
Butte County
GENERAL PLAN

NOISE ELEMENT

NOISE ELEMENT

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□ NOISE ELEMENT □

GENERAL

State Requirements: California Government Code Section 63502 (g), as amended by Senate Bill 860 (effective January 1, 1976), requires the County to prepare a Noise Element which:

"...shall recognize guidelines adopted by the Office of Noise Control pursuant to Section 39850.1 of the Health and Safety Code, and which quantifies the community noise environment in terms of noise exposure contours for both near and long-term levels of growth and traffic activity. Such noise exposure information shall become a guideline for use in development of the land use element to achieve noise compatible land use and also to provide baseline levels and noise source identification for local noise ordinance enforcement."

Section 65302 (g) also states that the adopted Noise Element shall:

"...become the guidelines for determining compliance with the State's Noise Insulation Standards as contained in Section 1092 of Title 25 of the California Administrative Code."

This Noise Element was prepared generally in accordance with the State Office of Noise Control's *Guidelines for the Preparation and Content of Noise Elements of the General Plan* dated February 1976. These guidelines outline the procedures to be used to conform with California Government Code Section 65302 (g). According to the Guidelines, the Noise Element should quantify the community noise environment in terms of noise exposure contours of both near and long-term levels of growth and traffic activity. Noise exposure information guides the development of the Land Use Element, the Circulation Element, and noise ordinances. Noise sources considered by the element include highways, railroads, airports, industrial plants, and other stationary noise sources identified by the local agency as contributing to the community noise environment.

The Guidelines also state that noise contours are to be expressed in community noise equivalent levels (CNEL) or day-night average levels (Ldn) and be shown in 5 decibel increments down to 60 dB. Noise exposure should be determined by monitoring in noise sensitive areas. The Noise Element should also identify the number of people exposed to various noise levels. Finally, the Noise Element should recommend mitigating measures and solutions to existing and foreseeable noise problems.

Public and private agencies conducting activities identified as significant noise sources are required by law to provide specific data on present and projected activity levels as well as noise contours or a detailed methodology for developing noise contours.

□ NOISE ELEMENT □

Planning Relationships: The Noise Element is a "source" document to be used in formulating policies for other elements of the General Plan including the Land Use Element and the Circulation Element. The Noise Element also contains policies regarding noise and noise abatement which will influence other public policy documents relating to the location of public facilities, health and safety standards, construction standards, and community noise ordinances.

This Noise Element primarily addresses noise in the unincorporated areas of Butte County. The analysis shows, however, that many of the significant noise problems are within the incorporated areas of the County. These incorporated areas are required to prepare their own general plans and noise problems because responsibility for abating noise in the urbanizing areas should be shared.

How Noise is Measured: The noise environment of a community has a base of steady background noise made up of many sources. The noise of individual nearby events such as a car or train, an aircraft or a lawnmower is superimposed on this background.

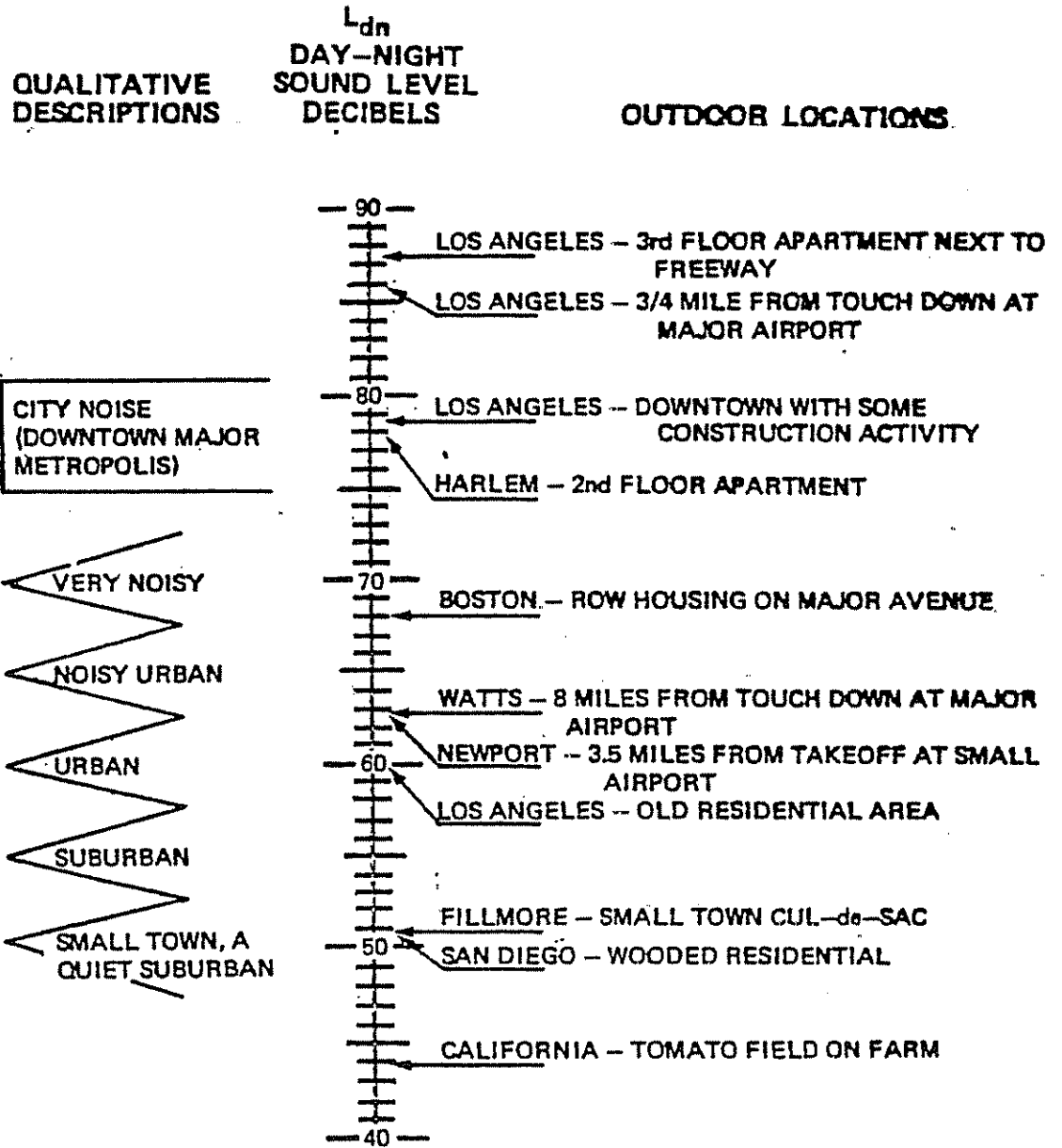
Describing a noise environment and assessing its impact requires selecting a measurement that correlates well with human response to loudness or to annoying characteristics of a particular noise. The A-weighted frequency scale of a standard sound level meter has such a response characteristic. A-scale noise levels are expressed in decibels--A or dBA. The measuring unit "decibel" (written dB) is used to express the relative loudness of a sound. Each time the intensity of a sound is doubled, there is an increase of 3 decibels, and each time the intensity is multiplied by 10, there is an increase of 10 decibels. Most people judge each increase of 10 dB to be twice as loud.

