

This section discusses the existing noise environment in the County and identifies potential noise impacts and mitigation measures. The project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment.

4.10.1 EXISTING SETTING

In the planning area of approximately 5,000 square miles, with a population density of about 19 persons per square mile and with most of its extensive mountain area in substantially unpopulated and undeveloped, noise is a minor problem with respect to the total area of Tehama County.

Because many rural residential areas within the County experience very low noise levels, residents may express concern about the loss of "peace and quiet" due to the introduction of a sound that 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. Perception 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.

General policy is to locate particular present or potential problem sites, identify noise sources, and provide for the reduction and/or reasonable control of noise through this plan element, precise plans based hereon, and appropriate regulatory measures to effectuate the proposals contained herein.

NOISE IN THE AREA

Noise at, or approaching problem magnitudes in the area is concentrated in the urban areas, at certain industrial operations, and along the corridors of transportation routes, air, rail and highway.

Urban and industrial noise problems are generated by people and their activities, in their use of land and equipment, and in their business and industrial operations. Regulation of noises and their sources is most effectively applied by local ordinances. These include enforcement provisions that specify maximum permissible noise levels in relation to established ambient levels.

MEASUREMENT AND MANAGEMENT OF ENVIRONMENTAL 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.

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 Figure 8A-1 (Section 8.A, Noise of General Plan Background Report) 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).

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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.

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.

Noise has often 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, the acceptability of the environment for people decreases. This decrease in acceptability and the threat to public well being are the bases for land use planning policies preventing exposures to excessive community noise levels.

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 becomes. 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. **Table 4.10-1** illustrates noise levels and typical sources.

**TABLE 4.10-1
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

EXISTING AND FUTURE NOISE ENVIRONMENTS

Overview

The major 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 2001 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.

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- SR-99: State Route 99 (also known as 99 East) is a 2-lane conventional highway/expressway with a 25-mile segment through Tehama County.
- 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.

The FHWA Model was used with existing traffic data obtained from published Caltrans traffic counts, future forecasted traffic data provided by Omni-Means, and BAC field surveys to develop existing and future L_{dn} contours for Interstate 5, Highway 32, Highway 36, Highway 89, Highway 99, and Highway 172 as well as several minor roadways within Tehama County. The FHWA Model input data for those roadways is provided in Table 2 for Existing (2005) conditions and Table 3 for Future (2030) conditions. The distances from the centerlines of the major roadways to the 60 and 65 dB L_{dn} contours are also summarized in those tables as well.

Topography in the Tehama County varies, sometimes alternating from flat to moderately hilly along relatively short roadway segments. Due to the topographic complexity of the Tehama County, it is not feasible to evaluate the effects of topography on traffic noise within the framework of the General Plan Noise Element. Therefore the contour distances presented in Tables 2 and 3 should be considered conservative estimates of traffic noise exposure, to be supplemented by a detailed and project-specific study as needed.

The data contained in **Tables 4.10-2 and 4.10-3** are limited to existing Highways in Tehama County. **Table 4.10-4** represents the existing contours based on current traffic counts for arterials and collectors in Tehama County. Note that buildout information may not be available for the roadways so **Table 4.10-5** is used by planners to estimate contours based on average daily traffic as for roadways over time. Most roads in Tehama County have such low traffic volume that traffic-generated noise is not an issue.

TABLE 4.10-2
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL DATA INPUTS AND DISTANCES TO 60 AND 65 DB L_{DN} CONTOURS
TEHAMA COUNTY GENERAL PLAN - EXISTING (2005) CONDITIONS

Segment	Roadway Name	Segment Description	Truck Usage						Distance to L _{dn} Contours, feet	
			ADT	Day %	Night %	Med.	Heavy	Speed	60 dB	65 dB
1	Interstate 5	Glenn Tehama County Line to Liberal Avenue	26,000	83	17	2	24	70	1,156	537
2	Interstate 5	Liberal Avenue to South Avenue	27,000	83	17	2	23	70	1,166	541
3	Interstate 5	South Avenue to Corning Avenue	28,500	83	17	2	22	70	1,187	551
4	Interstate 5	Corning Avenue to Finnell Avenue	30,000	83	17	2	20	70	1,184	550
5	Interstate 5	Finnell Avenue to Gyle Road	30,000	83	17	2	21	70	1,206	560
6	Interstate 5	Gyle Road to Flores Avenue	28,500	83	17	2	21	70	1,166	541
7	Interstate 5	Flores Avenue to South Main Street	29,000	83	17	2	21	70	1,179	547
8	Interstate 5	South Main Street to Diamond Avenue	32,000	83	17	2	20	70	1,236	574
9	Interstate 5	Diamond Avenue to Jct. Rte. 36	35,000	83	17	2	18	70	1,262	586
10	Interstate 5	Jct. Rte. 36 to North Red Bluff	37,000	83	17	2	18	70	1,303	605
11	Interstate 5	North Red Bluff to Wilcox Road	41,000	83	17	2	16	70	1,345	624
12	Interstate 5	Wilcox Road to Jellys Ferry Road	40,000	83	17	2	17	70	1,337	620
13	Interstate 5	Jellys Ferry Road to Hooker Creek Road	38,000	83	17	2	17	70	1,309	607
14	Interstate 5	Hooker Creek Road to Sunset Hills Drive	37,500	83	17	2	17	70	1,287	597
15	Interstate 5	Sunset Hills Drive to Bowman Road	37,500	83	17	2	17	70	1,287	597
16	Interstate 5	Bowman Road to Butte-Tehama County Line	42,000	83	17	2	15	70	1,338	621
17	Highway 32	Butte-Tehama County Line to Jct. Rte. 36	1,050	83	17	1	7	55	67	31
18	Highway 32	Jct. Rte. 36 to Butte-Tehama County Line	980	83	17	1	7	55	64	30
19	Highway 36	Bowman Road to Cannon Road	350	83	17	12	19	55	51	24
20	Highway 36	Cannon Road to Oak Knoll Drive	390	83	17	12	19	55	55	25
21	Highway 36	Oak Knoll Drive to McCoy Road	1,500	83	17	12	19	55	134	62
22	Highway 36	McCoy Road to Baker Road	3,500	83	17	12	19	55	236	109
23	Highway 36	Baker Road to Adobe Road	2,950	83	17	4	5	55	127	59
24	Highway 36	Adobe Road to Crittenden Street	10,000	83	17	1	2	45	169	79
25	Highway 36	Crittenden Street to Walnut Street	11,700	83	17	1	2	35	130	60
26	Highway 36	Walnut Street to North Main Street	15,600	83	17	1	1	35	139	64

