

9.0 NOISE

9.1 INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

The legal requirements of the General Plan Noise Element are defined within Government Section 65302(f) as:

"[The General Plan shall include] a noise element which shall identify and appraise noise problems in the community. The noise element shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- 1) Highways and freeways.
- 2) Primary arterials and major local streets.
- 3) Passenger and freight railroad operations and ground rapid transit systems.
- 4) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft over-flights, jet-engine test stands, and all other ground facilities and maintenance functions related to airport operation.
- 5) Local industrial plants, including, but not limited to, railroad classification yards.
- 6) Other ground stationary noise sources identified by local agencies as contributing to the community noise environment."

Government code requires that noise contours reflected in the tables be shown for the above noise sources based on noise monitoring and accepted noise modeling techniques. The noise contours are to be used as a guide for designating land uses within the land use element that minimizes the exposure of community residents to excessive noise.

9.2 OVERVIEW

The compatibility between noise that is generated by various land uses and the sensitivity of the surrounding land uses to that noise is an important planning consideration. Noise level compatibility varies with numerous factors, including the following:

- Background noise levels
- Intensity of noise source
- Character of noise source
- Frequency of noise
- Timing of noise (day vs. night)
- Sensitivity of adjacent land uses

The Noise Element of the Tehama County General Plan provides a basis for comprehensive local policies to control and abate environmental noise and to protect the citizens of the county from excessive noise exposure. The fundamental goals of the Noise Element are as follows:





- To provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process.
- To develop strategies for abating excessive noise exposure through cost-effective mitigation measures in combination with appropriate zoning to avoid incompatible land uses.
- To protect those existing regions of the planning area whose noise environments are deemed acceptable and also those locations throughout the community deemed "noise sensitive."
- To protect existing noise-producing commercial and industrial uses in Tehama County from encroachment by noise-sensitive land uses.

BACKGROUND OF NOISE

Sound travels through the air as waves of tiny air pressure fluctuations, which are caused by various vibrations. In general, sound waves travel away from the noise source as an expanding spherical surface. The energy contained in a sound wave is consequently spread over an increasing area as it travels away from the source. The result is a decrease in volume at greater distances from the noise source.

Noise has been cited as being a health problem, not only in terms of actual physiological damages such as hearing impairment, but in terms of inhibiting general well-being and contributing to stress and annoyance. The health effects of noise arise from interference with human activities such as sleep, speech, recreation, and tasks demanding concentration or coordination.

In the mid 1970's, the State of California decided that noise issues were significant enough to warrant new laws. In 1976 the Department of Health issued the first guidelines for acceptable noise levels – guidelines which are today maintained by the Office of Noise Control in the State Department of Health Services. Soon thereafter, local governments were required to include Noise Elements in their General Plans. Noise Elements were intended then, as now, to establish policies and programs which direct the distribution of land uses to "minimize the exposure of community residents to excessive noise."

MEASUREMENT OF ENVIRONMENTAL NOISE

The human ear is subject to a wide range of sound intensities, and the sounds that people hear are in direct proportion to those intensities. The decibel (dB) scale is a logarithmic scale used to compress this range. On the dB scale, the smallest audible sound (near total silence) is 0 dB. A sound 10 times more powerful is 10 dB. A sound 100 times more powerful than total silence is 20 dB. A sound 1,000 times more powerful than total silence is 30 dB. See **Table 9-1** for more information. The "A" weighting scale, that which most closely resembles human hearing, is used in this plan and is noted by the symbol (dBA).

Varying noise levels are often described in terms of the equivalent constant decibel level. Equivalent noise levels (Leq) are used to develop single-value descriptions of average noise exposure over various periods of time. Such average exposure ratings often include additional weighting factors for annoyance potential because of time of day or other considerations.

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Ambient noise levels constitute the composite from all sources far and near. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

The Day-Night Average Level (Ldn) 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 Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

The Community Noise Equivalent Level (CNEL) is similar to the Ldn, but with weighing factors placed on two time periods (7:00 am to 10:00 pm, and 10:00 pm to 7:00 am).

TABLE 9-1
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

MANAGEMENT OF ENVIRONMENTAL NOISE

To control noise from fixed sources that 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.

Parameters used when estimating traffic noise relate to the traffic, the roadway and the receiver. Traffic parameters affecting noise are the number and type of vehicles passing a point during a particular time period and the average speed of the vehicles. Roadway variables include its surface, gradient and geometry.

Highway noise increases as the number and average speed of automobiles on it increases. For example, if the automobile traffic volume doubles, the noise level from





those autos increases by about 3 dBA. However, if the speed decreases to half, the noise level from autos decreases by about 6 dBA. The engine exhaust and tire-roadway interaction also contribute prominently to overall automobile noise.

When distance is the only factor considered, sound levels from an isolated noise source will typically decrease by about 6 dB for every doubling of distance from the source. When the noise source is essentially a continuous line (e.g. vehicle traffic on a highway), noise levels decrease by about 3 dB for every doubling of distance.

Receiver parameters are those factors that affect the relationship of the receiver's position to the vehicle-roadway noise source. The distance between the observer and the highway is the most significant factor. The greater the distance, the lower the noise level. Doubling the distance from the highway (for example going from 100 to 200 feet) reduces the average traffic noise at the receiver's position by about 4 to 6 dBA.