Ldn or CNEL are descriptions of diurnal noise levels. They are a weighted average of daytime and nighttime sound levels, with the nighttime noise being weighted more heavily. The CNEL and Ldn differ slightly but for the purposes of this Noise Element will be regarded as being the same. Chart NO - 1 shows the correlation between measured Ldn values and various types of community noise.

Definitions of commonly used noise terms are provided in Appendix D, (not in this document, under separate cover). A general description of the method used to evaluate the noise environment is also in Appendix D, (not in this document, under separate cover).

OBJECTIVES

The primary objective of the Noise Element is to prescribe policies that lead to the residents of Butte County by securing and maintaining an environment free from hazardous and annoying noise. Secondary objectives of the Noise Element are to provide information concerning the community noise environment to make noise a consideration in the on-going planning process and the development of ordinances relating thereto; abate and control excessive noise; avoid a mix of incompatible noise generating and noise-sensitive activities;



OUTDOOR DAY-NIGHT SOUND LEVEL IN db (re 20 MICROPASCALS)

Source: Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, U.S. E.P.A., March, 1974.

NOISE ELEMENT - TYPICAL SOUND LEVELS

Butte County
CHART NO - 1

□ NOISE ELEMENT □

protect areas of the community which have "acceptable" or "sensitive" noise environments; provide indoor noise environments that allow undisturbed conversation, sleep, study, work, relaxation and privacy; provide outdoor noise environments that do not significantly interfere with conversation, relaxation, and privacy.

THE COUNTY NOISE ENVIRONMENT

There are two general types of noise problems. One is the problem of noises which are physically harmful to people. The other problem is the disturbing effects of noise, such as speech and sleep interference, irritation, loss of privacy, etc. Industrial noise programs deal more with the first noise problem. This Noise Element focuses on the identification, prevention, and alleviation of disturbing noises in the community.

Complaints

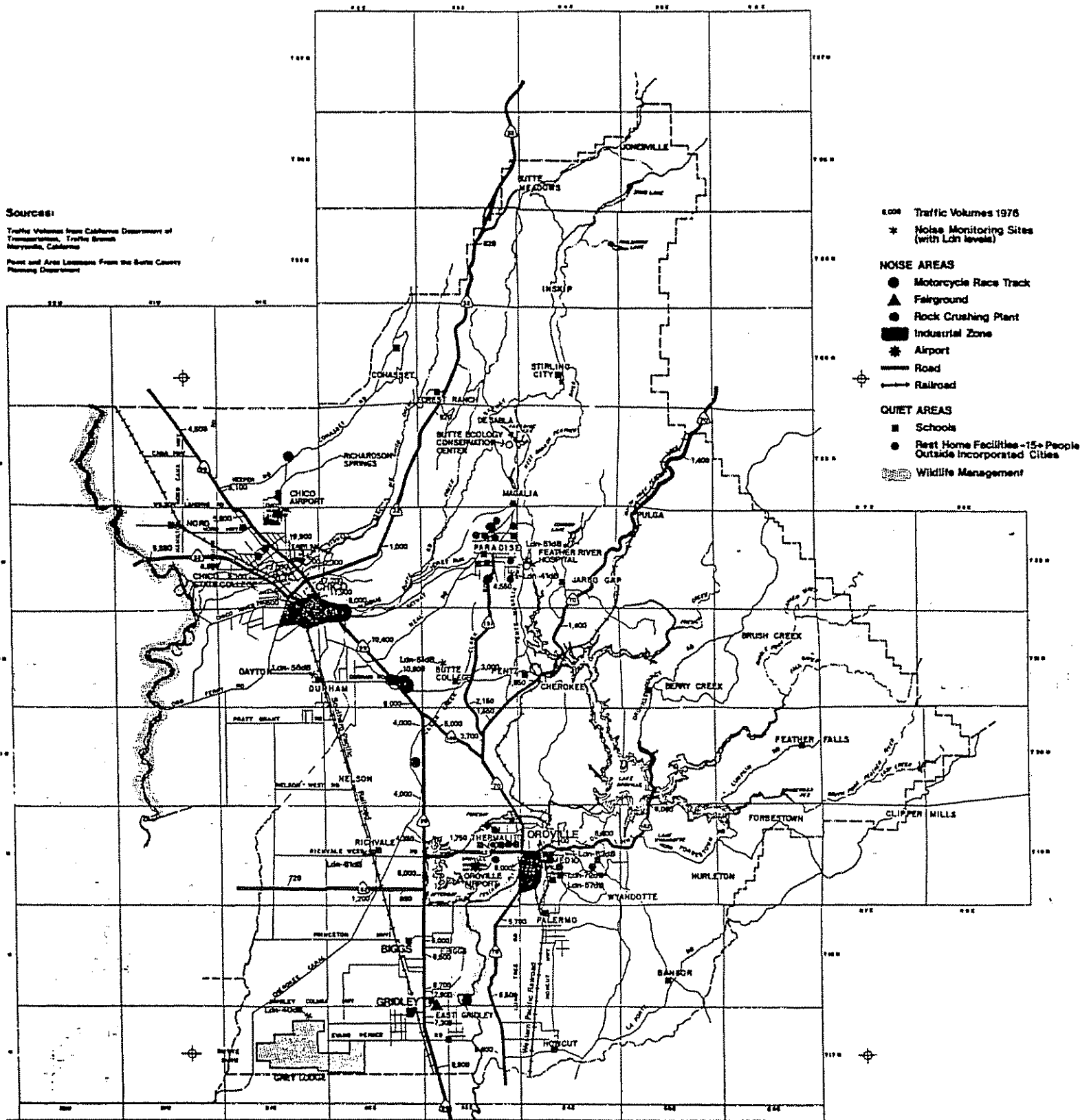
The noise complaint files of several local agencies were reviewed with agency staffs to identify offending noise sources and noise-sensitive areas. These complaints often indicate community attitudes toward specific noises and the severity of noise pollution at a particular location. Even though most of the complaints are discussed to point out typical problem areas within the County. Significant sources are shown in Figure NO - 1, Noise Sources.