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**TABLE 4.10-2
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL DATA INPUTS AND DISTANCES TO 60 AND 65 DB L_{DN} CONTOURS
TEHAMA COUNTY GENERAL PLAN - EXISTING (2005) CONDITIONS**

Segment	Roadway Name	Segment Description	Truck Usage						Distance to L _{dn} Contours, feet	
			ADT	Day %	Night %	Med.	Heavy	Speed	60 dB	65 dB
27	Highway 36	North Main Street to Oak Street	7,500	83	17	2	3	35	111	52
28	Highway 36	Oak Street to Sacramento River Bridge	25,000	83	17	1	1	35	190	88
29	Highway 36	Sacramento River Bridge to Gilmore Road	25,000	83	17	1	1	35	190	88
30	Highway 36	Gilmore Road to Jct. Rte. 5	26,000	83	17	1	1	35	195	90
31	Highway 36	Jct. Rte. 5 to Chestnut Avenue/Colony Road	22,000	83	17	2	5	45	362	168
32	Highway 36	Chestnut Avenue/Colony Road to Hoy Road	18,500	83	17	2	6	45	341	158
33	Highway 36	Hoy Road to Jct. Rte. 99 South	13,000	83	17	3	8	45	303	141
34	Highway 36	Jct. Rte. 99 to Manton Road	2,350	83	17	1	9	45	98	46
35	Highway 36	Manton Road to Paynes Creek	1,400	83	17	2	14	55	104	48
36	Highway 36	Paynes Creek to Jct. Rte. 172 Southeast	1,400	83	17	2	15	45	88	41
37	Highway 36	Jct. Rte. 172 Southeast to Jct. Rte. 89	1,100	83	17	1	14	45	72	33
38	Highway 36	Jct. Rte. 89 to Jct. Rte. 172 Southeast	1,200	83	17	2	14	45	77	36
39	Highway 36	Jct. Rte. 172 Southeast to Jct. Rte. 32 Southwest	1,050	83	17	2	14	55	86	40
40	Highway 36	Jct. Rte. 32 Southwest to Tehama County Line	2,050	83	17	1	13	55	129	60
41	Highway 89	West Jct. Rte. 36 to South Entrance, Lassen Volcanic National Park	400	83	17	1	1	55	26	12
42	Highway 99	Butte-Tehama County Line to South Avenue	11,900	83	17	1	8	55	350	162
43	Highway 99	South Avenue to Vina Road	6,800	83	17	2	13	55	289	134
44	Highway 99	Vina Road to Sherman Street	7,200	83	17	2	12	55	292	135
45	Highway 99	Sherman Street to Aramayo Way	7,100	83	17	2	12	55	289	134
46	Highway 99	Aramayo Way to Kaufman Avenue	7,700	83	17	2	15	55	333	155
47	Highway 99	Kaufman Avenue to Jct. Rte. 36	9,900	83	17	1	15	55	390	181
48	Highway 172	Jct. Rte 36 to Mill Creek	220	83	17	1	1	55	17	8
49	Highway 172	Mill Creek to Morgan Springs, Jct. Rte 36	140	83	17	0	7	55	17	8

Source: Bollard Acoustical Consultants with Caltrans 2005 AADT inputs.

