10 NOISE ELEMENT

The purpose of the Noise Element is to identify sources of noise in Oroville and to define strategies for reducing the negative impact of noise to the community. Noise has become recognized as an environmental pollutant that can threaten quality of life and human health by causing annoyance or disrupting sleep and everyday activities. With the presence of significant noise sources in Oroville, including Highways 70 and 162, the Union Pacific and Burlington Northern Santa Fe Railroads and the Oroville Municipal Airport, reducing the negative impact of unwanted and excessive noise is an important aspect of maintaining the city's valuable quality of life and community character, which includes maintenance of a peaceful rural environment.

State law requires that the General Plan include a Noise Element, which is to be prepared according to guidelines adopted by the California Office of Noise Control (ONC). In accordance with State law requirements, this Noise Element provides a systematic approach to limiting community exposure to noise, including the following components:

- **Quantitative analysis**, based on noise measurements and modeling of major existing and future noise sources in the community, including both mobile and stationary sources;
- **Mapping** of generalized noise level contours to be used as a basis for land use decision-making;
- **Goals, policies and actions** to address community exposure to existing and projected noise sources.

This Element is to be used as a guide to identify and mitigate noise problems in the City of Oroville, and it is divided into three sections:

- **Background Information**: Provides information as to how noise is measured, the effects of noise and land use compatibility.
- **Oroville's Noise Environment**: Describes the noise environment in Oroville Planning Area.
- **Goals, Policies, and Actions:** Provides guidance to the City related to noise impact decisions.

Noise data developed for the General Plan serves as a basis for addressing noise issues, primarily by promoting development patterns that recognize identified sources of noise and by regulation of the location of noise-sensitive uses. Noise exposure information provided in this Element will also be used to provide baseline information about community noise and noise sources.

A. Background Information

This section provides a brief discussion of acoustical fundamentals to assist in understanding the current noise environment of the City of Oroville. This section explains how noise is measured and gives an overview of the potential effects from excessive noise. An explanation of how noise affects various land uses is also provided.

1. Measurement of Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave: it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to gauge noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms used throughout this chapter are defined in Table NOI-1.

There are several methods for measuring sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table NOI-2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the sum of all the time-varying events. This energy-equivalent sound/noise descriptor is called

TABLE NOI-1 **DEFINITIONS OF ACOUSTICAL TERMS**

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L01, L10, L50, L90	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Equivalent Noise Level (L_{eq}). The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about ±1 dBA. Various computer models are used to predict environmental noise levels from sources such as roadways and airports. The accuracy of the predicted models

TABLE NOI-2 **TYPICAL SOUND LEVELS**

Noise Generators (Distance from Noise Source)	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil defense siren (100 feet)	130		
Jet take-off (200 feet)	120		Pain threshold
	110	Rock music concert	
Diesel pile driver (100 feet)	100		Very loud
Freight cars (50 feet)	90	Boiler room Printing press plant	
Pneumatic drill (50 feet) Freeway (100 feet) Vacuum cleaner (10 feet)	80 70	In kitchen with garbage disposal running	Moderately loud
	60	Data processing center	
Light traffic (100 feet) Large transformer (200 feet)	50	Department store	
	40	Private business office	Quiet
Soft whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	10		Threshold of hearing

depends upon the distance of the receptor from the noise source. Close to the noise source, the models are accurate to within about ±1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night—because excessive noise interferes with the ability to sleep—24-hour descriptors have been

developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level, CNEL, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. - 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. - 7:00 a.m.) noise levels. The Day/Night Average Sound Level, L_{dn}, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

2. Effects of Noise

There are numerous short and long term effects of noise on communities. These include hearing loss, sleep and speech interference and annoyance.

a. Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has produced a noise exposure standard, which is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

b. Sleep and Speech Interference

The threshold for speech interference indoors is approximately 45 dBA if the noise is steady or above 55 dBA if the noise fluctuates. The threshold is approximately 15 dBA higher in outdoor environments. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above approximately 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}. These standards are designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses.

Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for newer homes. Sleep and speech interference is therefore possible when exterior noise levels are between 57 to 62 dBA L_{dn} with open windows and between 65 to 70 dBA L_{dn} if the windows are closed. Levels of

55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical measurement for a major arterial. Levels of 75 to 80 dBA are normal noise levels for development immediately fronting a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways must have windows that close; those facing major roadways and freeways typically need specially designed glass installed in window frames.

c. Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio, television, sleep and rest and house vibrations. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed.

There continues to be disagreement about the relative annoyance of noise from aircrafts and roadways. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately 2 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent. There is, therefore, an increase of about 1 percent per dBA between an L_{dn} of 60 to 70 dBA. Between an L_{dn} of 70 to 80 dBA, each decibel increase results in about a 2 percent increase in population that is highly annoyed. People appear to respond more adversely to aircraft noise. When the L_{dn} is 60 dBA, approximately 10 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about two percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 3 percent increase in the percentage of the population that is highly annoyed.

3. Land Use Compatibility

Different types of land uses are considered to have various sensitivities to noise based on the types of activities that are expected to take place in those uses. Land uses typically deemed to be noise sensitive include residences, hospitals, nursing homes, places of worship, and schools. Land uses that are less sensitive to noise include some office and retail developments. There is a range of insensitive noise receptors which generate significant noise levels or where human occupancy is typically low. Examples of insensitive uses include industrial and manufacturing uses, utilities, agriculture, vacant land, parking lots, salvage yards and transit terminals.

The City of Oroville has developed maximum allowable noise exposure levels for interior and exterior spaces for various land use categories. These maximum noise levels are shown in Tables NOI-6 and NOI-7 in Section C of this element.

B. Oroville's Current Noise Environment

As a prerequisite to an effective noise program, the City of Oroville must be cognizant of the location and extent of local noise problems, including major noise source locations, noise sensitive receptor locations and current levels of exposure. This data can be utilized to focus noise control and abatement efforts where they are most needed. In some cases, the control of noise sources may be beyond the City's jurisdiction. However, by recognizing these limitations, more effective land use strategies can be developed to mitigate or avoid problematic noise.

Major mobile noise sources in the city include vehicular traffic, trains and aircraft, each of which is described below.

1. Traffic

The existing noise generated by vehicular traffic in the city has been evaluated using traffic volumes developed for the Circulation and Transportation Element and the Federal Highway Administration Traffic Noise Model (TNM) Version 2.5. Traffic noise expressed as L_{dn} at a fixed distance of 100 feet from the roadway centerline has been calculated for primary roadways in the city. As will be discussed later, the City uses 60 L_{dn} as the compatibility standard for most noise sensitive land uses including residential, lodging, school, and hospital uses. To identify those areas in the city where traffic noise currently exceeds 60 L_{dn}, the distances from roadway centerlines to the 60 L_{dn} contour have been evaluated. Table NOI-3 identifies the roadways evaluated along with the L_{dn} values at 100 feet from the roadway centerline. Distances to the 65 and 70 L_{dn} contours are also provided. Figure NOI-1 graphically depicts the 60, 65, and 70 L_{dn} traffic noise contours in the Oroville Planning Area.

2. Rail

A Union Pacific Railroad line runs north-south through the city. Burlington Northern Santa Fe has joint track rights with Union Pacific. There are approximately 35 train trips through the city on a daily basis. Based on this number of trips the 65 dB- L_{dn} contour is located about 190 feet from the centerline of the track and the 60 dB- L_{dn} contour is located about 410 feet from the centerline of

TABLE NOI-3 **EXISTING TRAFFIC NOISE LEVELS**

Roadway	Segment Location		L_{dn} at 100 Feet from Roadway Centerline	Distance from Roadway Centerline to L_{dn} Noise Contour (Feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Cherokee Road	Oregon Gulch	Table Mountain Blvd	46	*	*	*
Cottonwood	Highway 70	SR-99	43	*	*	*
Feather River Blvd	Oroville Dam Blvd	Georgia Pacific Way	56	*	*	67
Feather River Blvd	Oroville Dam Blvd	Montgomery St	55	*	*	59
Foothill Blvd	Olive Highway	Oroville Bangor Hwy	55	*	*	64
Foothill Blvd	Oroville Bangor Hwy	Lower Wyandotte Rd	51	*	*	33
Foothill Blvd	Montgomery	Olive Hwy	56	*	*	68
Georgia Pacific Way	Highway 70	UP Rail Line	53	*	*	50
Grand Avenue	Highway 70	18th Ave	53	*	*	48
Grand Avenue	3rd Street	Table Mountain Blvd	55	*	*	59
Larkin Road	Highway 162	E Hamilton Rd	58	*	52	91
Lincoln Blvd	Myers St	Ophir Rd	60	*	66	115
Lincoln Blvd	Ophir Rd	Palermo Rd	57	*	39	76
Lincoln Blvd	Montgomery St	Oroville Dam Blvd E	53	*	*	49
Lincoln Street	Oroville Dam Blvd E	Myers St	58	*	48	89
Lone Tree Road	Highway 70	Palermo Rd	51	*	*	35
Lower Wyandotte Rd	Olive Hwy	Oroville Bangor Hwy	58	*	48	87
Lower Wyandotte Rd	Palermo Rd	Oroville Bangor Hwy/Foothill Blvd	53	*	*	51
Lower Wyandotte Rd	Las Plumas Ave	Ophir Road	55	*	*	63
Mitchell Avenue	Feather River Blvd	Myers St	52	*	*	40
Montgomery St	Highway 70	Table Mountain Blvd	54	*	*	52
Montgomery St/Orange Avenue	Washington Ave	Oroville Dam Blvd E	54	*	*	55
Mt. Ida Road			48	*	*	*