Butte County: Occasionally there are noise complaints about auto body shops in city areas. These shops are classed as light industry and therefore can be close to residential areas. Some noise is also associated with roping arenas. Two motorcycle race tracks are located in the County, one on State Highway 99 between Chico and Richvale, and one just north of the Oroville airport. There are no residences near either track and there have been no complaints.

The auto race track at the fairgrounds in Chico is very noisy at times. Races have been held during summer evenings. Once a year there are boat races on the Thermalito Afterbay which produce noise heard in Thermalito.

The Butte County sanitarian's office has received very few noise complaints. There are occasional complaints about the blasting and heavy trucks associated with rock crushing operations; most of these operations are in fairly isolated areas. Other complaints about industrial activities have been about in-plant noise. No complaints have been received about the Western Pacific railroad classification and switching yard, though this is a significant noise source. Some complaints have been received about barking dogs.

State Department of Parks and Recreation: The State Department of Parks and Recreation has jurisdiction over Lake Oroville and the Thermalito Afterbay and Forebay. Noise has been a minor problem on the lakes, but is expected to decrease when the Department begins measuring boat noise to better enforce existing regulations.



NOISE ELEMENT - NOISE SOURCES
 Butte County
 FIGURE NO - 1

□ NOISE ELEMENT □

City of Chico: The City of Chico Planning Department has received numerous noise complaints concerning sorority and fraternity parties at California State University, Chico. There are also occasional problems with rock concerts which take place in the University's football stadium or near Big Chico Creek. The rock concerts are not held as often as in the past, so this problem seems to be diminishing. The Southern Pacific Railroad line through the City is a major source of noise complaints. State Highway 99 is a noise source but not a major noise complaint problem. Since the Highway 99 freeway was constructed, several high cost residential areas have developed adjacent to it.

Complaints have been made about noise from aircraft in the Chico Airport Traffic pattern. Most of these complaints are related to the high peak noise levels from commercial jet and air tanker takeoffs and landings.

Traffic

Traffic volumes for 1975 are shown on Figure NO - 1 for the six State highways within the County. These volumes were obtained from the Traffic Branch of the California Department of Transportation (CALTRANS). Estimated traffic increase rates for these highways are shown in Table NO - 1.

Table NO - 1 ESTIMATED ANNUAL TRAFFIC INCREASE RATES ON STATE HIGHWAYS From 1975 (as of 11/24/76)	
Highway 32	1%/yr. @ Glenn County Line 3.5%/yr. West Side of Chico to Highway 99 1%/yr. East of Chico
Highway 70	5%/yr. @ Yuba County Line 4%/yr. @ Oroville North
Highway 99	5%/yr.
Highway 149	3%/yr.
Highway 162	1%/yr. @ Glenn County Line 3%/yr. East of Highway 99
Highway 191	2%/yr.
Source: CALTRANS, Traffic Branch, Marysville District	

Table NO - 2 shows 1975 and estimated 1987 traffic volumes for the State Highways in the County.

□ NOISE ELEMENT □

Table NO - 2 also shows that only two State Highway sections will have traffic volumes above 20,000 ADT in 1987. These sections are within the incorporated areas of Chico and Oroville. The noise contours for all State Highways with volumes between 5,000 and 20,000 ADT cannot be predicted using the State office of Noise Control methodology which applies only to roadways with volumes above 20,000 ADT. Using an Office of Noise Control "rule-of-thumb" guideline, noise levels for State "High Speed" highways with 5,000 to 20,000 ADT are estimated to be:

- Ldn - 70 dB within 100 feet of the roadway.
- Ldn - 65 dB between 100 and 200 feet of the roadway.
- Ldn - 60 dB or less beyond 200 feet of the roadway.

Table NO - 2					
TRAFFIC VOLUMES & ESTIMATED NOISE LEVELS FOR STATE HIGHWAYS					
Roadway	From	Section To	1975 ADT ₂	Estimated 1987 ADT ₂	Roadway Type
Highway 32	Glenn Co. Line	West Side of Chico	6,800	7,400	"High-Speed"
	West side of Chico	Rte 99	11,600	15,660	"High-Speed"
	Rte. 99	Tehama Co. Line	2,300	2,530	(3)
Highway 70	Yuba Co. Line	Oroville	11,200	16,800	"High-Speed"
	Oroville	Plumas Co. Line	8,300	11,620	"High-Speed"
Highway 99	Sutter Co.	Skyway Interchange	11,900	17,850	"High-Speed"
	Skyway Interchange	Cohasset Hwy. Interchange	19,900	29,850	"High-Speed" Inside incorporated boundaries
	Cohasset Rd. Interchange	Tehama Co. Line	9,000	13,500	"High-Speed"
Highway 149	Rte. 70	Rte 99	5,000	6,500	"High-Speed"