**TABLE 4.10-3
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL DATA INPUTS AND DISTANCES TO 60 AND 65 dB LDN CONTOURS
TEHAMA COUNTY GENERAL PLAN - FUTURE (2030) CONDITIONS**

Segment	Roadway Name	Segment Description	Truck Usage						Distance to L _{dn} Contours, feet	
			ADT	Day %	Night %	Med.	Heavy	Speed	60 dB	65 dB
1	Interstate 5	Glenn Tehama County Line to Liberal Avenue	34,098	83	17	2	24	70	1,385	643
2	Interstate 5	Liberal Avenue to South Avenue	56,822	83	17	2	23	70	1,914	888
3	Interstate 5	South Avenue to Corning Avenue	70,140	83	17	2	22	70	2,164	1,004
4	Interstate 5	Corning Avenue to Finnell Avenue	89,026	83	17	2	20	70	2,445	1,135
5	Interstate 5	Finnell Avenue to Gyle Road	91,680	83	17	2	21	70	2,541	1,179
6	Interstate 5	Gyle Road to Flores Avenue	91,722	83	17	2	21	70	2,541	1,180
7	Interstate 5	Flores Avenue to South Main Street	85,948	83	17	2	21	70	2,434	1,130
8	Interstate 5	South Main Street to Diamond Avenue	81,468	83	17	2	20	70	2,305	1,070
9	Interstate 5	Diamond Avenue to Jct. Rte. 36	81,585	83	17	2	18	70	2,219	1,030
10	Interstate 5	Jct. Rte. 36 to North Red Bluff	73,131	83	17	2	18	70	2,052	953
11	Interstate 5	North Red Bluff to Wilcox Road	86,528	83	17	2	16	70	2,213	1,027
12	Interstate 5	Wilcox Road to Jellys Ferry Road	78,551	83	17	2	17	70	2,096	973
13	Interstate 5	Jellys Ferry Road to Hooker Creek Road	72,792	83	17	2	17	70	2,018	937
14	Interstate 5	Hooker Creek Road to Sunset Hills Drive	70,161	83	17	2	17	70	1,954	907
15	Interstate 5	Sunset Hills Drive to Bowman Road	64,176	83	17	2	17	70	1,841	855
16	Interstate 5	Bowman Road to Butte-Tehama County Line	59,530	83	17	2	15	70	1,689	784
17	Highway 32	Butte-Tehama County Line to Jct. Rte. 36	1,997	83	17	1	7	55	102	47
18	Highway 36	Just west of Bowman Road	858	83	17	12	19	55	92	43
19	Highway 36	Just west of Oak Knoll Drive	14,818	83	17	12	19	55	617	286
20	Highway 36	McCoy Road to Baker Road	15,652	83	17	12	19	55	640	297
21	Highway 36	Just north of Adobe Road	23,405	83	17	4	5	55	506	235
22	Highway 36	Adobe Road to Crittenden Street	23,975	83	17	1	2	45	304	141
23	Highway 36	Crittenden Street to Walnut Street	35,287	83	17	1	2	35	272	126
24	Highway 36	Walnut Street to Oak Street	39,965	83	17	1	2	35	295	137
25	Highway 36	Gilmore Road to Jct. Rte. 5	60,058	83	17	1	1	35	340	158

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**TABLE 4.10-3
FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL DATA INPUTS AND DISTANCES TO 60 AND 65 DB LDN CONTOURS
TEHAMA COUNTY GENERAL PLAN - FUTURE (2030) CONDITIONS**

Segment	Roadway Name	Segment Description	Truck Usage						Distance to L _{dn} Contours, feet	
			ADT	Day %	Night %	Med.	Heavy	Speed	60 dB	65 dB
26	Highway 36	Jct. Rte. 5 to Chestnut Avenue/Colony Road	56,447	83	17	2	6	45	718	333
27	Highway 36	Just east of Chestnut Avenue	46,526	83	17	1	1	45	432	200
28	Highway 36	Just west of Hoy Road	51,027	83	17	3	8	45	753	350
29	Highway 36	Hoy Road to Jct. Rte. 99 South	47,704	83	17	3	8	45	720	334
30	Highway 36	North of Jct. Rte. 99	7,275	83	17	1	9	45	209	97
31	Highway 36	West of Manton Road	6,486	83	17	2	14	55	289	134
32	Highway 36	Just west of Jct. Rte. 172	5,183	83	17	2	15	45	211	98
33	Highway 36	Jct. Rte. 172 to Jct. Rte. 172	5,038	83	17	2	14	45	200	93
34	Highway 36	Jct. Rte. 172 to Jct. Rte. 32	5,138	83	17	2	14	45	203	94
35	Highway 36	Jct. Rte. 32 to Tehama County Line	400	83	17	1	13	55	43	20
36	Highway 89	County Line to to Jct. Rte. 36	2,786	83	17	1	1	55	93	43
37	Highway 99	Butte-Tehama County Line to South Avenue	15,477	83	17	1	8	55	417	194
38	Highway 99	Just south of Aramayo Drive	38,672	83	17	2	12	55	894	415
39	Highway 99	Just north of Aramayo Drive	43,410	83	17	2	15	55	1,055	490
40	Highway 99	Just east of Jct. Rte. 36	48,931	83	17	1	15	55	1,132	525
41	Bowman	Just east of Hooker Creek	13,792	83	17	1	1	55	270	125
42	Jellys Ferry	North of Bend Ferry	402	83	17	1	1	55	26	12
43	Paskenta	North of Rancho Tehama	16,277	83	17	1	1	55	302	140

Source: Bollard Acoustical Consultants with Omni-Means, Ltd. inputs.