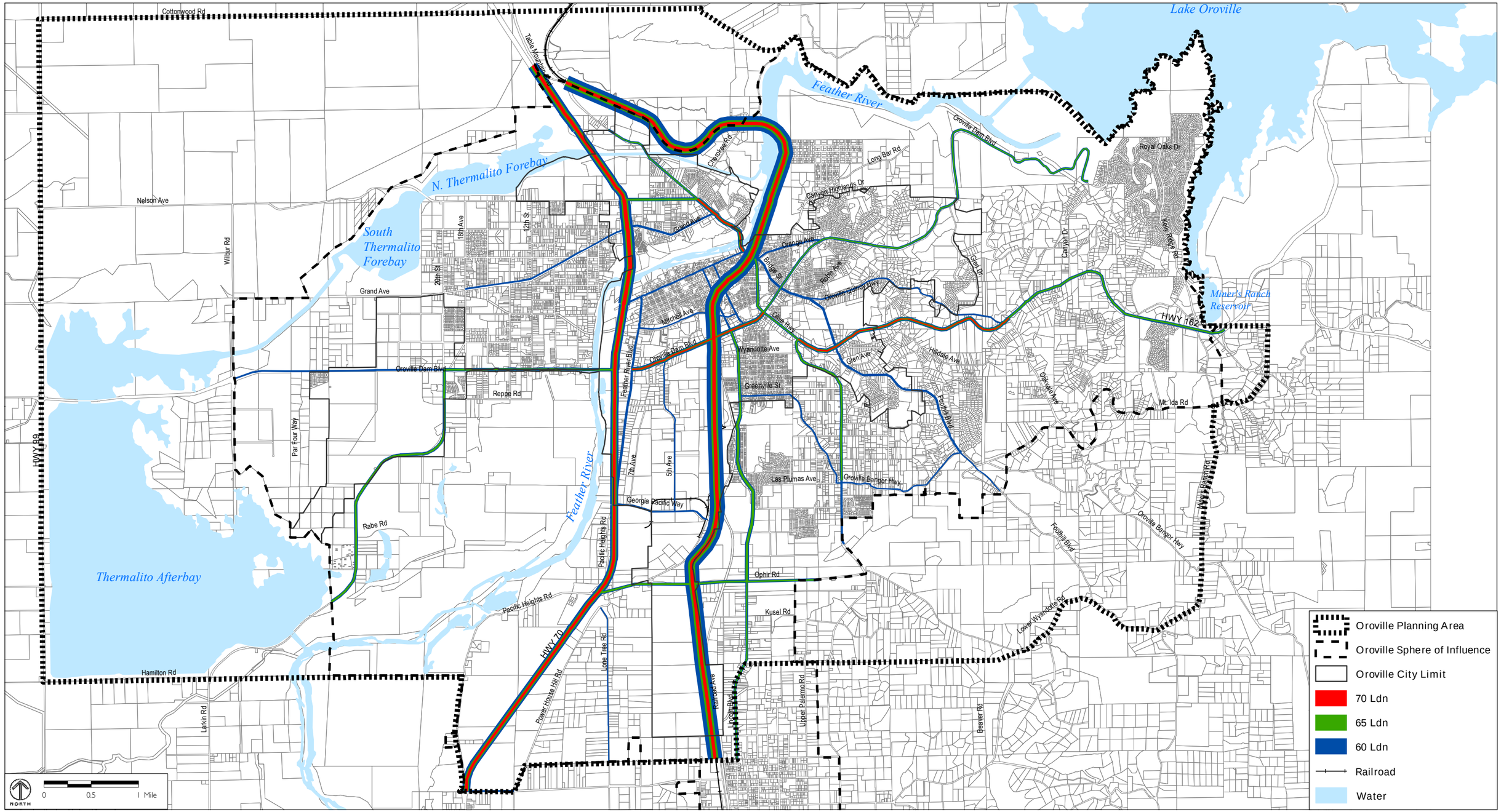
TABLE NOI-3 **EXISTING TRAFFIC NOISE LEVELS** (CONTINUED)

Roadway	Segment Location		L_{dn} at 100 Feet from Roadway Centerline	Distance from Roadway Centerline to L_{dn} Noise Contour (Feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Myers Street	Montgomery St	Oroville Dam Blvd E	54	*	*	48
Nelson Ave	Highway 70	Table Mountain Blvd	59	*	56	98
Nelson Avenue	Wilbur Rd	Highway 70	47	*	*	*
Olive Highway	Foothill Blvd	Oakvale Ave	61	33	69	120
Olive Highway	Oroville Dam Blvd E	Lower Wyandotte Rd	57	*	37	75
Olive Highway	Lower Wyandotte Rd	Foothill Blvd	61	38	75	129
Ophir Road	Highway 70	Lincoln Blvd	58	*	51	91
Ophir Road	Lincoln Blvd	Lower Wyandotte Road	57	*	41	78
Oroville Bangor High-way	Lincoln Blvd	Las Plumas Ave	53	*	*	45
Oroville Bangor High-way	Lincoln Blvd	Foothill Blvd	52	*	*	40
Oroville Bangor High-way	Highway 162	Miner's Ranch Rd	40	*	*	*
Oroville Dam Blvd	Highway 70	Larkin Rd	59	*	54	94
Oroville Dam Blvd	SR-99	Larkin Rd	54	*	*	54
Oroville Dam Blvd	Feather River Blvd	Olive Hwy	61	36	73	131
Oroville Dam Blvd East	Orange Avenue	Oroville Hwy	56	*	34	70
Oroville Dam Boulevard	Acacia Ave	Canyon Dr	56	*	36	72
Oroville Garden Ranch Rd	Lower Wyandotte Rd	Foothill Blvd	48	*	*	*
Oroville Quincy High-way	Bridge St	Olive Hwy	52	*	*	42
Palermo Road	Highway 70	Upper Palermo Rd	54	*	*	54
South 5th Ave	Oroville Dam Blvd	Georgia Pacific Way	51	*	*	38
South 7th	Oroville Dam Blvd	Georgia Pacific Way	48	*	*	*
Spencer	Baldwin	Oroville-Bangor Hwy	48	*	*	*
Highway 162	Oakvale Dr	Forbestown Rd	57	*	45	84

TABLE NOI-3 **EXISTING TRAFFIC NOISE LEVELS** (CONTINUED)

Roadway	Segment Location		L_{dn} at 100 Feet from Roadway Centerline	Distance from Roadway Centerline to L_{dn} Noise Contour (Feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Highway 70	Oroville Dam Blvd	Ophir Rd	67	76	129	228
Highway 70	Montgomery St	Grand Ave	70	104	182	321
Highway 70	Cottonwood	Garden Dr	68	93	161	283
Highway 70	Ophir Rd	Palermo Rd	66	74	125	220
Highway 70	Garden Dr	Nelson Ave	67	84	143	251
Highway 70	Oroville Dam Blvd	Montgomery St	68	86	147	258
Table Mountain Blvd	Nelson Ave	Montgomery St	62	41	78	136
Table Mountain Blvd	Cottonwood	Garden Dr	47	*	*	*
Table Mountain Blvd	Garden Dr	Nelson Ave	56	*	33	68
Upper Palermo Road	Palermo Rd	Lower Wyandotte Rd	52	*	*	44
Washington	Montgomery St	Oroville Dam Blvd E	58	*	49	90

Source: Jones and Stokes noise analysis for City of Oroville 2006.
* For these roadways, no data is presented since the noise contour does not extend beyond the roadway and can not be mapped.



Source: City of Oroville GIS, 2005.

FIGURE NOI-1

EXISTING TRAFFIC AND RAIL NOISE CONTOURS

the track. Figure NOI-1 graphically depicts the 60 L_{dn} train noise contours in the Oroville Planning Area.

3. Aircraft

The Oroville Municipal Airport is located southwest of the city. Noise contours have been updated as part of the 2000 Airport Comprehensive Land Use Plan. Figure NOI-2 depicts the most recent aircraft noise contours.

4. Major Stationary Noise Sources

Industrial processes and facilities can be a substantial source of noise. Large scale mechanical equipment and trucks operated at these facilities are the primary sources of noise. The City's daytime noise compatibility standard for non-transportation sources is 50 dBA-L_{eq}, as identified in Table NOI-6 in Section C of this Element. Table NOI-4 identifies facilities that are representative of major stationary noise sources in the city and summarizes the range of distances from each facility to the 50 dBA-L_{eq} contour line.

TABLE NOI-4 **DISTANCES TO 50 dBA-L_{EQ} CONTOURS FOR MAJOR STATIONARY SOURCES IN THE CITY**

Facility	Distance to 50 dBA-L_{eq} Contour
Pacific Laminating, Inc. (2805 Richter Avenue)	400 to 1,700 feet
Granite Construction Co. (4714 Pacific Heights Road)	800 to 1,600 feet
Setzer Forest Products (1980 Kusel Road)	210 to 1,250 feet
Pacific Coast Producers (1601 Mitchell Avenue)	1,000 to 1,400 feet

C. Oroville's Future Noise Environment

This section describes the projected future noise environment in Oroville over the next 25 years. Projection of the future noise environment in Oroville was modeled based on the future land uses and traffic volumes described in the Circulation and Transportation Element of this 2030 General Plan and in the 2030 General Plan EIR.

Source: Butte County Airport Land Use Compatibility Plan, Butte County Airport Land Use Commission. 2000.

FIGURE NOI-2

OROVILLE MUNICIPAL AIRPORT NOISE CONTOURS

Anticipated train noise was taken from existing levels, since it is not possible to precisely determine if future train activity will increase, remain the same, or decrease. Accordingly, train noise levels in the future are expected to be similar to the current levels.