Railroad noises may also be measured and compared using Ldn levels as a basis for evaluation. Railway noise is produced by the combination of diesel engine noise and railway car noise. Other variables include distance to the receiver, numbers of train operations, speed of trains and numbers of cars per train. Engine air horns and grade crossing warnings are treated as single event noises.

Noise from overhead aircraft around general aviation airports is evaluated based on the number of daytime and nighttime operations for jet and non-jet take-offs and landings. Ldn contours are drawn which include consideration of aircraft altitude and other surrounding noise sources.

EXISTING AND FUTURE NOISE ENVIRONMENTS

The primary noise sources in Tehama County consist of highway and local traffic on County roads, as well as commercial and industrial uses, airports and railroad operations. Each of these noise sources is discussed individually below.

Roadways

The use of the automobile is recognized in the Regional Transportation Plan (RTP) as the dominant mode of transportation in Tehama County. The RTP reported that there were approximately 43,000 licensed motor vehicles (excluding trailers) that travel an average of 2,225,000 vehicle miles daily upon public roads in the county. There are nearly 1,200 centerline miles and 2,400 lane miles of streets and roads in the county.

State Highways provide the primary routes connecting the cities and unincorporated areas in Tehama County. These highways account for nearly 70 percent of vehicle travel in the county.

- Interstate 5: A high-emphasis route of the National Highway System, I-5 passes through approximately 42 miles of Tehama County, through Red Bluff and Corning.
- SR-99: State Route 99 (also known as 99 East and 99W) is a 2-lane conventional highway/expressway with a 25-mile segment through Tehama County.

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- SR-36: State Route 36 runs 104 miles through Tehama County. The road is an east-west highway with important principal arterial segments near Red Bluff (which connect I-5 and SR 99E).
- SR-89: State Route 89 is a 2-lane conventional highway that spans a total of 243 miles. In Tehama County, SR-89 runs 4.4 miles, leading to Lassen National Volcanic Park.
- SR-172: State Route 172 is a 2-lane conventional highway. It spans 8.91 miles in Tehama County, beginning in Mineral and continuing through Mill Creek.

Table 9-2 depicts County roadway distances from roadways to CNEL noise contours, as based upon Average Daily Traffic (ADT) and speed of vehicles.

Table 9-3 depicts actual roadways and roadway operating conditions based upon available ADT traffic data for the various minor collector and larger roadways within Tehama County.



TABLE 9-2
CALCULATED DISTANCE (IN FEET) FROM CENTER LINE TO CNEL NOISE CONTOUR BASED ON SPEED AND ADT

30 MPH					45 MPH					55 MPH					65 MPH					70 MPH					
ADT	CNEL				ADT	CNEL				ADT	CNEL				ADT	CNEL				ADT	CNEL				
	55	60	65	70		55	60	65	70		55	60	65	70		55	60	65	70		55	60	65	70	
100					100					5000	305	142	66		5000	405	189	89		5000	405	189	89		
200					200					5500	325	151	70		5500	432	201	95		5500	432	201	95		
300					300					6000	344	160	74		6000	458	213	100		6000	458	213	100		
400					400					6500	363	169	78		6500	483	225	106		6500	483	225	106		
500					500					7000	381	177	82		7000	507	236	111	54	7000	507	236	111	54	
600					600	53				7500	399	185	86		7500	531	247	116	56	7500	531	247	116	56	
700					700	59				8000	417	194	90		8000	554	258	121	58	8000	554	258	121	58	
800					800	64				8500	434	202	94		8500	577	268	126	60	8500	577	268	126	60	
900					900	70				9000	451	209	97		9000	599	279	130	63	9000	599	279	130	63	
1000					1000	75				9500	467	217	101		9500	621	289	135	65	9500	621	289	135	65	
1500	50				1500	98				10000	484	225	104		10000	643	299	140	67	10000	643	299	140	67	
2000	61				2000	118	55			10500	500	232	108		10500	664	309	144	69	10500	664	309	144	69	
2500	71				2500	137	64			11000	515	239	111	52	11000	685	318	149	71	11000	685	318	149	71	
3000	80				3000	155	72			11500	531	246	115	53	11500	706	328	153	73	11500	706	328	153	73	
3500	89				3500	171	80			12000	546	254	118	55	12000	726	337	157	75	12000	726	337	157	75	
					4000	187	87			12500	561	261	121	56	12500	746	347	162	77	12500	746	347	162	77	
					4500	203	94			13000	576	267	124	58	13000	766	356	166	79	13000	766	356	166	79	
					5000	217	101			13500	591	274	127	59	13500	785	365	170	81	13500	785	365	170	81	
					5500	232	108			14000	605	281	131	61	14000	804	374	174	83	14000	804	374	174	83	
					6000	245	114	53		14500	619	288	134	62	14500	824	383	178	84	14500	824	383	178	84	
					6500	259	120	56		15000	634	294	137	64	15000	842	391	182	86	15000	842	391	182	86	
					7000	272	126	59																	
					7500	285	132	62																	
					8000	297	138	64																	
					8500	310	144	67																	
					9000	322	149	70																	
					9500	333	155	72																	
					10000	345	160	75																	