**TABLE 4.10-4
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

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Street	Classification	ADT	MPH	Speed		Distance, in feet to CNEL	
				55 dB	60 dB	65 dB	70 dB
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

**TABLE 4.10-5
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

4.10 NOISE

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.

Given this level of activity and sound exposure levels, the railroad noise exposure at a distance of 100 feet from the tracks is predicted to be approximately 70 dB Ldn, with the distances to the 60 and 65 dB Ldn railroad noise contours extending 460 and 215 feet from the tracks, respectively.

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 Airport Comprehensive Land Use Plans for the Corning Municipal Airport and the Red Bluff Municipal Airport (TCACLUP), adopted by the Tehama County 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.

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 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. Because of the airport's small size and lack of commercial air traffic, the noise levels are not considered significant within the contour lines of the runway.

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 annual average 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.

Private Airstrips

There are several small private airstrips in Tehama County used for crop dusting and small general aviation aircraft. Due to the generally low annual average daily activity at these airstrips, the locations of the 60 dB Ldn noise contours are likely limited to the properties containing the airstrip. However, single-event noise from low altitude overflights can result in annoyance or possible sleep disruption during early morning hours.

4.10 NOISE

NON-TRANSPORTATION NOISE SOURCES

The production of noise is a result of many processes and activities, even when the 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 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 uses upon existing noise-producing 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.

General descriptions of existing fixed noise sources in Tehama County 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. 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 & Light Industrial Uses

Noise sources associated with service commercial uses such as automotive and truck repair facilities, wrecking yards, tire installation centers, car washes, loading docks, transfer stations, corporation yards, recycling centers, concrete ready-mix facilities, are found at various locations within the Tehama County. Many of these sources are located within the local major cities of Red Bluff and Corning. The noise emissions of these types of uses are dependant on many factors, and are therefore, difficult to quantify precisely. Nonetheless, noise generated by the these uses contributes 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 spread throughout the Tehama County. 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 much 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.

Landfills

The Tehama County Sanitary Landfill (TCSL) currently operates three transfer stations which are located within the limits of the county. The TCSL Payne's Creek Transfer Station is located off Plum Creek Road near Highway 36, the TCSL Mineral Transfer Station is located at Highway 36

East and Viola Road, and the TCSL Manton Transfer Station is located off Hazen Road. Typically these facilities operate 1 to 3 days per week between the hours of 9 am and 4 pm during their winter schedule (November 1st to April 30th) and between the hours of 9 am to 5 pm during their summer schedule (May 1st to October 31st). All three TCSL transfer stations are located in typical rural areas. Noise generation at these facilities basically consists of a front loader emptying trash collection containers one time per week. Therefore, based on their infrequency, operations at these locations do not appear to significantly add to the surrounding noise environment.

COMMUNITY NOISE SURVEY

To quantify existing noise levels in the quieter parts of the County, a community noise survey was performed at 10 locations in the county which are removed from major noise sources. Two of the ten locations were monitored over a continuous 24-hour period, while the other eight locations were each monitored for two 15-minute periods during daytime hours and one 15-minute period during nighttime hours. The results of the community noise survey are provided in **Table 4.10-6**.

TABLE 4.10-6
COMMUNITY NOISE MEASUREMENT SURVEY RESULTS
TEHAMA COUNTY, JUNE 30, JULY 17,26,27,29 & AUGUST 24,25, 2006

Site	Location	Dates	Time Period	Leq	Lmax	L50	Est. L _{dn}	Sources
A	Potato Patch Camp	7/26/06	Morning	50	61	48	54	Hwy. 32 traffic, Deer Creek water flow, natural sounds
		7/19/06	Afternoon	52	66	47		
		8/24/06	Nighttime	47	54	47		
B	Highway 173	7/26/06	Morning	32	44	31	43	Natural sounds
		7/19/06	Afternoon	36	45	35		
C	Plum Creek and Little Giant Road	8/24/06	Nighttime	36	40	36	46	Natural sounds, aircraft flyovers
		7/26/06	Morning	33	44	32		
		7/19/06	Afternoon	31	50	30		
D	Moulton Loop Road	8/24/06	Nighttime	40	43	40	54	Lanes Valley Rd. traffic, natural sounds
		7/26/06	Morning	35	53	33		
		7/19/06	Afternoon	29	45	25		
E	Hogback and Tuscan Springs Road	8/25/06	Nighttime	48	50	48	40	Natural sounds, plane flyovers
		7/26/06	Morning	32	41	30		
F	17900 Benson Road	7/19/06	Afternoon	34	41	33	47	Natural sounds, plane flyovers
		8/25/06	Nighttime	33	38	33		
		7/28/06	Morning	33	48	30		
G	Vestal Road	8/25/06	Nighttime	42	44	42	38	Natural sounds
		7/28/06	Morning	28	34	27		
		7/26/06	Afternoon	27	44	23		
H	Lowery Road	8/25/06	Nighttime	32	36	32	40	Natural sounds
		7/28/06	Morning	31	42	30		
1	4250 Rowles Road	7/27/06	Day	34	45	32	74	Train, Rowles Rd. traffic
			Night	67	103	41		
2	Paskenta Road, East of Fournoy	6/30/06	Day	68	106	38	55	Paskenta Rd. traffic
			Night	48	76	30		
			Night	48	75	41		

