Require an acoustical analysis as part of the environmental review process when noise-sensitive land uses are proposed in areas where current or projected exterior noise levels exceed the City's standards.*

Action N.1.2.3 *Require any potential noise impacts identified during the acoustical analysis to be mitigated in the project design to the maximum extent feasible.*

Policy N.1.3 *Ensure that proposed non-residential land uses likely to exceed the City's standards do not create noise disturbances in existing noise-sensitive areas.*

Action N.1.3.1 *Require an acoustical analysis as part of the environmental review process when proposed non-residential land uses are likely to produce noise levels that exceed the City's noise standards. The acoustical analysis must be prepared by a qualified person experienced in environmental noise assessment and architectural acoustics, and must estimate existing and projected cumulative noise levels and compare those levels to the policies within this Element.*

Action N.1.3.2 *Require any noise impacts identified in the acoustical analysis to be mitigated in conjunction with the project design.*

Policy N.1.4 *Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.*

Action N.1.4.1 *Limit construction activity to the hours of 7 a.m. to 7 p.m. weekdays and 8 a.m. to 6 p.m. weekends when construction is conducted in proximity to residential uses.*

Action N.1.4.2 *Consider restricting the hours of operation of loading docks, trash compactors, and other noise-producing uses in commercial areas that are adjacent to residential uses.*

Policy N.2.3 *Emphasize mitigation methods other than soundwall installation to reduce noise to acceptable levels in residential areas originally constructed without soundwalls.*

Action N.2.3.1 *Adopt a Citywide noise reduction program to reduce traffic noise and other noise levels.*

Policy N.2.4 *Emphasize site planning and project design when noise mitigation measures are required.*

Action N.2.4.1 *Consider the use of noise barriers to meet the noise standards only after all other practical design-related noise mitigation measures, including the use of distance from noise sources, have been integrated into the project.*

Mitigation Measures

While implementation of the above policies and actions would reduce noise associated with stationary noise sources, some stationary noise impacts cannot be mitigated to a less than significant level due to limitations of the City to control the exact placement of noise-sensitive uses in proximity to noise-generating uses such as playgrounds, car washes, auto repair, water treatment facilities, etc. Accordingly, stationary source noise levels from activities on uses for which the City has limited control could result in noise levels that exceed the City's maximum allowable noise standards. Thus, the project's contribution to stationary noise impacts under cumulative conditions is considered **cumulatively considerable** and **significant and unavoidable.**

Cumulative Airport Noise

Impact 4.7.8 Implementation of the proposed General Plan in combination with regional growth in the Planning Area and surrounding communities would subject more noise-sensitive land uses to airport noise. This is considered a less than **cumulatively considerable** impact.

As discussed under Impact 4.7.4 above, implementation of the General Plan would locate noise-sensitive land uses (e.g., residential) within the 60 dB CNEL noise contours contained in the Mather Airport CLUP. This is a site-specific impact associated with the operation of Mather Airport and would not substantially contribute to other cumulative noise issues in the Planning

Area or region. As would be expected, single-event noise levels for aircraft overflights within the Planning Area would be greatest and most frequent near the airport's primary flight paths. There are no other airports in the immediate vicinity. The General Plan would not contribute to cumulative airport noise impacts.

Proposed General Plan Policies and Action Items That Provide Mitigation

The following General Plan policies and action items contained in the General Plan Land Use and Noise Elements address noise:

Policy LU.3.10 *Ensure that land uses adjacent to or near Mather Airport are subject to the location, use, and height restrictions of the most recently adopted CLUP at the time of development consideration, except when the CLUP is under an update process. In the circumstance of a CLUP update, coordinate with the County in the review of development projects to determine the most appropriate development restrictions for the continued operation of the airport.*

Policy N.1.1 *Establish standards and policies consistent with those in Tables N-1 and N-2 to govern maximum sound levels in new development.*

TABLE N-2
NOISE LEVEL PERFORMANCE STANDARDS FOR MAXIMUM TRANSPORTATION NOISE EXPOSURE

Land Use	Outdoor Activity Areas[1] Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[2]
Residential	60[3]	45	--
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (e.g., the passing of a single train)	60[3]	40[5]	--
Transient lodging	60[4]	45	--
Hospitals, nursing homes	60[3]	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, meeting halls	60[3]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2 As determined for a typical worst-case hour during periods of use.
3 Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4 In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
5 The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

Policy N.1.2 Ensure that the indoor and outdoor areas of new projects will be located, constructed, and/or shielded from noise sources in compliance with the City's noise standards to the maximum extent feasible.

Action N.1.2.11 Require new development of noise-creating uses to conform with the City's maximum noise levels.

Action N.1.2.2 Require an acoustical analysis as part of the environmental review process when noise-sensitive land uses are proposed in areas where current or projected exterior noise levels exceed the City's standards.

Action N.1.2.3 Require any potential noise impacts identified during the acoustical analysis to be mitigated in the project design to the maximum extent feasible.

Implementation of the above policies, actions and Mitigation Measure MM 4.7.4 would reduce the site-specific issues associated with Mather Airport noise. General Plan's contribution to cumulative airport noise impacts and conflicts would be **less than cumulatively considerable**.

Mitigation Measures

None required.

REFERENCES

Airport Land Use Commission for Sacramento, Sutter Yolo and Yuba Counties. *Mather Airport Comprehensive Land Use Plan. 1997. Sacramento, CA.*

Federal Highway Administration. 1977. *Highway Traffic Noise Prediction Model FHWA-RD-77-108*.

Rancho Cordova, City of. *Noise Ordinance*. Rancho Cordova, CA.

Sacramento County Planning Department. 1993. *County of Sacramento General Plan*. Sacramento, CA.

Sacramento, County of. *Sunrise Douglas Community Plan/Sunridge Specific Plan EIR*. 2002. Sacramento, CA.