ADT: Average Daily Traffic
CNEL: Community Noise Equivalent Level

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**TABLE 9-3
ROADWAY TRANSPORTATION NOISE GENERATION**

STREET	CLASSIFICATION	ADT	MPH	SPEED		DISTANCE, IN FEET TO CNEL	
				55 DB	60 DB	65 DB	70 DB
Interstate 5	Interstate Freeway	42,000	65	344.9	160.2	74.6	0
State Route 99	State Route	11,900	55	530.7	246.4	114.5	53.4
Baker Road	Arterial	2,760	45	137	63.8	0	0
Bowman Road	Arterial	8,029	55	416.7	193.5	90	0
Gyle Road	Arterial	1,925	45	97.6	0	0	0
Main Street	Arterial	*	55	--	--	--	--
South Avenue	Arterial	5,245	45	217.4	101.1	0	0
Adobe Road	Major Collector	2,115	45	118.1	55.1	0	0
Black Butte Road	Major Collector	208	30	0	0	0	0
Capay Road	Major Collector	728	45	58.9	0	0	0
Chestnut Avenue	Major Collector	2,836	35	0	0	0	0
Corning Road	Major Collector	977	45	69.6	0	0	0
Dusty Way	Major Collector	*	55	--	--	--	--
Flores Avenue	Major Collector	718	55	0	0	0	0
Hoag Road	Major Collector	2,351	45	118.1	55.1	0	0
Hooker Creek Road	Major Collector	1,577	45	97.6	0	0	0
Jellys Ferry Road	Major Collector	1,230	45	0	0	0	0
Lake California Drive	Major Collector	4,178	45	187.4	87.1	0	0
Live Oak Road	Major Collector	2,420	45	118.1	55.1	0	0
Manton Road	Major Collector	534	45	0	0	0	0
Mccoy Road	Major Collector	173	45	0	0	0	0
Newville Road	Major Collector	*	55	--	--	--	--
Paskenta Road	Major Collector	684	45	53.2	0	0	0
Rancho Tehama Road	Major Collector	1,226	45	74.6	0	0	0
Rawson Road	Major Collector	1,437	45	74.6	0	0	0
Red Bank Road	Major Collector	567	45	0	0	0	0
Sale Lane	Major Collector	360	45	0	0	0	0
San Benito Avenue	Major Collector	2,918	55	0	0	0	0
Walnut Street	Major Collector	4,732	45	202.7	94.2	0	0
Wilcox Road	Major Collector	673	45	53.2	0	0	0
Wilder Road	Major Collector	210	45	0	0	0	0
Bend Ferry Road	Minor Collector	350	55	0	0	0	0
Cannon Road	Minor Collector	*	55	--	--	--	--
East Chard Avenue	Minor Collector	*	55	--	--	--	--
Hall Road	Minor Collector	648	45	53.2	0	0	0
Kirkwood Road	Minor Collector	544	45	0	0	0	0
Lanes Valley Road	Minor Collector	130	45	0	0	0	0
Lowrey Road	Minor Collector	*	55	--	--	--	--
Newville Road	Minor Collector	*	55	--	--	--	--
Reeds Creek Road	Minor Collector	1,591	45	97.6	0	0	0
Round Valley Road	Minor Collector	*	55	--	--	--	--
Samson Avenue	Minor Collector	98	55	0	0	0	0
Trinity Avenue	Minor Collector	1,024	45	74.6	0	0	0
Tyler Road	Minor Collector	2,364	45	118.1	55.1	0	0
Watkins Road	Minor Collector	162	45	0	0	0	0
Willard Road	Minor Collector	192	45	0	0	0	0

(*) Data Currently Unavailable

Source: Tehama County Public Works Department, 2007





Railroads

The railroad contributes a significant source of noise locally, within areas of Tehama County adjacent to the tracks, due to warning horns and wheel noise on the tracks. The only active railroad operation within Tehama County is the Union Pacific Railroad, which runs through central Tehama County. Union Pacific's north-south main line, between Seattle and Southern California, runs through Tehama County on its route between Red Bluff and Chico. This route passes through or within 5 miles of the towns of Vina, Los Molinos, Gerber, Las Flores, Proberta and Red Bluff.

According to noise studies conducted by Union Pacific, the average Sound Exposure Levels (SEL) for freight train operations along the UPRC railroad track is approximately 100 dB at a distance of 100 feet from railroad track centerline.

According to John Bromley, Director of Public Affairs for Union Pacific, the route between Red Bluff and Chico currently averages 18 trains per day, including Amtrak passenger trains. Cargo is predominantly southbound lumber and paper products, but cargo also includes a wide variety of other consumer and industrial goods.

Operations are continuous throughout the year, although a reduction of service occurs in the off-season. The trains run 24 hours a day without any particular times favored. The numbers of trains and the times they run vary day to day depending on business levels, traffic on the railroad and weather.

Airports

There are two public airports within Tehama County: Corning Municipal Airport and Red Bluff Municipal Airport. Both airports are owned and operated by the cities of Corning and Red Bluff, respectively.