Source: *Bollard Acoustical Consultants, Inc.*

4.10 NOISE

4.10.2 REGULATORY FRAMEWORK

LOCAL

Existing County of Tehama General Plan

The County of Tehama General Plan is currently undergoing an update. The Noise Element within the County General Plan include policies and implementation measures relevant to noise are dated, with design noise levels for highways provided in terms of outdated 10th percentile (L10) levels and with desired ambient noise levels for various land use categories not clearly defined (Leq, Lmax, Ldn, etc). As a result, noise impacts cannot be reliably evaluated relative to the County's current General Plan Noise Element.

Airport Noise Policies

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

1. 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.
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 "Airport/Land Use Noise Compatibility Criteria" 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" 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.

Proposed General Plan Noise Element Goals, Policies and Implementation Measures

The proposed Noise Element of the Tehama County 2008-2028 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. Specifically the 2008-2028 General Plan will now require acoustical analysis for new projects anticipated to generate excessive noise located adjacent, or near, to noise-sensitive land uses. (Policy N-1.1) Other policies and implementation measures require noise attenuation designed to alleviate noise from existing uses on proposed uses, and to ensure that new sensitive uses do not infringe on proposed industrial uses.

4.10.3 IMPACTS AND MITIGATION MEASURES**STANDARDS OF SIGNIFICANCE**

The County has determined that the project may have significant noise impacts if it results in any of the following:

- 1) Establish noise-sensitive land uses within noise-impacted areas.
- 2) Create new noise producing land uses near existing or proposed noise-sensitive areas.
- 3) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise level.
- 4) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- 5) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- 6) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels or for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

METHODOLOGY

Because this Draft EIR considers the impacts associated with adoption of the 2008-2028 General Plan, including new noise policies and the development of both noise sensitive and noise-generating land uses under the 2008-2028 General Plan land use designations, the following methodology is employed. Noise impacts are identified for new noise-sensitive developments located within areas impacted by existing or future, aircraft, traffic, 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 2008-2028 General Plan policies pertaining to noise would themselves result in the exposure of people to excessive noise levels. Finally, noise impacts are evaluated by comparing traffic noise generation of the 2008-2028 General Plan roadways under future conditions relative to existing conditions.

4.10 NOISE

Development of Noise Sensitive Land Uses Within Noise-impacted Areas

Impact 4.10.1 Implementation of the 2008-2028 General Plan could result in the creation of new noise-sensitive land uses within noise-impacted areas. This would be considered a **less than significant** impact.

The implementation of the 2008-2028 General Plan would result in the creation of new land use designations and could result in new noise-sensitive land uses within existing noise-impacted areas.

Proposed General Plan Policies and Implementation Measures that Mitigate Potential Impacts

The following 2008-2028 General Plan policies and implementation measures contained in the Noise and Land Use Elements will help reduce impacts resulting from development of noise-sensitive uses within noise-impacted areas.

Noise: N-1.1b, N-2.1, N-2.1a, N-2.2, N-2.2a, N-3.1, N-3.2, N-3.2a

Implementation Measure N-1.1b requires that acoustical analyses be prepared where noise-sensitive uses are proposed adjacent to noise generating uses. Policy N-2.2 and associated Implementation Measure N-2.2a requires the County to develop countywide requirements for noise mitigation to include vegetative and landscaped buffers to achieve compliance with the adopted noise standards of the Noise Element. Similarly, Policy N-3.2 prohibits new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Table 9.6 of the proposed Noise Element Policy N-3.1 establishes noise standards for new uses affected by transportation noise sources. These standards range from 60 to 70 Ldn within an outdoor activity areas, with the lower level of the range being residential, church, school, and hospital use. Table 9.7 of the proposed Noise Element Implementation Measure N-4.2a establishes new uses affected by non-transportation noise. These standards range from 50 to 65 Leq within the outdoor activity areas, with the lower level of the range being residential and similar uses, and commercial and industrial uses at the higher level. Implementation Measure N-3.2a of the Noise Element establishes the review of new project developments to ensure compliance with the standards depicted in Table 9-6 and Table 9-7.

With the establishment of these standards and the application of 2008-2028 General Plan goals, policies and associated implementation measures noted below, which require review of the project and through such project review require the use to be compatible with the adjacent neighborhood, the potential impact will be **less than significant**.

Mitigation Measures

None required.

Development of Noise Producing Uses Near Existing Noise-Sensitive Areas

Impact 4.10.2 Implementation of the 2008-2028 General Plan could result in the creation of new noise producing land uses near existing or proposed noise-sensitive areas. This is considered a **less than significant** impact.

Implementation of the 2008-2028 General Plan could place new noise producing land uses such as industrial, near noise-sensitive land uses such as residential.

Proposed General Plan Policies and Implementation Measures that Mitigate Potential Impacts

The following 2008-2028 General Plan policies and implementation measures contained in the Noise and Land Use Elements will help reduce impacts resulting from development of noise producing uses near existing noise-sensitive areas.