□ NOISE ELEMENT □

Table NO - 2					
TRAFFIC VOLUMES & ESTIMATED NOISE LEVELS FOR STATE HIGHWAYS					
Roadway	Section From	To	1975 ADT ₂	Estimated 1987 ADT ₂	Roadway Type
Highway 162	Glenn Co. Line	Rte. 99	1,200	1,320	(3) -
	Rte 99	Rte 70	7,500	9,750	"High-Speed"
	Rte 70	Lower Wyandotte Rd.	16,900	21,970	Inside Incorporated boundaries
	Lower Wyandotte Road	Foreman Creek Road (End of Rte.)	8,700	11,310	"High-Speed"
Highway 191	Rte 70	Paradise, Pearson Road	4,550	5,460	"High-Speed"

Notes:

1. These values are estimated as of 11/24/76 from 1975 ADT figures. Estimated noise contours are based on these numbers until more accurate data are supplied by CALTRANS.
2. Maximum ADT in this roadway section. ADT is average daily traffic.
3. Volumes less than 5,000 ADT.

County road sections with traffic volumes greater than 5,000 ADT (1975) are listed in Table NO-3. A 3 percent annual growth rate was assumed to estimate 1987 traffic volumes. Again, using the Office of Noise Control "rule-of-thumb," all road sections with traffic volumes between 5,000 ADT and 20,000 ADT, have estimated noise contours as shown below for varying speed zones.

"High-Speed" Roadways:
(40-55 MPH)

Ldn - 70 dB within 100 feet of roadway.

Ldn - 65 dB between 100 and 200 feet of the roadway.

Ldn - 60 dB or less beyond 200 feet of the roadway.

"Low-Speed" Roadways:
(typically 35 MPH maximum)

Ldn - 65 dB within 100 feet of the roadway.

Ldn - 60 dB or less beyond 100 feet of the roadway.