The noise impacts from these airports were analyzed in the Tehama County Airport Comprehensive Land Use Plan (TCACLUP), adopted by the Airport Land Use Commission. The following data for these airports was also obtained from the TCACLUP.

Noise contours are based on the Community Noise Equivalent Level (CNEL) as defined in Title 21 of the California Code of Regulations. The TCACLUP includes noise contours for the two airports. Specific locations and operational information for each of the airports discussed with the TCACLUP is provided below.

The history of noise complaints around general aviation airports suggests that some land use regulation measures are required under the traffic pattern and within the 55 CNEL contour. Preferred measures are those that restrict residential land use within the traffic pattern. Land use restrictions may include prohibiting residential development underneath that traffic pattern or limiting development to low density uses.

The local standard for noise levels near existing airports in Tehama County is 60 dBA Ldn for residential areas or other sensitive receptors. **Table 9-4**, taken from the Tehama County Comprehensive Airport Land Use Plan (CLUP), shows detailed Airport/Land Use Noise Compatibility Criteria.

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**TABLE 9-4
IMPACT OF AIRPORT NOISE ON LAND USE**



Land Use Category	CNEL or LDN, dBA 1				
	50-55	55-60	60-65	65-70	70-75
Residential					
Single family detached and duplexes	+	0	◆	◆◆	◆◆
Multi-family and transient lodging	++	+	0	◆	◆
Mobile homes	+	◆	◆	◆◆	◆◆
Public					
School, libraries, hospitals, nursing homes	+	0	◆	◆	◆◆
Churches, auditoriums, concert halls	+	0	0	◆	◆◆
Transportation, parking, cemeteries	++	++	++	+	0
Commercial and Industrial					
Offices, retail	++	+	0	0	◆
Service commercial, wholesale trade warehousing light industrial	++	++	+	0	0
General manufacturing, utilities, extractive industry	++	++	++	+	+
Agricultural and Recreational					
Cropland	++	++	++	++	+
Livestock breeding	++	+	0	0	◆
Parks, playgrounds, zoos	++	+	+	0	0
Golf courses, riding stables, water recreation	++	++	+	0	0
Outdoor spectator sports	++	+	+	0	◆
Amphitheaters	+	0	◆	◆◆	◆◆
Land Use Acceptability	Interpretations Conditions				
++ Clearly Acceptable	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.				
+ Normally Acceptable	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Normal Construction methods will eliminate most noise intrusions upon indoor activities.				
0 Marginally Acceptable	The indicated noise exposure will cause moderate interference with outdoor activities and indoor activities with windows open. This is acceptable upon the conditions that outdoor activities are minimal and construction features which provide for sufficient noise attenuation are used. Under other circumstances, the land use should be discouraged.				
◆ Normally Unacceptable	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.				
◆◆ Clearly Unacceptable	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. This land use should be avoided unless strong overriding factors prevail.				



Corning Municipal Airport

The Corning Municipal Airport consists of one runway on 77 acres of land. It is located within the City Limits of Corning at the intersection of Neva Ave. and Marguerite Ave. in the northeast quadrant of the City. According to the TCACLUP, there are currently 21 airplanes and 1 helicopter based at the Corning Municipal Airport.

Runway 16-34 spans 2,700 ft., with single-wheel weight limitations of 12,000 lbs. Aircraft that generally use the airport are single-engine fixed wing general aviation aircraft, but twin-engine aircraft also occasionally utilize the airport. On an annual average basis, there are approximately 24 operations per day.

The Corning Municipal Airport Master Plan includes a planned relocation and extension of Runway 16-34. These actions are proposed to better separate aircraft operations from urban uses to the south. As a result, the threshold for the runway will shift 900 feet to the north. Additionally, a 1,500-foot northerly extension will be completed, resulting in a net lengthening of 600 feet for an overall runway length of 3,300 feet.

Wadell Engineering Corporation developed an identification of noise contours for the Corning Municipal Airport on behalf of the TCACLUP. On the contour maps for both the 2,700-foot and the potential future 3,300-foot versions of the runway, three contours were identified (55 CNEL, 60 CNEL and 65 CNEL) which extend approximately 500 feet to the east and west of the center of the runway and 1,500 feet to the north and south of the respective ends of the runway.

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Figure 9.0-1 depicts the Airport Noise Contour Lines for the Corning Municipal Airport, as found in the City of Corning General Plan. It should be noted that, according to the Corning General Plan, this Figure only provides contour lines for the 55 CNEL level due to the airport's small size and lack of commercial air traffic. Noise levels are not considered significant within the contour lines of the runway.