The major noise sources in Oroville will continue to be transportation related, including roadways, trains and aircraft. Table NOI-5 summarizes traffic noise modeling results for 2030 conditions under the 2030 General Plan, and Figure NOI-3 graphically depicts the forecasted 60, 65, and 70 L_{dn} traffic noise contours. Transportation noise sources, as well as individual stationary and industrial noise generators, must be considered in the planning process to ensure long-term noise compatibility. Greater detail on the future noise environment in Oroville can be found in the General Plan EIR.

The greatest increases in noise are projected along major transportation corridors, industrial areas and near the Oroville Municipal Airport. Roadways projected to have an increase in noise include:

- Highway 70, throughout the Planning Area
- Oroville Dam Boulevard between Highway 70 and Larkin Road
- Olive Highway and Highway 162
- Georgia Pacific Way between Highway 70 and the railroad
- South 5th Avenue between Oroville Dam Boulevard and Georgia Pacific Way
- Larkin Road from Rabe Road to Oroville Dam Boulevard
- Larkin Road from the border of the SOI to Rabe Road

Sensitive receptors along the roadways identified above within the noise contours identified in the General Plan EIR may be impacted by future traffic noise. This is particularly true with older homes that take direct access from the roadway or where individuals in outdoor activity areas such as front or rear yards and porches are exposed to vehicles driving behind their homes, with no intervening barriers. Medium to high density residential areas west of Highway 70 and north of Oroville Dam Boulevard may be exposed to future noise levels exceeding 60 L_{dn}.

Aircraft operations at the Oroville Municipal Airport are not anticipated to increase substantially in the future. Accordingly, aircraft noise contours in the future are expected to remain similar to current conditions. Residential development in the vicinity of the airport is limited by the 2000 Butte County Airport Land Use Compatibility Plan, in part, to limit exposure to noise. It is not anticipated that noise

TABLE NOI-5 **FUTURE 2030 TRAFFIC NOISE LEVELS**

Roadway	Segment Location		L_{dn} at 100 Feet from Roadway Centerline	Distance from Roadway Centerline to L_{dn} Noise Contour (Feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Cherokee Road	Oregon Gulch	Table Mountain Blvd	46	*	*	*
Cottonwood	Highway 70	SR-99	44	*	*	*
Feather River Blvd	Oroville Dam Blvd	Georgia Pacific Way	60	*	61	106
Feather River Blvd	Oroville Dam Blvd	Montgomery St	58	*	47	88
Foothill Blvd	Olive Highway	Oroville Bangor Hwy	58	*	47	86
Foothill Blvd	Oroville Bangor Hwy	Lower Wyandotte Rd	52	*	*	42
Foothill Blvd	Montgomery	Olive Hwy	57	*	40	77
Georgia Pacific Way	Highway 70	UP Rail Line	59	*	57	98
Grand Avenue	Highway 70	18th Ave	58	*	45	84
Grand Avenue	3rd Street	Table Mountain Blvd	58	*	47	88
Larkin Road	Highway 162	E Hamilton Rd	63	53	93	160
Lincoln Blvd	Myers St	Ophir Rd	63	51	91	161
Lincoln Blvd	Ophir Rd	Palermo Rd	59	*	56	97
Lincoln Blvd	Montgomery St	Oroville Dam Blvd E	56	*	*	64
Lincoln Street	Oroville Dam Blvd E	Myers St	61	34	70	127
Lone Tree Road	Highway 70	Palermo Rd	61	*	67	118
Lower Wyandotte Road	Olive Hwy	Oroville Bangor Hwy	58	*	49	88
Lower Wyandotte Road	Palermo Rd	Oroville Bangor Hwy/Foothill Blvd	55	*	*	62
Lower Wyandotte Road	Las Plumas Ave	Ophir Road	57	*	39	77
Mitchell Avenue	Feather River Blvd	Myers St	54	*	*	49
Montgomery St	Highway 70	Table Mountain Blvd	57	*	36	75
Montgomery St/Orange Avenue	Washington Ave	Oroville Dam Blvd E	56	*	34	70

TABLE NOI-5 **FUTURE 2030 TRAFFIC NOISE LEVELS** (CONTINUED)

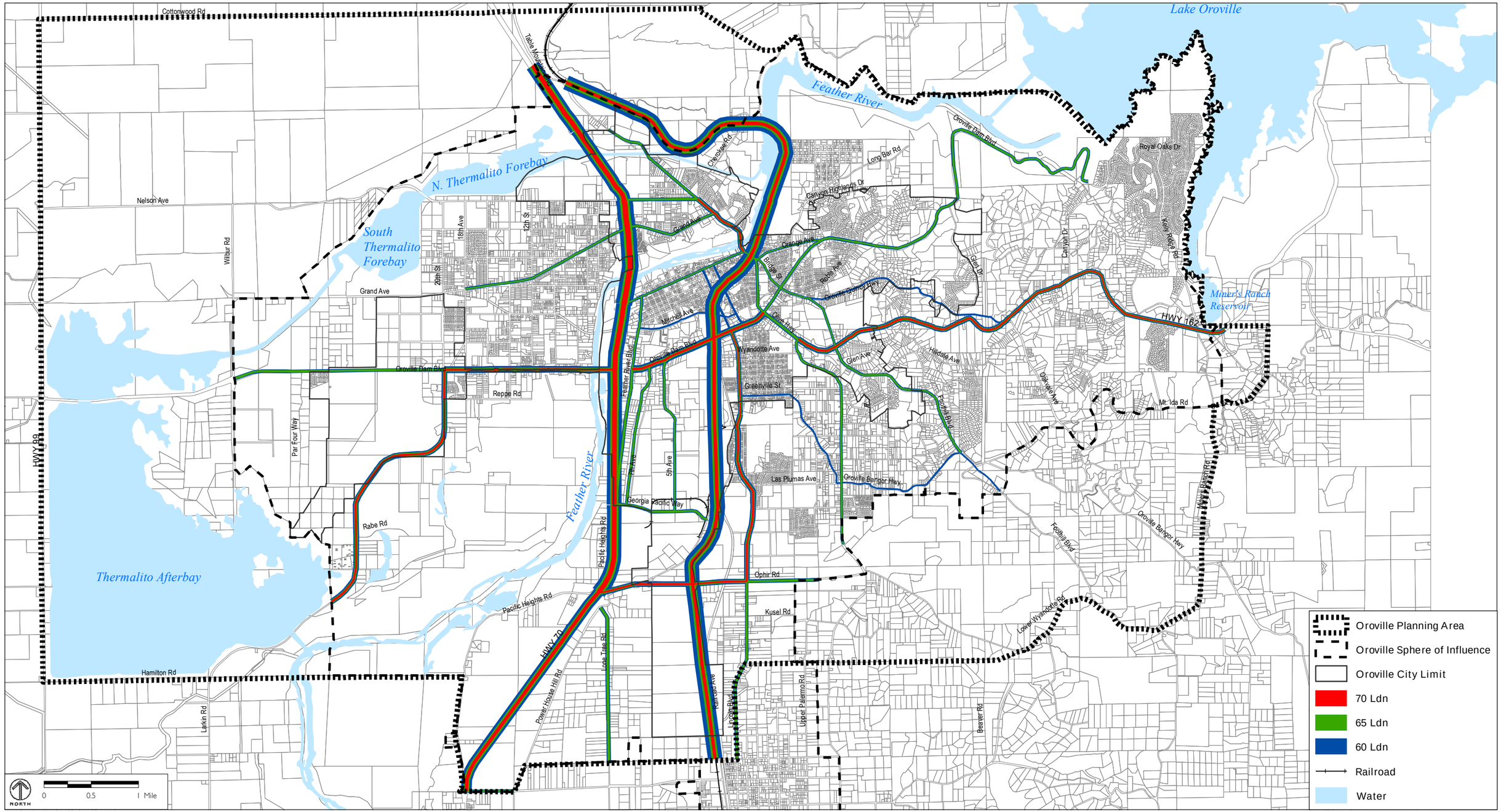
Roadway	Segment Location		L_{dn} at 100 Feet from Roadway Centerline	Distance from Roadway Centerline to L_{dn} Noise Contour (Feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Mt. Ida Road			49	*	*	*
Myers Street	Montgomery St	Oroville Dam Blvd E	55	*	*	61
Nelson Ave	Highway 70	Table Mountain Blvd	59	*	59	103
Nelson Avenue	Wilbur Rd	Highway 70	49	*	*	*
Olive Highway	Foothill Blvd	Oakvale Ave	63	49	88	155
Olive Highway	Oroville Dam Blvd E	Lower Wyandotte Rd	61	*	65	120
Olive Highway	Lower Wyandotte Rd	Foothill Blvd	64	54	95	170
Ophir Road	Highway 70	Lincoln Blvd	63	49	88	156
Ophir Road	Lincoln Blvd	Lower Wyandotte Road	60	*	62	107
Oroville Bangor Highway	Lincoln Blvd	Las Plumas Ave	53	*	*	49
Oroville Bangor Highway	Lincoln Blvd	Foothill Blvd	53	*	*	48
Oroville Bangor Highway	Highway 162	Miner's Ranch Rd	42	*	*	*
Oroville Dam Blvd	Highway 70	Larkin Rd	65	60	105	188
Oroville Dam Blvd	SR-99	Larkin Rd	59	*	57	98
Oroville Dam Blvd	Feather River Blvd	Olive Hwy	65	61	111	208
Oroville Dam Blvd East	Orange Avenue	Oroville Hwy	58	*	50	92
Oroville Dam Boule-vard	Acacia Ave	Canyon Dr	58	*	51	91
Oroville Garden Ranch Rd	Lower Wyandotte Rd	Foothill Blvd	49	*	*	*
Oroville Quincy Highway	Bridge St	Olive Hwy	54	*	*	51
Palermo Road	Highway 70	Upper Palermo Rd	58	*	49	88
South 5th Ave	Oroville Dam Blvd	Georgia Pacific Way	58	*	47	86
South 7th	Oroville Dam Blvd	Georgia Pacific Way	58	*	53	93