Land Use: LU-1.1

Noise: N-1.1, N-1.1a, N-2.1, N-2.1a, N-2.2, N-2.2a, N-2.3, N-2.3a, N-3.1, N-4.1, N-4.1a

Policy N-1.1 and associated Implementation Measures N-1.1a and N-1.1b require that an acoustical analysis be completed for new projects anticipated to generate excessive noise that could be located adjacent to or near to noise sensitive land uses. Noise created by new noise sources shall be mitigated so as to not exceed the applicable noise standards at the affected noise-sensitive use. Policy N-2.1 and Implementation Measure N-2.1a require the County to review the Zoning Code to ensure good land use planning in order to reduce possible conflicts regarding noise impacts and considers the development of a Countywide Noise Control Ordinance consistent with the standards and policies contained in the proposed 2008-2028 General Plan. Similarly, Policy LU-1.1, Policy N-4.1 and Implementation Measure N-4.1a deal with compatibility issues between noise generating land uses and adjacent and nearby noise-sensitive land uses.

Policy N-2.2 and Implementation Measure N-2.2a requires the County to develop countywide requirements for noise mitigation to include vegetative and landscaped buffers as well as the use of sound walls under extreme noise impacts to achieve compliance with the adopted noise standards of the Noise Element. Policy N-2.3 and Implementation Measure N-2.3a state that the County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building code, which involves noise-reducing building materials. Table 9.6 of the proposed Noise Element Policy N-3.1 establishes noise standards for new uses affected by transportation related noise. These standards range from 60 to 70 Ldn within an outdoor activity areas, with the lower level of the range being residential, church, school, and hospital use.

With the establishment of these standards and the application of 2008-2028 General Plan goals, policies and associated implementation measures noted below, which require review of the project and through such project review require the use to be compatible with the adjacent neighborhood, the potential impact will be **less than significant**.

Mitigation Measures

None required.

Exposure To Excessive Groundborne Vibration

Impact 4.10.3 Implementation of the 2008-2028 General Plan could result in the exposure of persons to or generation of excessive groundborne vibration or noise. This is considered a **less than significant** impact.

Sources of vibrational noise come from trucks, heavy machinery associated with industrial uses, as well as industrial and manufacturing equipment. Some construction equipment or activities can also create this type of noise; however, such noise is temporary and would be regulated by the construction noise standards set forth in the proposed Tehama County 2008-2028 General Plan.

4.10 NOISE

While the project does not propose specific uses that may cause groundborne vibrations, it is conceivable that a use generating such vibration and noise may be proposed. Should that occur, the use would be subject to review through the Use Permit process of Chapter 17.70 of the Tehama County Zoning Ordinance. The standards of that Chapter require that "the appropriate environmental impact review documentation as required by the County's CEQA guideline," be completed.

Proposed General Plan Policies and Implementation Measures that Mitigate Potential Impacts

The following 2008-2028 General Plan policies and implementation measures contained in the Noise Element will help reduce impacts resulting from development of noise producing uses near existing noise-sensitive areas.

Noise: N-1.1, N-1.1a, N-1.1b, N-2.1, N-2.1a, N-2.3, N-2.3a, N-2.4b, N-3.1, N-3.2, N-3.2a, N-4.1, N-4.1a

Policy N-1.2 and Implementation Measures N-1.1a and N-1.1b of the proposed Noise Element requires noise analysis where noise sensitive uses are proposed adjacent to noise generation or vice versa. Noise mitigation shall be included where the results of the analysis warrant such actions. Policy N-2.1 and Implementation Measure N-2.1a require the County to review the Zoning Code to ensure good land use planning in order to reduce possible conflicts regarding noise impacts and considers the development of a Countywide Noise Control Ordinance consistent with the standards and policies contained in the 2008-2028 General Plan. Policy N-2.3 and Implementation Measure N-2.3a state that the County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building code, which involves noise-reducing building materials.

Implementation Measure N-2.4b requires all internal combustion engines that are used in conjunction with construction activities to be muffled according to the equipment manufacturer's requirements. Table 9.6 of the proposed Noise Element Policy N-3.1 establishes noise standards for new uses affected by transportation related noise. These standards range from 60 to 70 Ldn within an outdoor activity areas, with the lower level of the range being residential, church, school, and hospital use. Policy N-3.2 prohibits new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design and Implementation Measure N-3.2a establishes the review of new project developments to ensure compliance with the standards depicted in Table 9-6. Finally, Policy N-4.1 and Implementation Measure N-4.1a deal with compatibility issues between noise generating land uses and adjacent and nearby noise-sensitive land uses.

These 2008-2028 General Plan policies and implementation measures also require the use to be compatible with the neighborhood and will reduce any potential impact to **less than significant**.

Mitigation Measures

None required.

Permanent Increase In Ambient Noise Levels

Impact 4.10.4 Implementation of the 2008-2028 General Plan could result in a permanent increase in ambient noise levels within the project, especially along major transportation routes. This is a **less than significant** impact.