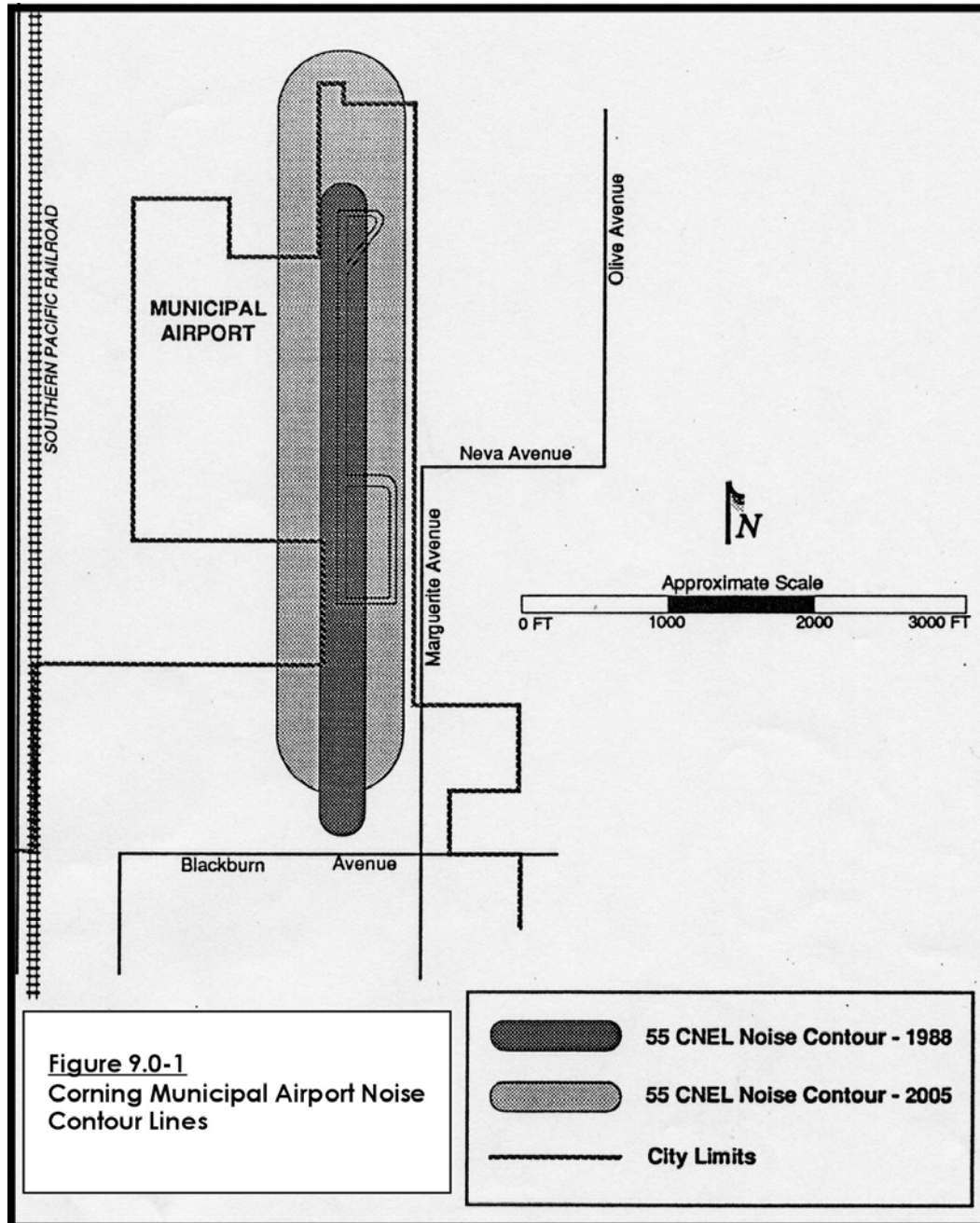


Figure 9.0-1
Corning Municipal Airport Noise Contour Lines



Red Bluff Municipal Airport

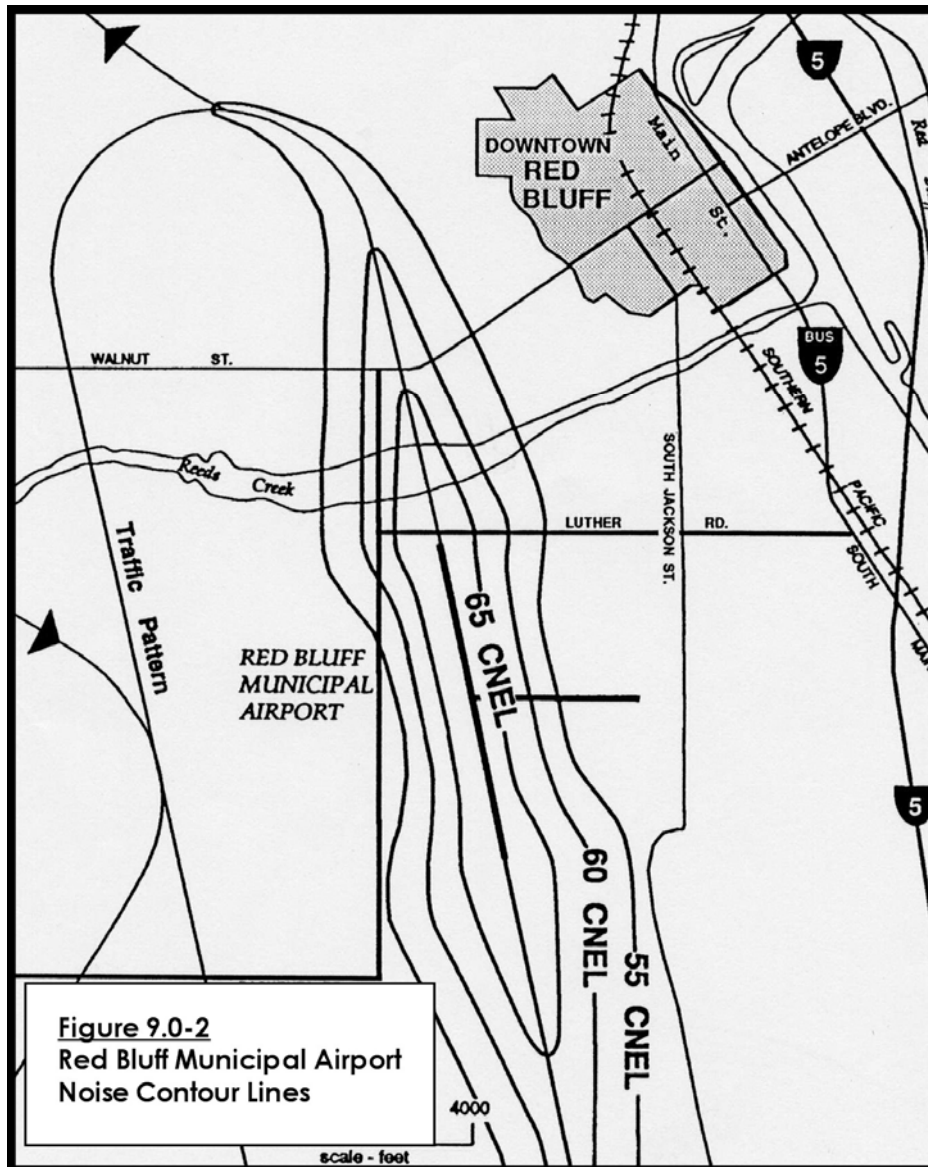
The Red Bluff Municipal Airport has 602 acres of land and a 5,984-foot runway system. It is located entirely within the Red Bluff City Limits and is served by Luther Rd. to Airport Blvd. or South Jackson St. to Airport Blvd. It is bounded on the west by Paskenta Rd. The primary runway, 15-33, is 150 feet wide and 5,984 feet long with single-wheel weight limitations of 30,000 lbs. and double-wheel weight limitations of 65,000 lbs.

Aircraft that generally use the airport are single-engine fixed-wing general aviation aircraft and twin-engine aircraft, but jets and helicopters also occasionally utilize the airport. On an average annual basis, there are approximately 72 operations per day.

The noise contours for the Red Bluff Airport were developed as part of the Red Bluff Airport Master Plan. The contours identified are 55 CNEL, 60 CNEL and 65 CNEL, extending in decreasing order approximately 1,000 feet to the north and 1,000 feet south of the runway. Although the majority of the identified noise contours are located southwest of the City, the northwest extensions of the 55 CNEL and 60 CNEL contour lines stretch between approximately 400-800 feet past Paskenta Road in the southwestern corner of Red Bluff. The southern points of the contours extend into unoccupied land, approximately 500 feet north of Red Bank Creek.

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Figure 9.0-2 depicts the Airport Noise Contour Lines for the Red Bluff Municipal Airport, as found in the City of Red Bluff General Plan.



TCACLUP NOISE POLICIES

The following noise policies were adopted by both airports in the TCACLUP:

- 1) Impact of Airport Noise on Land Use shall be evaluated in terms of the Community Noise Equivalent Level (CNEL), as defined in Title 21 of the California Administration Code.