□ NOISE ELEMENT □

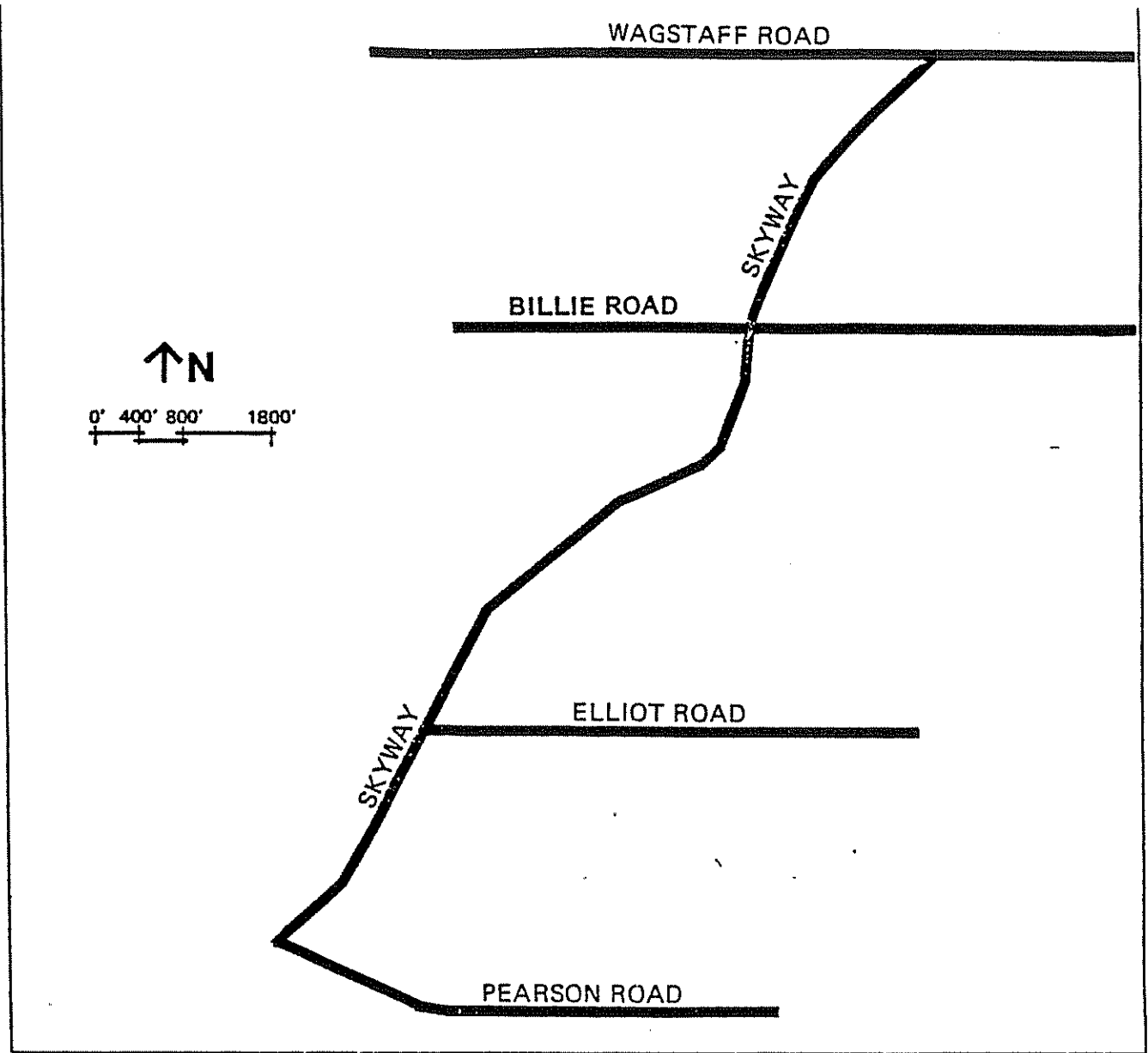
Table NO - 3

**COUNTY ROADS WITH 1975 AND ESTIMATED 1987 TRAFFIC VOLUMES OF
5,000 ADT OR GREATER**

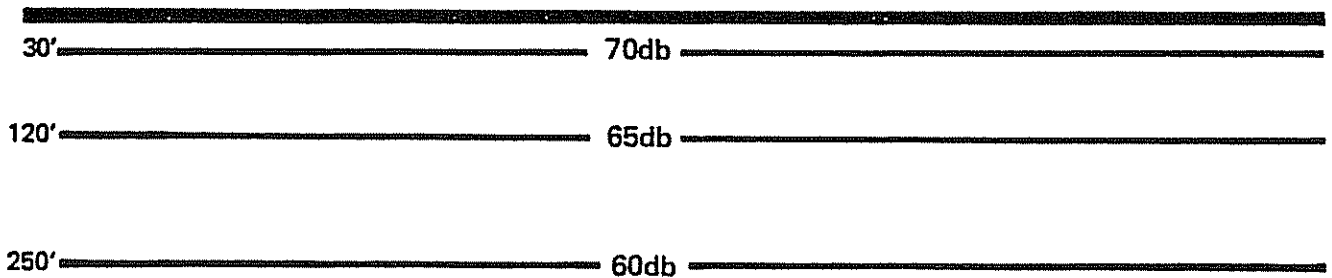
Road	From	To	Maximum 1975 ADT	Estimated 1987 ADT
Esplanade	Eaton Road	8th Avenue	12,842	16,690
Cohasset Road	State Highway 32	Eaton Road	13,057	16,970
East Avenue	Cohasset Road	Marigold Avenue	8,380	10,890
Sacramento Avenue	State Highway 32	Warner Street	5,685	7,390
Dayton Road	Stanley Avenue	9th Street	5,099	6,630
Vallombrosa Avenue	Arbutus Avenue	Madrone Avenue	5,104	6,630
Fair Street	20th Street	East Park Avenue	(4,601)	5,980
Skyway	Park Avenue	Pearson Road	9,883	12,850
Skyway	Pearson Road	Wagstaff Road	16,463	21,400
Skyway	Wagstaff Road	Columbine Road	(4,888)	6,350
Clark Road	Pearson Road	Skyway	8,518	11,070
Pearson Road	Skyway	Sawmill Road	8,633	11,220
Elliott Road	Skyway	Sawmill Road	5,567	7,240
Billie Road	Skyway	Sawmill Road	(4,708)	6,120
Oroville Gridley Highway	State Highway 99	Larkin Road	(4,802 - 1973)	6,240
Grand Avenue	12th Street	State Highway 70	5,313	6,910
Lincoln Boulevard	Palermo Road	Oroville Dam Boulevard	6,186	8,040
Myers Street	Lincoln Boulevard	Oroville Dam Boulevard	5,635	7,320

Source: Butte County Department of Public Works; CH2M HILL projections.

Skyway is the only county road project to have traffic volumes above 20,000 ADT in 1987. Estimated noise contours for this section of Skyway between Pearson Road and Wagstaff Road are shown in Figure NO - 2, Road Noise Contours in Ldn.



SKYWAY, FROM WAGSTAFF ROAD TO PEARSON ROAD.



NOTE: Noise Contours are measured from the centerline of the outside lane.

□ NOISE ELEMENT □

These contours were calculated from the State Office of Noise Control Methodology *Estimation of Community Noise Exposure in Terms of Day-Night Average Level Noise Contours*. The contours shown in Figure NO - 2 are based on a generalized day-night split in vehicle flow volume of 87 percent day and 13 percent night. A nominal day and night heavy truck percentage of 4 percent for this low speed arterial was assumed. Nomograms used in the estimates assume that the roadway is level with the sideline terrain.

Peak traffic noise levels will be above the Ldn noise levels discussed above. For example, automobiles can create noise levels of 60 to 70 dBA and trucks, buses, and partly-muffled autos can create levels of 70-85 dBA at ;80 feet from the source.

In summary, there are no significant noise problems associated with State or County roads in the unincorporated areas of the County. Based on the limited data available and the CNEL/Ldn Descriptors, projected increases in traffic volumes on these roads should cause no significant increases in noise levels.

Railroads: The main tracks of Southern Pacific and Western Pacific Railroads have consistently high noise levels. Both of these tracks carry heavy freight traffic with as many nighttime as daytime operations. Rail traffic has not changed in the past 3 years and is not expected to increase significantly over the next 10 years.

For determining noise levels associated with the typical operations on these two lines, the methodology presented in the Wyle Laboratories report, *Assessment of Noise Environments Around Railroad Operations*, was used. Table NO - 4 shows the two main railroad lines with each line divided into categories according to length, speed, and grade. The composite CNEL at the far right of Table NO - 4 summarizes the projected CNEL's for each category of track shown in Figure NO - 3, Rail Lines.

Categories 1 and 2 include the Western Pacific line that runs north of Oroville through the Feather River Canyon on ascending and descending grades. Categories 3 through 6 include the other sections of both the Western and Southern Pacific lines. Column 15 in Table NO - 4 shows the predicted CNEL at the distance specified for each category taking into account traffic mix (supplied by the railroads) and other train-related variables that affect noise levels. The Wyle method assumes that there is no noise attenuation by topography or buildings.