An increase in population will result in additional traffic and corresponding increase in noise. Such noise will increase mainly on those major transportation routes located in predominantly

commercial areas. The level of increase in these areas is expected to be less than significant, especially since it will not be occurring in areas with sensitive noise receptors. Freeway generated noise will increase and have an affect on adjacent residential areas, especially where residential uses currently abut Interstate 5 and State Route 99. However, the freeway traffic is primarily through traffic (especially the truck traffic), and will increase over the term of the 2008-2028 General Plan, with or without the General Plan.

This level of increase could be considered significant if it were located in a residential area, or were near other sensitive receptors like hospitals, schools, libraries or churches. Fortunately, almost none of these uses exist along the major thorough fares and streets in Tehama County that could be affected by such an increase in noise. Most of the uses are commercial, industrial, or transportation related and can stand higher noise levels.

Proposed General Plan Policies and Implementation Measures that Mitigate Potential Impacts

The following 2008-2028 General Plan policies and implementation measures contained in the Noise Element will help reduce impacts resulting traffic noise increases associated with buildout of the General Plan Area.

Noise: N-1.1b, N-2.1, N-2.1a, N-2.2, N-2.2a, N-3.2

Implementation Measure N-1.1-b requires a noise analysis where noise sensitive uses are proposed adjacent to noise generating uses such as freeways and major roadways. Noise mitigation shall be included and followed where the results of the analysis war rant such actions. Policy N-2.1 and Implementation Measure N-2.1a require the County to review the Zoning Code to ensure good land use planning in order to reduce possible conflicts regarding noise impacts and considers the development of a Countywide Noise Control Ordinance consistent with the standards and policies contained in the proposed General Plan. Policy N-2.2 and Implementation Measure N-2.2a requires the County to develop countywide requirements for noise mitigation to include vegetative and landscaped buffers as well as the use of sound walls under extreme noise impacts which may include noise impacts resulting from freeways and major roadways. Policy N-3.2 prohibits new noise-sensitive land uses in noise-impacted areas such as freeways, unless effective mitigation measures are incorporated into the project design.

Implementation of the policies and implementation measures described above in conjunction to the fact that an unsubstantial amount of sensitive land uses are currently located along the major thorough fares and streets in Tehama County that could be affected by an increase in noise make this impact **less than significant**.

Mitigation Measures

None required.

Temporary or Periodic Increase In Ambient Noise Levels

Impact 4.10.5 Implementation of the 2008-2028 General Plan could result in a substantial temporary or periodic increase in ambient noise levels due to construction-related activities. This impact is considered **less than significant**.

As Tehama County grows, new construction will result in new dwelling units, new commercial and industrial development projects as well as the infrastructure necessary to support the added uses. This potential development associated with the implementation of the 2008-2028 General Plan would create construction noise. The construction for each project will be temporary, in

4.10 NOISE

most instances lasting only a few months in any given location. Construction noise typically occurs intermittently and varies depending upon the nature or phase (e.g., demolition/land clearing, grading and excavation, erection) of construction. Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Subsequent development under the 2008-2028 General Plan would be evaluated for consistency with the 2008-2028 General Plan and would be required to comply with CEQA.

Proposed General Plan Policies and Implementation Measures that Mitigate Potential Impacts

The following Tehama County 2008-2028 General Plan policies and implementation measures contained in the Noise Element assist in reducing any potential impacts associated with construction noise.

Noise: N-2.3, N-2.3a, N-2.4, N-2.4b

Such construction will be located primarily in the North I-5 Planning Area north of Red Bluff. The noise increase will be temporary and will not occur in evenings, since most construction projects are daylight projects only. Additionally, Policy N-2.4 of the proposed County Noise Element restricts "construction activities to the hours as determined in the Countywide Noise Control Ordinance," when such an Ordinance is adopted. Policy N-2.3 and Implementation Measure N-2.3a state that the County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building code, which involves noise-reducing building materials. Implementation Measure N-2.4b requires all internal combustion engines that are used in conjunction with construction activities to be muffled according to the equipment manufacturer's requirements.

With these considerations and requirements, the temporary ambient noise increases are expected to have a **less than significant** impact.

Mitigation Measures

None required.

Noise Exposure Associated With Airport Operations

Impact 4.10.6 Implementation of the 2008-2028 General Plan may result in an increased exposure of individuals to noise associated with airport operations. As a result, this impact is considered to be **less than significant**.

Depending on location, new development could be subject to aircraft noise. Noise-related impacts associated with the exposure to aircraft noise sources would be associated primarily with the potential for development of noise-sensitive land uses to occur within the projected CNEL contours of 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. Goal N-5 of the proposed Tehama County General Plan Noise Element mandates that 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. Goal N-5 further mandates that the maximum noise exposure from airport noise that shall be considered normally acceptable for residential areas is 60 dBA CNEL. One of the Goal N-5

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. If the structure can reduce the noise exposure to the indicated level, the use may be acceptable.

Proposed General Plan Policies and Implementation Measures that Mitigate Potential Impacts

The following Tehama County 2008-2028 General Plan policies and implementation measures contained in the Noise Element assist in reducing any potential impacts associated with airport noise.