- 2) The maximum noise exposure that shall be considered normally acceptable for residential areas is 60 dBA CNEL.
- 3) The relative acceptability or unacceptability of particular land uses with respect to the noise levels to which they would be exposed as indicated in the "Impact of Airport Noise on Land Use" matrix, Table 2. These criteria shall be the principal



determinants of whether a proposed land use is compatible with the noise impact from a nearby airport, but special circumstances, which would affect the specific proposal's noise sensitivity (e.g., the extent or lack of outdoor activity), also shall be taken into account.

- 4) One of the conditions for approval of a land use which is "marginally acceptable" or "normally unacceptable" (see **Table 9-4, Land Use Acceptability Definitions**) for the given noise environment is that the building must provide a satisfactory degree of noise attenuation. If the structure can reduce the noise exposure to the indicated level, the use may be acceptable. It should be noted that the interior noise criteria are measured in terms of maximum noise levels of individual events and not average noise levels as represented by CNEL values. Since maximum exterior individual even noise levels are greater than the CNEL value at a given location, the required noise reduction of the structure thus will be greater than the difference between the interior noise level criterion and the CNEL value.
- 5) In applying the interior noise level criteria, engine run-up noise shall be considered as a source of commonly occurring exterior noise.
- 6) When applying the noise compatibility criteria to a given location, the basis for evaluation shall be the maximum Community Noise Equivalent Level to which the location is or is forecast to be exposed.
- 7) If a noise analyses, including noise monitoring, is conducted for a particular location and the results indicate that the maximum CNEL will be less than shown herein, the lower exposure level may be used for the land use evaluation at the discretion of the Airport Land Use Commission.