TABLE NOI-5 **FUTURE 2030 TRAFFIC NOISE LEVELS** (CONTINUED)

Roadway	Segment Location		L_{dn} at 100 Feet from Roadway Centerline	Distance from Roadway Centerline to L_{dn} Noise Contour (Feet)		
				70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Spencer	Baldwin	Oroville-Bangor Hwy	49	*	*	*
Highway 162	Oakvale Dr	Forbestown Rd	62	40	77	132
Highway 70	Oroville Dam Blvd	Ophir Rd	72	132	233	410
Highway 70	Montgomery St	Grand Ave	73	150	262	464
Highway 70	Cottonwood	Garden Dr	71	126	222	391
Highway 70	Ophir Rd	Palermo Rd	69	97	169	298
Highway 70	Garden Dr	Nelson Ave	71	121	213	374
Highway 70	Oroville Dam Blvd	Montgomery St	72	133	235	413
Table Mountain Blvd	Nelson Ave	Montgomery St	63	47	85	150
Table Mountain Blvd	Cottonwood	Garden Dr	50	*	*	*
Table Mountain Blvd	Garden Dr	Nelson Ave	58	*	51	91
Upper Palermo Road	Palermo Rd	Lower Wyandotte Rd	53	*	*	50
Washington	Montgomery St	Oroville Dam Blvd E	58	*	50	91

Source: Jones and Stokes noise analysis for City of Oroville 2006.

* For these roadways, no data is presented since the noise contour does not extend beyond the roadway and can not be mapped.



Source: City of Oroville GIS, 2005.

FIGURE NOI-3

FUTURE 2030 - TRAFFIC AND RAIL NOISE CONTOURS

from existing major stationary sources will change in the future. Accordingly, noise levels from existing stationary noise sources identified in Table NOI-4 are not expected to change in the future.

D. Goals, Policies, and Actions

The Noise Element's comprehensive framework of goals, policies, and actions address Oroville's noise issues through compatibility, planning and permitting process, and noise source reduction.

This Noise Element establishes objectives and implementing policies intended to limit community exposure to excessive noise levels. Noise/land use compatibility standards are detailed in Tables NOI-6 and NOI-7. Table NOI-6 summarizes the standards for transportation (i.e. mobile) sources and Table NOI-7 summarizes standards for non-transportation (i.e. stationary) sources. Table NOI-8 identifies significance thresholds for increases in noise based on changes in cumulative noise exposure.

1. Land Use Compatibility

Goal NOI-1	**Minimize community exposure to excessive noise by ensuring compatible land uses relative to noise sources.**

Policies

P1.1 Include noise considerations in land use planning, transportation planning and project design decisions.

P1.2 Require new development to mitigate exterior noise to the noise exposure levels shown in Tables NOI-6 and NOI-7 in the backyards of single-family homes and in outdoor common use areas in multi-family residential facilities.

P1.3 Require preparation of a noise analysis/acoustical study, which is to include recommendations for mitigation, for all proposed projects which may result in potentially significant noise impacts to nearby noise sensitive land uses, such as residences or that is

predicted to be exposed to noise levels greater than the exterior or interior noise levels shown in Tables NOI-6 and NOI-7.

The following provisions would apply to project-specific acoustical analyses:

- Be the financial responsibility of the applicant.
- Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
- Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
- Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which may be considered to contain noise-sensitive land uses.
- Estimate noise exposure after the prescribed mitigation measures have been implemented.
- Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

P1.4 Require an acoustical analysis and include appropriate mitigation measures in the project design where the land uses listed in Table NOI-6 are proposed in areas exposed to existing or projected exterior transportation noise levels exceeding the levels specified in Table NOI-6.

TABLE NOI-6 **MAXIMUM ALLOWABLE NOISE EXPOSURE TO TRANSPORTATION NOISE SOURCES**

	Exterior Noise Level Standard for Outdoor Activity Areas[a]	Interior Noise Level Standard	
Land Use	**L_{dn}/CNEL, dB**	**L_{dn}/CNEL, dB**	**L_{eq}, dB[b]**
Residential	60[c]	45	--
Transient lodging	60[c]	45	--
Hospitals, nursing homes	60[c]	45	--
Theaters, auditoriums, music halls	--	--	35
Churches, meeting halls	60[c]	--	40
Office buildings	--	--	45
Schools, libraries, museums	--	--	45
Playgrounds, neighborhood parks	70	--	--

Note: -- = not applicable.
[a] Where the location of outdoor activity areas is unknown, the exterior noise-level standard shall be applied to the property line of the receiving land use.
[b] As determined for a typical worst-case hour during periods of use.
[c] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed, provided that available exterior noise-level reduction measures have been implemented and interior noise levels are in compliance with this table.

P1.5 Mitigate noise created by proposed non-transportation noise sources so as not to exceed the noise level standards of Table NOI-7 as measured immediately within the property line of the affected land use.

P1.6 Require mitigation of all significant noise impacts as a condition of project approval. Use the following thresholds in making a determination of significant impact pursuant to the California Environmental Quality Act (CEQA):

TABLE NOI-7 **MAXIMUM ALLOWABLE NOISE EXPOSURE TO NON-TRANSPORTATION SOURCES**

Land Use	Noise Level Descriptor	Exterior Noise Level Standard (Applicable at Property Line)		Interior Noise Level Standard	
		Daytime (7:00 a.m. – 10:00 p.m.)	Nightime (10:00 p.m. – 7:00 a.m.)	Daytime (7:00 a.m. – 10:00 p.m.)	Nightime (10:00 p.m. – 7:00 a.m.)
Residential	L_{eq}	50	45	40	35
	L_{max}	70	65	60	55
Transient lodging, hospitals, nursing homes	L_{eq}	--	--	40	35
	L_{max}	--	--	60	35
Theaters, auditoriums, music halls	L_{eq}	--	--	35	35
Churches, meeting halls	L_{eq}	--	--	40	40
Office buildings	L_{eq}	--	--	45	--
Schools, libraries	L_{eq}	--	--	45	--
Playgrounds, parks	L_{eq}	65	--	--	--

Note: Each of the noise levels specified above shall be lowered by 5dB for simple tone noises, which are noises consisting primarily of speech, music or recurring impulsive noises. These noise-level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwelling).

- The significance of noise impacts may be determined by comparison of overall noise levels (including contributions from the project) to applicable federal, State or local noise level standards, and by the expected change in ambient noise levels which will occur as a result of the project.
- The overall noise level shall be considered significant if the project results in the exposure of noise sensitive land uses to noise levels which exceed the noise standards in Table NOI-7.

- An increase of 3 dB will be considered a significant increase in the ambient noise level.
- For transportation noise sources in the City of Oroville the increases in noise specified in Table NOI-8 represent a significant increase in ambient noise.

TABLE NOI-8 **SIGNIFICANT INCREASE IN TRANSPORTATION NOISE**

Ambient Noise Level Without Project (L_{dn} or CNEL)	Significant Increase
< 60 dB	+5.0 dB or more
60 to 65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

P1.7 Only allow land uses to exceed the noise exposure standards in Tables NOI-6 and NOI-7 if the proposed use can be shown to serve the greater public interests of the citizens of Oroville.

P1.8 Discourage the construction of sound walls. Instead, use building set-backs, earthen berms, alternative architectural layouts and other means to meet the land use compatibility requirements specified in Table NOI-6 and Table NOI-7.

P1.9 Encourage homeowners to retrofit–homes exposed to existing unacceptable interior noise levels, and those that become exposed to unacceptable interior noise in the future, with sound insulating features.

P1.10 When considering development proposals in the environs of the Oroville Municipal Airport, enforce the noise compatibility criteria and policies set forth in the adopted Butte County Airport Land Use Compatibility Plan. This includes restricting the development of residential or other noise sensitive receptor uses

within the 55 dB CNEL noise contour around the Oroville Municipal Airport.

P1.11 Reduce potential impacts from groundborne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g. residences) are sited at least 100 feet from the centerline of the railroad tracks whenever feasible and that development of vibration-sensitive buildings within 100 feet from the centerline of the railroad tracks require a study demonstrating that groundborne vibration issues associated with rail operations have been adequately addressed (i.e., through building siting or construction techniques).

Actions

A1.1 Develop and adopt an appropriate and consistent Community Noise Ordinance to control noise impacts and to ensure that residents are not exposed to excessive noise levels from stationary and mobile sources.

A1.2 Amend the City Building Code as necessary to implement the policies of Goal NOI-1 and to be consistent with the noise policies and criteria of the Butte County Airport Land Use Compatibility Plan.

A1.3 Conduct a noise monitoring study at least every five years to measure noise levels associated with operation of the Oroville Municipal Airport, and evaluate the noise impact boundary of the airport, in accordance with Sections 3525 through 3560 of Title 21 of the California Code of Regulations.

A1.4 Periodically evaluate and provide a report to the City Council on the Butte County Airport Land Use Commission's noise monitoring efforts, data and noise abatement efforts. Develop necessary actions in response to the findings of the report.

A1.5 Adopt a list of acceptable mitigations that might be applied to mitigate noise impacts to acceptable levels, including specific guidelines for their implementation. Chapter 4 of the US Department of Housing and Urban Development's (HUD) Noise

Guidebook, or the Federal Aviation Administration (FAA) Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations, may be a suitable source for the development of recommendations and guidelines for noise attenuation.

2. Noise Source Reduction

Goal NOI-2	**Reduce noise levels from sources such as domestic uses, construction, and mobile sources including motor vehicles and aircraft.**

Policies

P2.1 Mitigate noise created by new transportation noise sources, including roadway improvement projects, so as not to exceed the levels specified in Table NOI-6 at outdoor activity areas or interior spaces of the existing uses specified in Table NOI-4.