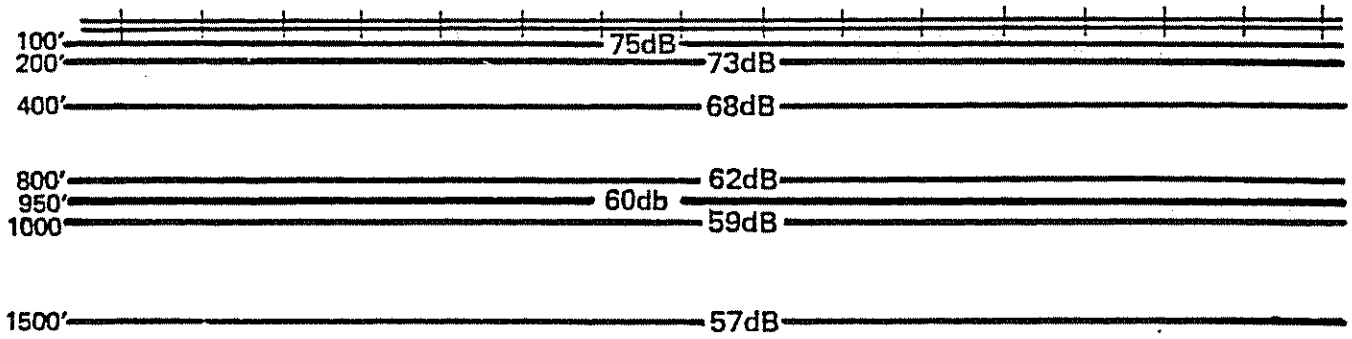
Charts NO - 2 and NO - 3 depict the CNEL noise contours for the railroad section categories.

Airports: Airports are significant noise sources and careful land use planning around them is required.

Both the Chico and the Oroville airports are within city limits, but the lands around them are unincorporated. Air craft operations at these two airports produce significant noise levels that impact surrounding properties.

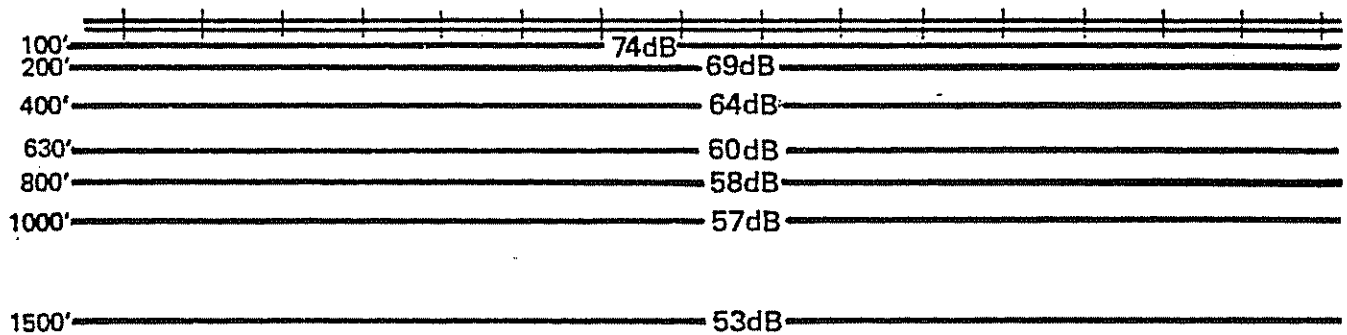
Categories 1 & 2

COMPOSITE CNEL OF WESTERN PACIFIC LINE
NORTH OF OROVILLE THRU FEATHER RIVER
CANYON.



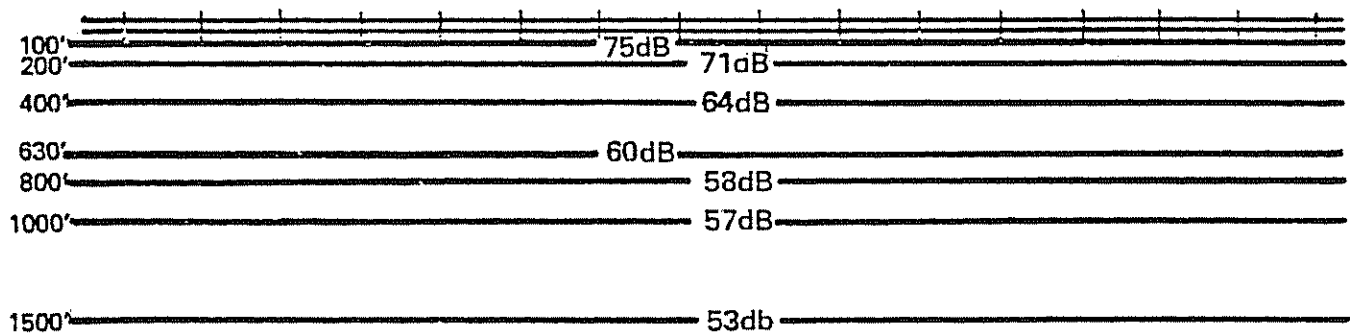
Category 3

WESTERN PACIFIC LINE FROM OROVILLE TO
PALERMO.
(Level Grade)



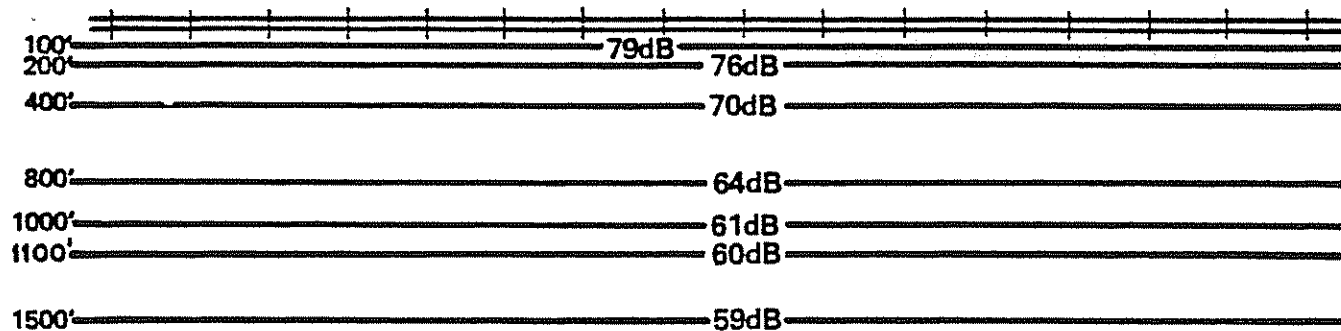
Category 4

WESTERN PACIFIC LINE SOUTH OF PALERMO
TO THE COUNTY LINE.
(Level Grade)