NON-TRANSPORTATION NOISE SOURCES

Non-transportation noise sources can be characterized as stationary noise sources that may last a period of several hours, or be ongoing through a 24-hour period. Some of these noise sources include, but are not limited to, industrial facilities, trucking operations, tire shops, auto maintenance shops, shopping centers, drive-up windows, car washes, recycling centers, parks and other recreational areas, and agricultural activities. Noise standards for new uses affected by non-transportation noise have been included as **Table 9-7**.

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9.3 GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The Noise Element of the Tehama County General Plan provides a basis for comprehensive local policies to control and abate environmental noise and to protect the citizens of the County from excessive noise exposure.



GOAL N.1

Provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process.

Policy N-1.1

*The County shall require an acoustical analysis for new projects anticipated to generate excessive noise located adjacent, or near, to noise-sensitive land uses. The acoustical analysis shall be prepared in accordance with **Table 9-5, Requirements for Acoustical Analysis Prepared in Tehama County.***

**TABLE 9-5
REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS PREPARED IN TEHAMA COUNTY**

AN ACOUSTICAL ANALYSIS PREPARED PURSUANT TO THE NOISE ELEMENT SHALL:

- 1) Be the responsibility of the applicant.
- 2) Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.
- 3) Include representative noise level measurements with sufficient sampling periods and locations to adequately-describe local conditions.
- 4) Estimate existing and projected cumulative noise levels in terms of the standards of **Tables 9-6** and **9-7** of this General Plan and compare those levels to the adopted policies of the Noise Element.
- 5) Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms evaluating possible sleep disturbance.
- 6) Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.
- 7) Describe the post-project assessment program that could be used to evaluate the effectiveness of the proposed mitigation measures.

Implementation Measure N-1.1a

Require site-specific noise analyses where noise generating land uses are proposed in proximity to sensitive noise sources such as residences, schools, nursing homes, hospitals, and day care centers. Noise mitigation shall be included and followed where the results of the analysis warrant such actions.

Implementation Measure N-1.1b

Require noise analysis where noise sensitive uses are proposed adjacent to noise generating uses such as concentrated agricultural operations, airports, freeways and major roadways, etc. Noise mitigation shall be included and followed where the results of the analysis war-



rant such actions.

GOAL N-2

Develop strategies for abating excessive noise exposure through cost-effective mitigation measures in combination with appropriate zoning to avoid incompatible land uses.

Policy N-2.1

The County shall review the Zoning Code to ensure good land use planning to reduce possible conflicts regarding noise impacts.

Implementation Measure N-2.1a

Develop and enforce a Countywide Noise Control Ordinance consistent with the standards and policies contained in this General Plan.

Policy N-2.2

The County shall require vegetative screening and appropriate landscaping along required solid noise mitigation barriers, such as walls or berms, in order to reduce the aesthetic impact of the solid noise barrier. The use of sound walls should only be utilized under extreme noise impacts and shall be discouraged in favor of less intrusive noise mitigation (e.g., landscaped berms, increased setbacks).

Implementation Measure N-2.2a

Develop countywide requirements for noise mitigation that includes vegetative and landscaped buffers as well to mitigate for noise impacts. The requirements shall also include long-term maintenance of noise mitigation areas.

Policy N-2.3

The County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building code regarding the construction of new multiple-occupancy dwellings such as hotels, apartments, and condominiums.

Implementation Measure N-2.3a

Update the County's Building Codes to include the State Noise Insulation Standards and Chapter 35 of the Uniform Building Code.

Policy N-2.4

The County shall restrict construction activities to the hours as determined in the Countywide Noise Control Ordinance.

Implementation Measure N-2.4a

Restrict construction activities to the hours as determined by the County's Noise Control Ordinance unless an exemption is received from the County to cover special circumstances. Special circumstances may include emergency operations, short-duration construction, etc.

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Implementation Measure N-2.4b

Require all internal combustion engines that are used in conjunction with construction activities be muffled according to the equipment manufacturer's requirements.



GOAL N-3

Protect those existing regions of the planning area whose noise environments are deemed acceptable, and also those locations throughout the community deemed "noise sensitive".

Policy N-3.1

The interior and exterior noise level standards for noise-sensitive areas of new uses affected by traffic or railroad noise sources in Tehama County are depicted in **Table 9-6**.

TABLE 9-6
NOISE STANDARDS FOR NEW USES AFFECTED BY TRAFFIC AND RAILROAD NOISE
TEHAMA COUNTY NOISE ELEMENT

NEW LAND USE	OUTDOOR ACTIVITY AREA - LDN	INTERIOR - LDN/PEAK HOUR LEQ ¹	NOTES
All Residential	60-65	45	2, 3, 4
Transient Lodging	65	45	5
Hospitals & Nursing Homes	60	45	6
Theaters & Auditoriums	---	35	
Churches, Meeting Halls, Schools, Libraries, etc.	60	40	
Office Buildings	65	45	7
Commercial Buildings	65	50	7
Playgrounds, Parks, etc.	70	---	
Industry	65	50	7

Notes:

- 1) For traffic noise within Tehama County, Ldn and peak-hour Leq values are estimated to be approximately similar. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
- 2) Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence.
- 3) For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas, or tennis courts.
- 4) Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
- 5) Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas.
- 6) Hospitals are often noise generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
- 7) Only the exterior spaces of these uses designated for employee or customer relaxation have any de-



gree of sensitivity to noise.