P2.2 Enforce provisions of the Community Noise Ordinance, which limits maximum permitted noise levels that cross property lines and impact adjacent land uses.

P2.3 Limit noise generating construction activities located within 1,000 feet of residential uses to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and non-holidays.

P2.4 Require the following standard construction noise control measures to be included as requirements at construction sites in order to minimize construction noise impacts:

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.

- Utilize "quiet" air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.
- The project sponsor shall designate a "noise coordinator" who would be responsible for responding to any local complaints about construction noise. The noise coordinator will determine the cause of the noise complaint (e.g. starting too early, bad muffler) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

P2.5 Control the sound of vehicle amplification systems (e.g. loud stereos) by enforcing Section 27007 of the California Motor Vehicle Code. This section prohibits amplified sound which can be heard 50 or more feet from a vehicle.

P2.6 Support efforts to reduce vehicle and equipment noise, e.g. through fleet and equipment modernization or retrofits, use of alternative fuel vehicles and installation of mufflers or other noise reducing equipment.

P2.7 Work with Caltrans to implement design methods other than sound walls to attenuate traffic noise along highways in Oroville. Encourage Caltrans to incorporate noise reducing features, utilizing alternative road surfacing materials that minimize vehicle noise, during highway improvement projects, when feasible and where consistent with City policies.

11 GLOSSARY

This glossary explains the technical terms used in the Oroville General Plan that are common in the field of planning. Definitions come from several sources, including the California Office of Planning and Research and the American Planning Association Glossary of Zoning, Development, and Planning Terms.

A. Abbreviations

ACTM: Advisory Committee of Tribal Matters
ADA: Americans with Disabilities Act
ADT: Average daily trips made by vehicles or persons in a 24-hour period
ALUC: Airport Land Use Commission (Butte County)
ARB: Air Resources Board (California)
BCAG: Butte County Association of Governments
BCFD: Butte County Fire Department
BID: Business Improvement District
CAL FIRE: California Department of Forestry and Fire Protection
CCR: California Code of Regulations
CDBG: Community Development Block Grant
CEQA: California Environmental Quality Act
CESA: California Endangered Species Act
CFS: Cubic Feet Per Second
CIP: Capital Improvements Program
CIWMB: California Integrated Waste Management Board
CMP: Congestion Management Program
CNEL: Community Noise Equivalent Level
CNPS: California Native Plant Society
CPTED: Crime Prevention through Environmental Design
dB: Decibel
dBA: A-Weighted Sound Level
DFW: California Department of Fish and Wildlife
DPR: State Department of Parks and Recreation
DTSC: California Department of Toxic Substances Control
du: Dwelling units
du/acre: Dwelling units per acre
EIR: Environmental Impact Report (State)
EMF: Electric and magnetic fields
EPA: Environmental Protection Agency (US)
ERC: Extended Runway Centerline

FAA:	Federal Aviation Administration
FAR:	Floor Area Ratio
FERC:	Federal Energy Regulatory Commission
FIRM:	Flood Insurance Rate Maps
FRRPD	Feather River Recreation and Park District
FEMA:	Federal Emergency Management Agency
HCM:	*Highway Capacity Manual*
HSC:	California Health and Safety Code
ISO:	Insurance Services Office
LAFCO:	Local Agency Formation Commission
L_{dn}:	Day/Night Average Level
LEED:	Leadership in Energy and Environmental Design
L_{eq}:	Equivalent Noise Level
LOS:	Level of Service
mg:	Million gallons
MGD:	Million gallons per day
MHMP:	Multi-Hazard Functional Disaster Plan
MRF:	Material Recovery Facility
NAAQS:	National Ambient Air Quality Standard
NFIP:	National Flood Insurance Program
NPDES:	National Pollutant Discharge Elimination System
OFD:	Oroville Fire Department
ONC:	California Office of Noise Control
PHHWCF:	Permanent Household Hazardous Waste Collection Facility
PCBs:	polychlorinated biphenyls
RWQCB:	Regional Water Quality Control Board
SCOR:	Sewerage Commission – Oroville Region
SEMS:	Standardized Emergency Management System
sf:	Square footage
SOI:	Sphere of Influence
STAA:	National Network for Surface Transportation Assistance Act of 1982
SWP:	State Water Project
UPRR:	Union Pacific Railroad
USFWS:	United States Fish and Wildlife Service
VMT:	Vehicle Miles Traveled
WWII:	World War II

B. Terminology

Acceptable Risk
A hazard is a tolerable exposure to danger given the expected benefits to be obtained. The level of loss, injury, or destruction below which no specific action by local government is deemed necessary other than making the risk known. Different levels of acceptable risk may be assigned according to the potential danger and the criticalness of the threatened structure. The levels range from "near zero" for nuclear plants and natural gas transmission lines to "moderate" for farm structures and low-intensity warehouse uses.

Acreage, Gross
The land area that exists prior to any dedications for public use, or for health and safety purposes.

Acreage, Net
The portion of a site that can actually be built upon, which is the land area remaining after dedication of ultimate rights-of-way for:

- Exterior boundary streets
- Flood ways
- Public parks and other open space developed to meet minimum standards required by City ordinance
- Utility Easements and rights-of-way may not be counted as net acreage

Action
A program, implementation measure, procedure or technique intended to help achieve a specified objective. (See "Objective")

Adverse Impact
A negative consequence for the physical, social, or economic environment resulting from an action or project.

Archaeological Resource
Material evidence of past human activity found below the surface of ground or water, portions of which may be visible above the surface.

Arterials
Major thoroughfares that carry large volumes of traffic at relatively high speeds. Arterials are designed to facilitate two or more lanes of moving vehicles in each direction and rarely contain on-street parking.

Average Dry Weather Flow (ADWF)
The amount of wastewater that flows into a system on an average day during the dry weather part of the year.

Base Flood (100-year flood)
In any given year, a flood that has a 1 percent likelihood of occurring, and is recognized as a standard for acceptable risk. (See "Floodplain")

Bicycle Path (Class I Facility)
A paved route, not on a street or roadway, expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but are typically separated from them by landscaping.

Bicycle Lane (Class II Facility)
A corridor expressly reserved for bicycles, existing on a street or roadway in addition to lanes for use by motorized vehicles.

Bicycle Route (Class III Facility)
A roadway shared with motorists and identified only by signs, a bicycle route has no pavement markings or lane stripes.

Bikeways
A term that encompasses "bicycle lanes," "bicycle paths" and "bicycle routes."

Blight
Areas with physical or economic challenges including building code violations; incompatible land uses; irregular parcel sizes; high business vacancies; an excess of bars liquor stores or adult clubs; and high crime rates.

Buffer Zone
An area established between potentially conflicting land uses, or agricultural and non-agricultural uses, which depending on the impact may utilize landscaping or structural barriers such as setbacks or roads.

Building Height
The vertical distance from the average contact ground level of a building to the highest point of the coping, whether a flat roof, the deck line of a mansard roof, or to the mean height level between eaves and ridge for a gable, hip, or gambrel roof. The exact definition varies by community. For example, in some communities building height is measured to the highest point of the roof, not including elevator and cooling towers.

Buildout
Development of land to its full potential, or theoretical capacity, as permitted under current or proposed planning or zoning designations.

California Environmental Quality Act (CEQA)
Legislation and corresponding procedural components established in 1970 by the State of California to require environmental review for projects anticipated to result in adverse impacts to the environment.

Capital Improvements Program
A program that schedules permanent improvements, usually for a minimum of five years into the future, that fits the projected fiscal capability of the local jurisdiction. The program generally is reviewed on an annual basis for conformance to and consistency with the General Plan.

Carrying Capacity
Used in determining the potential of an area to absorb development: (1) The level of land use, human activity or development for a specific area that can be permanently accommodated without an irreversible change in the quality of air, water, land, or plant and animal habitats. (2) The upper limits of development beyond which the quality of human life, health, welfare, safety or community character within an area will be impaired. (3) The maximum level of development allowable under current zoning. (See "Buildout")

Collectors
Roadways that connect local streets to "arterials," usually provide two travel lanes for automobiles, and may also have bicycle lanes.

Community Noise Equivalent Level (CNEL)
A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dBA applied to the evening (7:00 p.m. to 10:00

p.m.) and nighttime (10 p.m. to 7:00 a.m.) periods, respectively, to allow for the greater sensitivity to noise during these hours.

Community Park
A large park, generally 15 to 20 acres, that includes a mix of passive and active recreation areas that serve the entire community or a large portion of the community. A community park should include, but not be limited to, the facilities that are typically found at local parks as well as specialized facilities such as amphitheaters and skate parks.

Compatible
Capable of co-existing without conflict or ill effects.

Complete Streets
Streets that facilitate the balanced use of all travel modes (pedestrians, bicyclists, motorists, and transit users) meeting the transportation needs of all ages and abilities and providing mobility for a variety of trip purposes.

Conditional Use Permit
The discretionary and conditional review of an activity or function or operation on a site or in a building or facility.

Conservation
The management of natural resources to prevent waste, destruction, or neglect.

Corridor
Linear areas located along arterial roadways, typically one to two lots deep on either side of the road. They contain a mix of retail, office and residential uses.

Cul-de-sac
A short street or alley with only a single means of ingress and egress at one end and with a turnaround at its other end.

Cultural Resources
Includes historic, archaeological, and paleontological resources, as well as human remains.

Cumulative Impact
As used in CEQA, the total environmental impact resulting from the accumulated impacts of individual projects or programs over time.