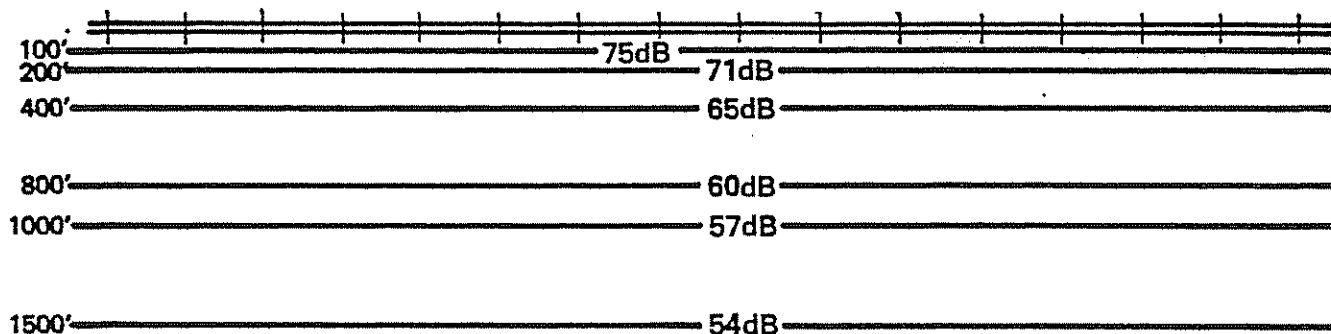


NOTE: Noise Contours are
Symmetric About the Tracks.

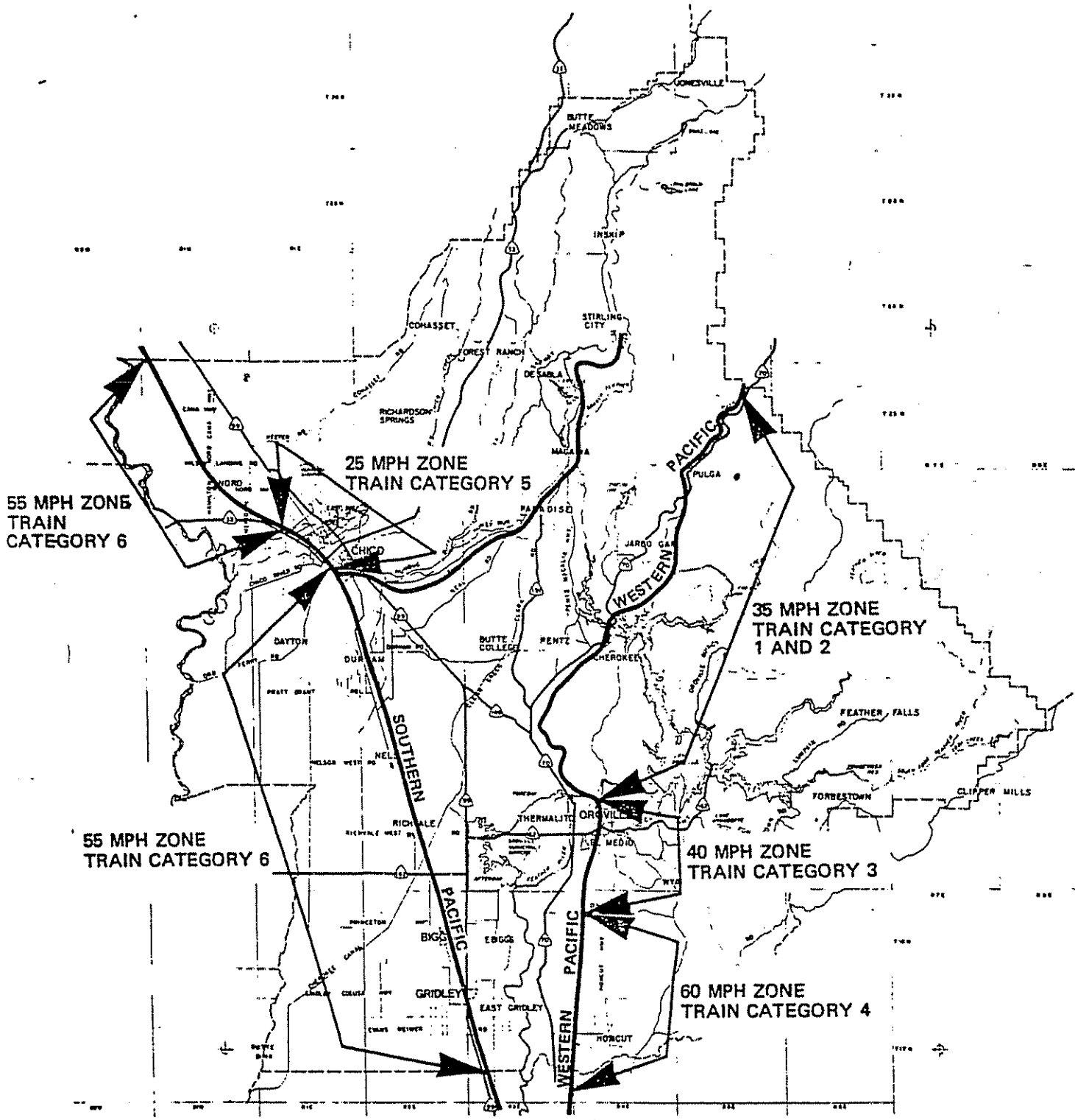
Category 5
 SOUTHERN PACIFIC LINE THRU CHICO, 9TH STREET
 TO EAST AVENUE.
 (Level Grade)



Category 6
 SOUTHERN PACIFIC MAINLINE, RUNS NORTH AND
 SOUTH THRU THE COUNTY.
 (Level Grade)



NOTE: Noise Contours are
 Symmetric About the Tracks.