Policy N-3.2

*The County shall prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Where the noise levels standards in **Table 9-6** are predicted to be exceeded by new uses proposed within Tehama County, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with **Table 9-7** standards.*

Implementation Measure N-3.2a

Review new project developments to ensure compliance with the standards depicted in **Table 9-6** and **Table 9-7**.

GOAL N-4

Protect existing noise-producing commercial and industrial uses in Tehama County from encroachment by noise-sensitive land uses.

Policy N-4.1

The County shall require review for discretionary industrial, commercial, or other noise-generating land uses for compatibility with adjacent and nearby noise-sensitive land uses.

Implementation Measure N-4.1a

Review all development proposals to ensure that any new noise-generating land uses are compatible with existing uses or appropriate measures are implemented to ensure that nearby noise-sensitive land uses are not affected.

Policy N-4.2

*The interior and exterior noise level standards for noise-sensitive areas of new uses affected by non-transportation noise sources within Tehama County are depicted in **Table 9-7**.*

Implementation Measure N-4.2a

Review all development proposals to ensure compliance with **Table 9-7**, Noise Standards for New Uses Affected by Non-Transportation Noise.

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TABLE 9-7
NOISE STANDARDS FOR NEW USES AFFECTED BY NON-TRANSPORTATION NOISE

NEW LAND USE	OUTDOOR ACTIVITY AREA - LEQ		INTERIOR - LEQ	
	DAY-TIME	NIGHT TIME	DAY & NIGHT	NOTES
All Residential	50	45	35	1, 2, 7
Transient Lodging	55	---	40	3
Hospitals & Nursing Homes	50	45	35	4
Theaters & Auditoriums	---	---	35	
Churches, Meeting Halls, Schools, Libraries, etc.	55	---	40	
Office Buildings	55	---	45	5, 6
Commercial Buildings	55	---	45	5, 6
Playgrounds, Parks, etc.	65	---	---	6
Industry	65	65	50	5

Notes:

- 1) Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence.
- 2) For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas or tennis courts. Where such areas are not provided, the standards shall be applied at individual patios and balconies of the development.
- 3) Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas, and are not commonly used during nighttime hours.
- 4) Hospitals are often noise generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
- 5) Only the exterior spaces of these uses designated for employee or customer relaxation have any degree of sensitivity to noise.
- 6) The outdoor activity areas of office, commercial and park uses are not typically utilized during nighttime hours.
- 7) It may not be possible to achieve compliance with this standard at residential uses located immediately adjacent to loading dock areas of commercial uses while trucks are unloading. The daytime and nighttime noise level standards applicable to loading docks shall be 55 and 50 dB Leq, respectively.

General: The Table 9-7 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds.

If the existing ambient noise level exceeds the standards of Table 9-7, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

GOAL N.5

To encourage and support the noise policies adopted by both airports in the Tehama County Airport Comprehensive Land Use Plan (TACLUP).

Policy N-5.1

The County shall work to keep current and implement the noise policies in the "Impact of Airport Noise on Land Use" table (9-4).



**Implementation Measure N-5.1a**

Review all development proposals to ensure compliance with the TCACLUP. Compliance shall include:

- a. Airport/Land Use noise compatibility shall be evaluated in terms of the Community Noise Equivalent Level (CNEL), as defined in Title 21 of the California Administration Code.
- b. The maximum noise exposure that shall be considered normally acceptable for residential areas is 60 dBA CNEL.
- c. The relative acceptability or unacceptability of particular land uses with respect to the noise levels to which they would be exposed as indicated in the "Impact of Airport Noise on Land Use Types" matrix. These criteria shall be the principal determinants of whether a proposed land use is compatible with the noise impact from a nearby airport, but special circumstances, which would affect the specific proposal's noise sensitivity (e.g., the extent or lack of outdoor activity), also shall be taken into account.
- d. One of the conditions for approval of a land use which is "marginally acceptable" or "normally unacceptable" for the given noise environment is that the building must provide a satisfactory degree of noise attenuation (see **Table 9-4, Land Use Acceptability Definitions**). If the structure can reduce the noise exposure to the indicated level, the use may be acceptable. It should be noted that the interior noise criteria are measured in terms of maximum noise levels of individual events and not average noise levels as represented by CNEL values. Since maximum exterior individual event noise levels are greater than the CNEL value at a given location, the required noise reduction of the structure thus will be greater than the difference between the interior noise level criterion and the CNEL value.
- e. In applying the interior noise level criteria, engine run-up noise shall be considered as a source of commonly occurring exterior noise.
- f. When applying the noise compatibility criteria to a given location, the basis for evaluation shall be the maximum Community Noise Equivalent Level to which the location is or is forecast to be exposed.
- g. If a noise analyses, including noise monitoring, is conducted for a particular location and the results indicate that the maximum CNEL will be less than shown herein, the lower exposure level may be used for the land use evaluation at the discretion of the Airport Land Use Commission.