Decibel (dB)
A unit used to express the relative intensity of a sound as it is heard by the human ear. The lowest volume a normal ear can detect under laboratory conditions is 0 dB, the threshold of human hearing. Since the decibel scale is logarithmic, 10 decibels are ten times more intense and 20 decibels are a hundred times more intense than 1 db.

dBA
The "A-weighted" scale for measuring sound in decibels, which weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness even though the noise is actually ten times more intense.

Dedication
The turning over by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses are often required by a city or county as conditions for approval of a development. (See "In-Lieu Fee")

Density
The amount of development or people per unit of area or property. (See also "Density, residential" and "Floor Area Ratio")

Density, Residential (du/acre)
The number of permanent residential dwelling units (du) per acre of land. Densities specified in the General Plan are expressed in dwelling units per net acreage (du/acre) and not per gross acre. (See "Acres, Gross" and "Acres, Net")

Development Review; Design Review
The comprehensive evaluation of a development and its impact on neighboring properties and the community as a whole, from the standpoint of site and landscape design, architecture, materials, colors, lighting and signs, in accordance with a set of adopted criteria and standards.

Development
The physical extension and/or construction of non-farm land uses. Development activities include: subdivision of land; construction or alteration of structures, roads, utilities and other facilities; installation of septic systems; grading; deposit of refuse, debris or fill materials; and clearing of natural vegetative cover (with the

exception of agricultural activities). The construction of a single-family home on an existing lot, and routine repair and maintenance activities, are exempted.

Disabled
Persons determined to have a physical impairment or mental disorder, which is expected to be of long, continued or indefinite duration and is of such a nature that the person's ability to live independently could be improved by more suitable housing conditions.

District
Areas of higher density development located along, but distinct from, Corridors in the Oroville Planning Area. They are important activity centers that draw employees, shoppers, residents and visitors to the Oroville Planning Area.

Duplex
A free-standing house divided into two separate living units or residences, usually having separate entrances.

Dwelling Unit (du)
The place of customary abode of a person or household, which is either considered to be real property under State law or cannot be easily moved.

Ecosystem
An interacting system formed by a biotic community and its physical environment.

Effluent
Liquid or partially solid waste such as is found in sewer systems or discharged from factories.

Environmental Impact Report (EIR)
A report required pursuant to the California Environmental Quality Act (CEQA) that assesses all the environmental characteristics of an area, determines what effects or impacts will result if the area is altered or disturbed by a proposed action, and identifies alternatives or other measures to avoid or reduce those impacts. (See "California Environmental Quality Act")

Elderly
Persons 65 years of age or older.

Endemic Species
Species native to, and restricted to, a particular geographical region.

Entryway/Gateway
Entrance to an urban area, or to an important part of a community, along a major roadway.

Fault
A fracture in the earth's crust that forms a boundary between rock masses that have shifted.

Flood, 100-Year
The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or one percent, chance of occurring in any given year.

Floodplain
The relatively level land area on either side of the banks of a stream regularly subject to flooding.

Floodway
The part of the floodplain capable of conveying the 100-year flood with no more than a one-foot rise in water. The floodway includes the river channel itself and adjacent land areas.

Floor Area Ratio (FAR)
The size of a building in square feet (gross floor area) divided by net land area, expressed as a decimal number. For example, a 60,000 square foot building on a 120,000 square-foot parcel would have a floor area ratio of 0.50. The FAR is used in calculating the building intensity of non-residential development.

General Plan
A compendium of City policies regarding its long-term development, in the form of maps and accompanying text. The General Plan is a legal document required of each local agency by the State of California Government Code Section 65301 and adopted by the City Council. In California, the General Plan has seven mandatory elements (Circulation, Conservation, Housing, Land Use, Noise, Open Space and Public Safety) and may include any number of optional elements the jurisdiction deems important.

Goal
A description of the general desired results to create through the implementation of the General Plan. Goals are included in each element of the Plan and may include the key physical or community characteristics that residents wish to maintain or develop.

Gray water
The less contaminated portion of domestic wastewater, including wash water from clothes washers and laundry tubs.

Groundwater
Water that exists beneath the earth's surface, typically found between saturated soils and rock, and is used to supply wells and springs.

Growth Management
The use by a community of a wide range of techniques to determine the amount, type and rate of development desired by the community and to channel that growth into designated areas. Growth management policies can be implemented through building permit caps, public facilities/infrastructure ordinances, urban limit lines, standards for levels of service, phasing, and other programs.

Habitat
The physical location or type of environment in which an organism or biological population lives or occurs.

High Occupancy Vehicle (HOV)
Traffic lanes that are designated and reserved for vehicles with a minimum number of passengers during high-volume commute hours, in order to encourage carpooling through faster travel. They are enforced with fines and traffic tickets.

Household
All persons occupying a single dwelling unit.

Impact Fee
A fee charged to a developer by a jurisdiction according to the proposed development project, typically by number of units, square footage or acreage. The fee is often used to offset costs incurred by the municipality for services and infrastructure such as schools, roads, police and fire services, and parks.

Impervious Surface
Surface through which water cannot penetrate, such as a roof, road, sidewalk, or paved parking lot. The amount of impervious surface increases with development and establishes the need for drainage facilities to carry the increased runoff.

Implementation
Actions, procedures, programs or techniques that carry out policies.

Incorporated Area
Land that is located within the city limits.

Infill Development
Development that occurs on vacant or underutilized land within areas that are already largely developed.

Infiltration
Stormwater that gets into the sanitary sewer system through cracks and/or leaks in the sewer pipes.

Inflow
Inflow is stormwater that goes into sewer systems at connection points in the systems. Inflow occurs from improper or illegal connections to the sewer system.

In-Lieu Fee
Cash payments that may be required of an owner or developer as a substitute for a dedication of land for public use, usually calculated in dollars per lot, and referred to as in-lieu fees or in-lieu contributions. (See "Dedication")

Land Use
The occupation or utilization of an area of land for any human activity or any purpose.

Land Use Designation
One particular category in a classification series of appropriate use of properties established by the General Plan Land Use Element.

Leadership in Energy and Environmental Design (LEED)
A voluntary, consensus-based national standard for developing and rating high-performance, sustainable "green" buildings. LEED provides a complete framework for assessing building performance and meeting sustainability goals, such as water savings, energy efficiency, materials selection and indoor environmental quality. LEED standards are currently available or under development for: new commercial construction and major renovation projects, existing building operations, commercial interiors projects, core and shell projects, and homes.

Level of Service (LOS) Standard
A standard used by government agencies to measure the quality or effectiveness of a municipal service, such as police, fire or library, or the performance of a facility, such as a street or highway.

Level of Service (Traffic)
A scale that measures the amount of traffic that a roadway or intersection can accommodate, based on such factors as maneuverability, driver dissatisfaction and delay.

Level of Service A
A relatively free flow of traffic, with little or no limitation on vehicle movement or speed.

Level of Service B
Describes a steady flow of traffic, with only slight delays in vehicle movement and speed. All queues clear in a single signal cycle.

Level of Service C
Denotes a reasonably steady, high-volume flow of traffic, with some limitations on movement and speed, and occasional backups on critical approaches.

Level of Service D
Designates the level where traffic nears an unstable flow. Intersections still function, but short queues develop and cars may have to wait through one signal cycle during short peaks.

Level of Service E
Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not un-

common at peak traffic hours, with frequent stopping, long-standing queues and blocked intersections.

Level of Service F
Describes unsatisfactory stop-and-go traffic characterized by "traffic jams" and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and "upstream" intersections may be blocked by the long queues.

Local Agency Formation Commission (LAFCO)
A five- or seven-member commission within each county that reviews and evaluates all proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts and merging of districts with cities. Each county's LAFCO is empowered to approve, disapprove, or conditionally approve such proposals.

Local Street
Provides direct access to properties; generally they carry the lowest traffic volumes.

Mixed Use
Any mixture of land uses on a single parcel, including mixtures of residences with commercial, offices with retail, or visitor accommodation with offices and retail. As distinguished from a single use land use designation or zone, mixed use refers to an authorized variety of uses for buildings and structures in a particular area.

Mobile Home
A structure, transportable in one or more sections, built on a permanent chassis and designed for use as a single-family dwelling unit and which: (1) has a minimum of 400 square feet of living space; (2) has a minimum width in excess of 102 inches; (3) is connected to all available permanent utilities; and (4) is tied down (a) to a permanent foundation on a lot either owned or leased by the homeowner or (b) is set on piers, with wheels removed and skirted, in a mobile home park.

Mobile Home Park
A parcel of land under one ownership that has been planned and improved for the placement of two or more mobile homes for rental purposes for nontransient use.

Multi-Modal
A system involving more than one transportation mode, which may include pedestrians, bicycles, public transit, and vehicles.

Natural Habitat Area
An area that sustains animal and vegetative biotic resources that has not been improved or disturbed. Natural Habitat Areas can also be areas that were previously "disturbed" and have been reclaimed or rehabilitated.

Neighborhood
Relatively large residential areas that have some common characteristics, such as a common history, common physical characteristics (such as architectural style), a common meeting place or more intangible characteristics (such as a psychological sense of cohesion).

Neighborhood Park
Small sized park, usually 3 to 10 acres, that provides recreation activities for a specific neighborhood within a ½- to ¾-mile radius.

New Urbanism
Urban development that is responsive to the human scale and human activities from a regional perspective down to the design of individual buildings.

Noise Contour
A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 Ldn contour (measured in dBA) require noise attenuation in residential development.

Non-Conforming Use
A use that was valid when brought into existence, but not permitted by later regulation. "Non-conforming use" is a generic term and includes: (1) non-conforming structures (because their size, type of construction, location on land, or proximity to other structures is no longer permitted); (2) non-conforming use of a conforming building; (3) non-conforming use of a non-conforming building; and (4) non-conforming use of land. Any use lawfully existing on any piece of property that is inconsistent with a new or amended General Plan, and that in turn is a violation of a zoning ordinance amendment subsequently adopted in conformance with the General Plan, will be a non-conforming use. Typically, non-conforming uses are permitted to continue for a designated period of time, subject to certain restrictions.