Noise: N-1.1b, N-2.1, N-2.1a, N-2.3, N-2.3a, N-3.2

Implementation Measure N-1.1-b requires a noise analysis where noise sensitive uses are proposed adjacent to noise generating uses such as freeways and major roadways. Noise mitigation shall be included and followed where the results of the analysis warrant such actions. Policy N-2.1 and Implementation Measure N-2.1a require the County to review the Zoning Code to ensure good land use planning in order to reduce possible conflicts regarding noise impacts and considers the development of a Countywide Noise Control Ordinance consistent with the standards and policies contained in the proposed General Plan. Policy N-2.3 and Implementation Measure N-2.3a state that the County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the California Building Code (CBC), which involves noise-reducing building materials. Policy N-3.2 prohibits new noise-sensitive land uses in noise-impacted areas such as freeways, unless effective mitigation measures are incorporated into the project design.

There are several small private airstrips in Tehama County used for crop dusting and small general aviation aircraft. Due to the generally low annual average daily activity at these airstrips, the locations of the 60 dB Ldn noise contours are likely limited to the properties containing the airstrip. However, single-event noise from low altitude overflights can result in annoyance or possible sleep disruption during early morning hours, but this single-event noise is not considered an excessive noise event due to the short duration of the event. The 2008-2028 General Plan policies and implementation measures listed above the aircraft noise-related impacts will be **less than significant**.

With these considerations and requirements, the noise exposures from airport noise to sensitive receptors are expected to have a **less than significant** impact.

Mitigation Measures

None required.

4.10.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for the 2008-2028 General Plan with regards to noise would be the unincorporated portions of Tehama County as well as the cities of Red Bluff, Corning, and Tehama. Under cumulative conditions, development consistent with the land uses identified in the 2008-2028 General Plan for the County as well as the cities of Red Bluff, Corning, and Tehama would result in increased commercial, industrial, residential, public and other uses in the region. Increases in cumulative development would increase traffic noise and operational noise, resulting in cumulative increases in ambient and intermittent noise levels.

4.10 NOISE

New development constructed under cumulative conditions will affect the future (cumulative) ambient noise environment within the planning area. While it is difficult to project exactly how the ambient noise conditions within the project area will change, it is anticipated that traffic noise levels will increase on an area-wide basis due to the additional traffic generated by development of various land use designations.

Changes in noise associated with non-transportation noise sources are difficult to predict. Although new non-transportation noise sources such as grocery store loading docks and auto-repair facilities, to name a few, would result in localized increases in ambient noise conditions, the level of noise such new uses would be allowed to generate would be regulated by the noise standards identified in the proposed 2008-2028 General Plan.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Noise Impacts Associated with Increased Traffic

Impact 4.10.7 Implementation of the 2008-2028 General Plan, in combination with development occurring within the incorporated cities of Red Bluff, Corning, and Tehama would potentially increase traffic levels in the planning area. This is considered to be a **potentially cumulatively considerable** impact.

The anticipated increase in population throughout the planning area will result in a likely increase in traffic and therefore noise. Such noise will increase mainly on major transportation routes located in predominantly commercial areas. Freeway generated noise will increase and have an affect on adjacent residential areas, especially where residential uses currently abut Interstate 5 and State Route 99. However, the freeway traffic is primarily through traffic (especially the truck traffic), and will increase over the term of the 2008-2028 General Plan, with or without the General Plan. Residential and other noise-sensitive uses could be exposed to significant traffic noise level increases as a result of 2008-2028 General Plan designations. Therefore, this impact is considered to be potentially significant in the contexts of both the project's effect on cumulative conditions and the incremental factors of the plan that would contribute to potentially considerable cumulative impacts. Therefore, consideration of further mitigation to address cumulative noise impacts is warranted.

Mitigation Measures

MM 4.10.7 The County shall work to develop a County-wide traffic noise abatement program for the express purpose of reducing traffic noise exposure at existing residential uses which are affected by traffic noise levels in excess of the County's noise level standards. The program shall include the following specific aspects for noise abatement consideration where reasonable and feasible:

1. Noise barrier retrofits.
2. Truck usage restrictions.
3. Reduction of speed limits.
4. Use of quieter paving materials.
5. Building façade sound insulation.
6. Traffic calming.
7. Additional enforcement of speed limits and exhaust noise laws.
8. Signal timing.

It is recognized that these measures, used individually or collectively, can result in a reduction of traffic noise levels at affected sensitive receptor locations. The level of increased traffic throughout the County as a result of the 2008-2028 General Plan could be considered significant when located in a residential area, or near other sensitive receptors like hospitals, schools, libraries or churches. Fortunately, almost none of these uses exist along the major thoroughfares and streets in Tehama County that could be affected by such an increase in noise. Most of the uses are commercial, industrial, or transportation related and can stand higher noise levels. Therefore, given the above mentioned mitigation measure, the goals and criteria of the Noise Element, and the 2008-2028 General Plan policies and implementation measures listed under Impact 4.10.4, the general and incrementally cumulative impacts are expected to be **less than cumulatively considerable**.

4.10.5 REFERENCES

- County of Tehama. 2007. *Noise Element of the County of Tehama General Plan*. Tehama, CA.
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