Overlay
A land use designation on the Land Use Map, or a zoning designation on a zoning map, that modifies the basic underlying designation or designations in some specific manner.

Parcel
A lot, or contiguous group of lots, in single ownership or under single control, usually considered a unit for purposes of development.

Pedestrian-Oriented Design
An approach to site and neighborhood design intended to facilitate movement on foot in an area, as opposed to design that primarily serves and encourages automobile movement. Examples of pedestrian-oriented design include pathways following the most direct route from sidewalk to front door, continuous building streetwalls with shop windows, outdoor cafes, street trees and benches.

Planned Unit Development (PUD)
A description of a proposed unified development, consisting at a minimum of a map and adopted ordinance setting forth the governing regulations, and the location and phasing of all proposed uses and improvements to be included in the development.

Policy
A specific statement of principle or of guiding actions that implies clear commitment but is not mandatory. A general direction that a governmental agency sets to follow, in order to meet its goals and objectives before undertaking an implementing action or program. (See "Action")

Recreational Corridor
Typically linear pathways, bikeways, or open space areas that weave in and around urban uses to provide recreational and transportation amenities to residents.

Regional Park
A large park, typically more than 100 acres, that serves the open space and recreation needs for all users of the entire region. Regional parks contain active and passive recreation areas and may also include natural open space.

Riparian Corridor
A habitat and vegetation zone which is associated with the banks and floodplains of a river, stream or lake. Riparian trees and shrubs are typically phreatophytes, plants whose root systems are in constant contact with groundwater.

Sensitive Receptors
Uses sensitive to noise such as residential areas, hospitals, convalescent homes and facilities, and schools.

Smart Growth
Strategies that contribute to the development of communities that are both economically and socially sustainable.

Specific Plan
Under Article 8 of the Government Code (Section 65450 et seq), a legal tool for detailed design and implementation of a defined portion of the area covered by a General Plan. A specific plan may include all detailed regulations, conditions, programs, and/or proposed legislation which may be necessary or convenient for the systematic implementation of any General Plan element(s). (See also "Planned Unit Development")

Sphere of Influence (SOI)
The probable physical boundaries and service area of the city, as determined by the Local Agency Formation Commission (LAFCO) of the county.

Townhouse/Townhome
A series of residences, often two to three stories in height, that are connected side by side in a row with each having a separate street-level entrance.

Traffic Calming
Measures designed to reduce motor vehicle speeds and to encourage pedestrian use, including:

- narrow streets
- tight turning radii
- sidewalk bulbouts
- parking bays
- textured paving at intersections
- parkways between sidewalks and streets

Triplex
A free-standing house divided into three separate living units or residences, usually having separate entrances.

Unincorporated Area
Encompasses properties that are located outside of cities. Development in the unincorporated area is subject to County jurisdiction.

Use
The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered and/or enlarged in accordance with the City zoning ordinance and General Plan land use designations.

Use, Non-conforming
(See "Non-conforming Use")

Utility Corridor
Rights-of-way or easements for utility lines on either publicly or privately owned property.

Wastewater
Water that has already been used for washing, flushing, or in a manufacturing process, and therefore contains waste products such as sewage or chemical by-products.

Wetland
An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

Zoning
The division of a City by ordinance or other legislative regulation into districts or zones, which specify allowable uses for real property and size restrictions for buildings constructed in these areas; a program that implements the land use policies of the General Plan.

12 LIST OF PREPARERS

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The General Plan Consultant team was assisted and advised by the City Council, Planning Commission, and City Staff. These included:

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Jack Berry, Council Member
Cheri Bunker, Council Member
David Pittman, Council Member
JR Simpson, Council Member
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Thil Wilcox, Former Commissioner

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APPENDIX A

TRANSPORTATION CAPITAL IMPROVEMENT PROGRAM IMPROVEMENTS

TABLE 22:
TCIP INTERSECTION IMPROVEMENTS

ID	Intersection Name (1)	Improvement Description	Developer Cost	Non-TCIP Cost	Fee Cost	Total Cost
I3	Nelson Avenue / SR 70 SB Ramps	Install Roundabout or Install Signal & Add Left Turn Pockets in All Directions	$0	$1,300,000	$0	$1,300,000
I4	Nelson Avenue / SR 70 NB Ramps	Install Roundabout or Install Signal	$0	$1,300,000	$0	$1,300,000
I5	Nelson Avenue / Country Center Drive	Install Roundabout or Install Signal	$0	$0	$660,000	$660,000
I6	Nelson Avenue / Table Mountain Blvd./Cherokee Rd. (2)	Install Roundabout or Install Signal & Add Eastbound & Westbound Left Turn Pockets	$0	$1,300,000	$0	$1,300,000
I7	Grand Avenue / SR 70 SB Ramps	Install Roundabout or Install Signal	$0	$1,300,000	$0	$1,300,000
I8	Grand Avenue / SR 70 NB Ramps	Install Roundabout or Install Signal & Add Left Turn Pockets & a Northbound Right Turn Pocket	$0	$1,300,000	$0	$1,300,000
I10	Montgomery Street / SR 70 SB Ramps	Install All-Way Stop Sign	$0	$60,000	$0	$60,000
I14	Oroville Dam Boulevard / 10th Street	Install Roundabout or Install Signal	$0	$660,000	$0	$660,000
I17	Oroville Dam Boulevard / Feather River Boulevard	Add Eastbound Right Turn Pocket, Second Northbound Left Turn Pocket, Southbound Right Turn Pocket, and Restripe Southbound Left-Right as a Left-Through. Modify Signal to Accommodate Reconfiguration & Restripe Intersection.	$0	$1,100,000	$0	$1,100,000
I18	Oroville Dam Boulevard / 5th Avenue	Add Dual Northbound Right Turn Pockets and Dedicated Southbound Right Turn Pocket. Modify Signal to Accommodate Reconfiguration & Restripe Intersection.	$0	$1,040,000	$0	$1,040,000
I20	Lincoln Boulevard / Oro Dam Boulevard	Add Second Northbound Through Lane and Second Southbound Left Turn Pocket. Modify Signal to Accommodate Reconfiguration & Restripe Intersection	$0	$1,040,000	$0	$1,040,000
I22	Oroville Dam Boulevard / Spencer	Add Dedicated Northbound and Southbound Right Turn Pockets. Modify Signal to Accommodate Reconfiguration & Restripe Intersection.	$0	$970,000	$0	$970,000
I24	Oroville Dam Boulevard / Olive Highway	Add Second Eastbound Right Turn Pocket and Second Southbound Through Lane. Modify Signal to Accommodate Reconfiguration & Restripe Intersection.	$0	$1,040,000	$0	$1,040,000
I25	Olive Highway / Hospital Access	Modify Traffic Signal to Accommodate Roadway Widening on Olive Highway	$0	$200,000	$0	$200,000
I26	Lower Wyandotte Road / Olive Highway	Modify Traffic Signal to Accommodate Roadway Widening on Olive Highway	$0	$200,000	$0	$200,000
I27	Foothill Boulevard / Olive Highway	Modify Traffic Signal to Accommodate Roadway Widening on Olive Highway	$0	$200,000	$0	$200,000
I30	Ophir Road / Feather River Boulevard	Install Roundabout or Install Signal & Add Left Turn Pockets in All Directions	$0	$0	$1,300,000	$1,300,000
I31	Feather River Boulevard / Georgia Pacific Way	Install Roundabout or Install Signal & Left Turn Pockets in All Directions and a Westbound Right Turn Pocket	$0	$0	$1,300,000	$1,300,000
I33	Feather River Boulevard / Cal Oak Road (3)	Install Roundabout or Install Signal & Northbound & Westbound Right Turn Pockets & Southbound Left Turn Pocket	$0	$660,000	$0	$660,000
I34	7th Avenue / Cal Oak Road	Install All-Way Stop Sign & Add Eastbound & Westbound Left Turn Pockets	$0	$0	$200,000	$200,000
I35	5th Avenue / Cal Oak Road	Install Roundabout or Install Signal & Add Left Turn Pockets in All Directions	$0	$0	$660,000	$660,000
I38	Ophir Road / Baggett Palermo Road	Install Roundabout or Install Signal	$0	$0	$1,300,000	$1,300,000
I39	Ophir Road / Kusel Road	Install Roundabout or Install Signal	$0	$0	$1,300,000	$1,300,000
I42	Lincoln Boulevard / Monte Vista Avenue	Install Roundabout or Install Signal	$0	$0	$660,000	$660,000
I43	Lincoln Boulevard / Walmer Road	Install Roundabout or Install Signal	$0	$0	$660,000	$660,000
I45	Lincoln Boulevard / Greenville	Install Roundabout or Install Signal	$0	$0	$660,000	$660,000
I46	Lincoln Boulevard / Wyandotte Avenue	Install Roundabout or Install Signal	$0	$0	$660,000	$660,000
I52	Lower Wyandotte Road / Monte Vista Avenue	Install Roundabout or Install Signal	$0	$0	$660,000	$660,000
		TOTAL:	**$0**	**$13,670,000**	**$10,020,000**	**$23,690,000**

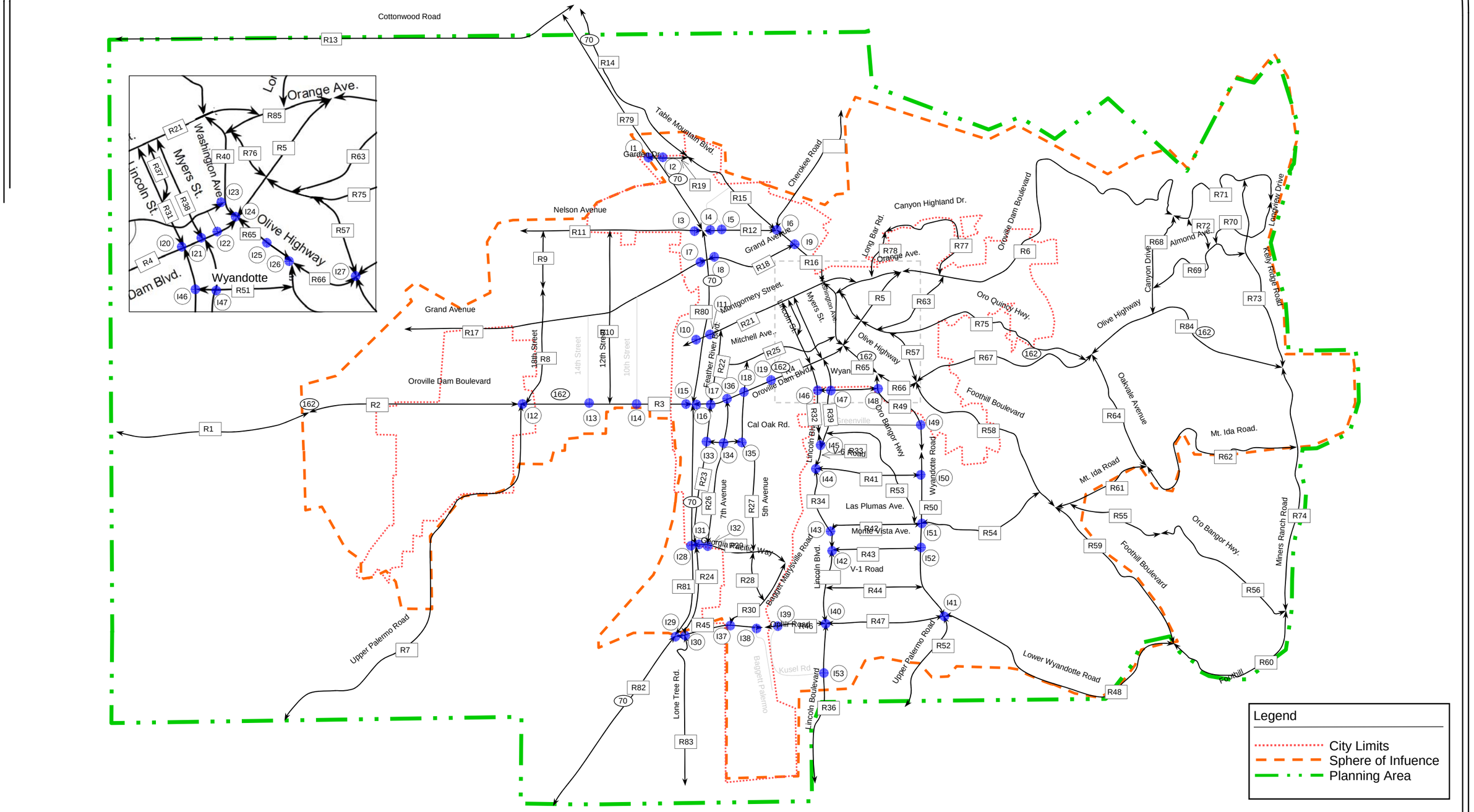
Notes: (1) Improvements to intersections 28 and 29 have not been identified in this report and are not included in the updated TCIP or fee program. These locations are at-grade intersections with State Route 70. Long-term planning of the SR 70 corridor at this stage is subject to Caltrans planning and may include grade separated interchanges one or both of these locations. (2) Improvements to intersection 6 will also not be included in the TCIP as it will be constructed with outside funding sources. (3) Improvements to intersection 33 will be constructed as mitigations to the approved Walmart project and will not be included in the fee program.

TABLE 23:
TCIP ROADWAY IMPROVEMENTS

ID	Roadway Name	From	To	Improvement Description	Developer Cost	Non-TCIP Cost	Fee Cost	Total Cost
R2	Oroville Dam Boulevard	*Wilbur Road/Larkin Avenue*	*Feather Avenue/Larkin Road*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$0	$12,310,000	$0	$12,310,000
R6	Oroville Dam Boulevard	*Orange Avenue/Acacia Avenue*	*Canyon Drive*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$17,389,167	$0	$12,420,833	$29,810,000
R15	Table Mountain Boulevard	*Garden Drive*	*Nelson Avenue/Cherokee Road*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$3,816,296	$0	$3,543,704	$7,360,000
R16	Table Mountain Boulevard	*Nelson Avenue/Cherokee Road*	*Montgomery Street*	Widen to 4-Lane Arterial Standard by Adding Additional Travel Lanes, Bike Lanes, Sidewalk & Landscaping	$0	$0	$4,440,000	$4,440,000
R21	Montgomery Street	*Park Entrance*	*Orange Avenue*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$0	$0	$5,320,000	$5,320,000
R22	Feather River Boulevard	*Montgomery Street*	*Oroville Dam Boulevard*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$0	$0	$1,580,000	$1,580,000
R23	Feather River Boulevard	*Oroville Dam Boulevard*	*Georgia Pacific Way*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$4,625,185	$0	$4,294,815	$8,920,000
R27	5th Avenue	*Mitchell Avenue*	*Georgia Pacific Way*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$5,568,889	$0	$5,171,111	$10,740,000
R29	Georgia Pacific Way	*SR 70*	*Bagget Marysville Road*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$3,142,222	$0	$2,917,778	$6,060,000
R35	Lincoln Boulevard	*Monte Vista Avenue*	*Ophir Road*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$2,538,261	$0	$1,631,739	$4,170,000
R36	Lincoln Boulevard	*Ophir Road*	*Messina Avenue*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$5,533,043	$0	$3,556,957	$9,090,000
R38	Meyers Street	*Montgomery Street*	*Oroville Dam Boulevard*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$0	$0	$1,930,000	$1,930,000
R39	Meyers Street	*Oroville Dam Boulevard*	*Lincoln Boulevard*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$0	$0	$3,250,000	$3,250,000
R40	Washington Avenue	*Montgomery Street*	*Oroville Dam Boulevard*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$0	$0	$1,860,000	$1,860,000
R42	Las Plumas Avenue	*Walmer Road*	*Lower Wyandotte Road*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$3,603,704	$0	$3,346,296	$6,950,000
R43	Monte Vista Avenue	*Lincoln Road*	*Lower Wyandotte Road*	Improve to Major 2-Lane Collector Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$3,251,111	$0	$3,018,889	$6,270,000
R45	Ophir Road	*SR 70*	*Baggett Palermo Road*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$5,910,435	$0	$3,799,565	$9,710,000
R46	Ophir Road	*Baggett Palermo Road*	*Lincoln Boulevard*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$10,700,870	$0	$6,879,130	$17,580,000
R65	Olive Highway	*Oro Dam Boulevard*	*Lower Wyandotte Road*	Widen to 4-Lane Arterial Standard by Adding Additional Travel Lanes, Bike Lanes, Sidewalk & Landscaping	$0	$2,010,000	$0	$2,010,000
R66	Olive Highway	*Lower Wyandotte Road*	*Foothill Boulevard*	Widen to 4-Lane Arterial Standard by Adding Center Turn Lane, Additional Travel Lanes, Bike Lanes, Sidewalk & Landscaping	$0	$3,000,000	$0	$3,000,000
R67	Olive Highway	*Foothill Boulevard*	*Oakvale Avenue*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Bike Lanes, Sidewalk & Landscaping	$0	$10,740,000	$0	$10,740,000
R84	Olive Highway	*Oakvale Avenue*	*Miners Ranch Road*	Improve to Major 2-Lane Arterial Standard by Adding Center Turn Lane, Shoulder, Sidewalk & Landscaping	$0	$10,970,000	$0	$10,970,000
				TOTAL:	**$66,079,183**	**$39,030,000**	**$68,960,817**	**$174,070,000**

TABLE 24:
TCIP BICYCLE FACILITY IMPROVEMENTS

ID	Roadway Name	From	To	Improvement Description	Developer Cost	Non-TCIP Cost	Fee Cost	Total Cost
R19	Garden Drive	*Park Entrance*	*Table Mountain Boulevard*	Construct Bike Lanes	$0	$0	$630,000	$630,000
R34	Lincoln Boulevard	*Baggett Marysville Road*	*Monte Vista Avenue*	Add Bike Lanes (Striping)	$0	$0	$60,000	$60,000
R49	Lower Wyandotte Road	*Olive Highway*	*V-7 Road*	Add Bike Lanes (Striping)	$0	$0	$60,000	$60,000
R50	Lower Wyandotte Road	*V-7*	*Ophir Road*	Add Bike Lanes (Striping)	$0	$0	$60,000	$60,000
R47	Ophir Road	*Lincoln Boulevard*	*Lower Wyandotte Road*	Add Bike Lanes (Striping)	$0	$0	$60,000	$60,000
R1	Oroville Dam Boulevard	*SR 99*	*Wilbur Road/Larkin Avenue*	Add Bike Lanes (Striping)	$0	$60,000	$0	$60,000
R3	Oroville Dam Boulevard	*Feather Avenue/Larkin Road*	*SR 70*	Add Bike Lanes (Striping)	$0	$60,000	$0	$60,000
R4	Oroville Dam Boulevard	*SR 70*	*Olive Highway*	Add Bike Lanes (Striping)	$0	$140,000	$0	$140,000
				TOTAL:	**$0**	**$260,000**	**$870,000**	**$1,130,000**



Oroville TCIP and Impact Fee Update

Figure 4

Study Intersections and Roadways

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