NOISE ELEMENT - RAIL LINES
 Butte County
 FIGURE NO - 3

□ NOISE ELEMENT □

The Oroville Airport has no scheduled air carrier service, but it is suitable for that use in the future. The City of Oroville has been requested to provide noise contour projections for the airport (See Appendix D, not in this document, under separate cover). The contours will be incorporated into the Noise Element when they are received.

The Chico Municipal Airport is a major source of noise. The airport is situated north of the city of Cohasset Road (see Figure NO-4). It is a general transportation airport serving conventional and jet general aviation operations, air tankers, and commercial carriers.

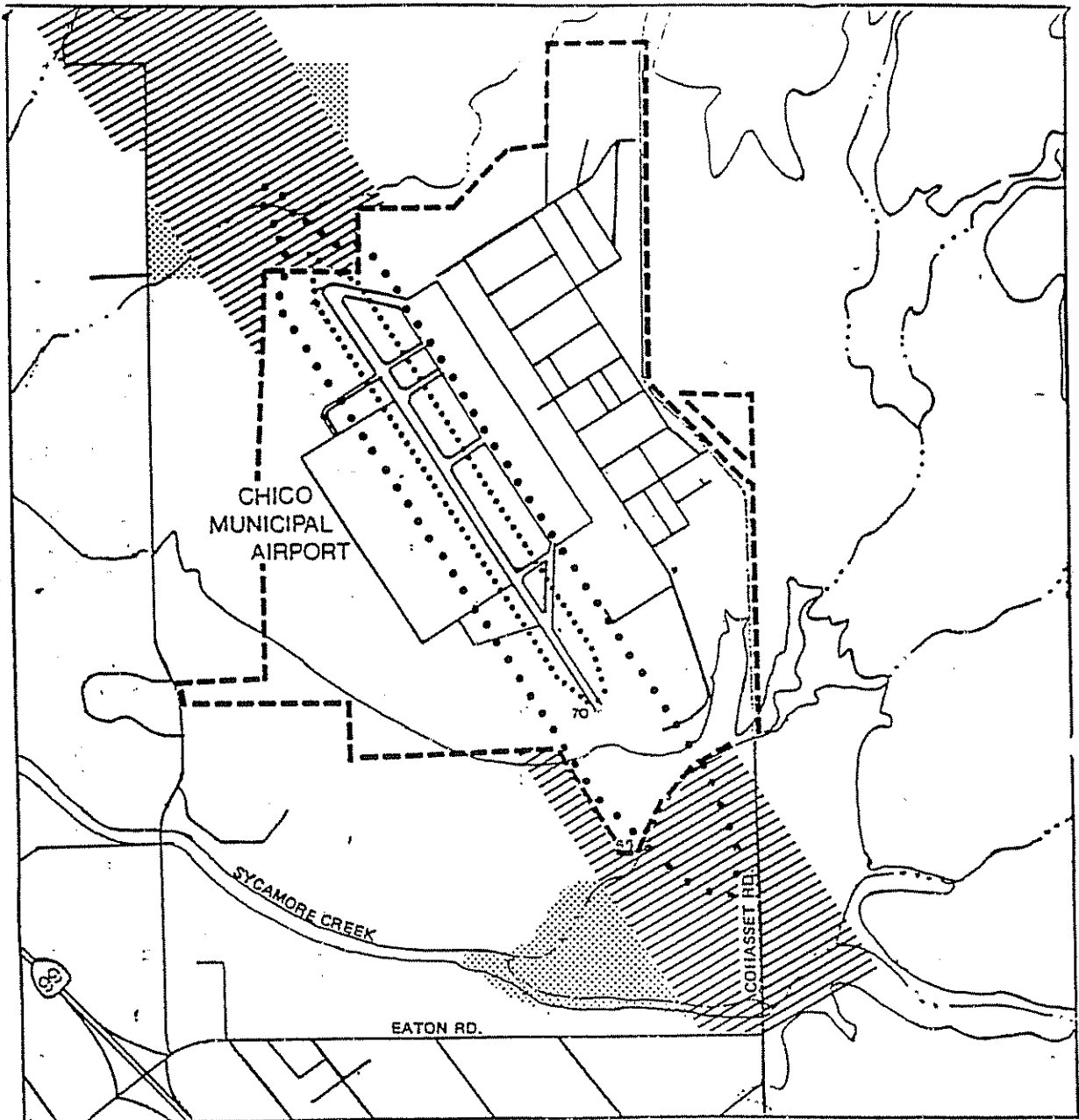
The City of Chico's Municipal Airport is the only airport in the County with scheduled commercial flights. Considerable industry is located on the eastern side of the airport property. The airport is located north of Chico and the flight path for general aviation takeoffs and landings passes near residential areas. During the fire season, the airport is used extensively by fire-fighting tanker planes which are very noisy. The major noise problems are with takeoffs and landings of scheduled air carrier jet aircraft. Jet takeoff and landing approach procedures are established so that the planes skirt the northeastern part of the urban area. This procedure has reduced the noise problem, but reportedly the aircraft do not always use the prescribed corridor.






Figure NO - 4 shows the 65 dB and 70 dB CNEL contours for the Chico Municipal Airport as provided by the Federal Aviation Administration for the *Chico General Plan* dated July 1976. The 60 dB CNEL noise contour required by the 1976 amendment to Government Code Section 65302 (g) was not required for the preparation of the Chico General Plan Noise Element. The City of Chico General Plan says:

"The area designated for potential low density residential development in northeast Chico (approximately 1-1/4 miles from the end of the runway) thus falls outside the 65 CNEL contour, that is, it would be exposed to noise levels less than 65 CNEL.

"However, in assessing airport noise, the CNEL methodology, which is essentially a means of averaging individual noise events, should be especially viewed as a guide rather than as a precise and definitive assessment of noise impact. This is particularly true in Chico, where the single event noise levels associated with the DC-9 aircraft, and with the larger air tankers, can and do annoy residents who live in the airport vicinity. The CNEL evaluation is particularly limited in situations such as Chico's, where there are relatively few such as Chico's, where there are relatively few flights in a day. Therefore, recognition must also be given to the importance of single event noise levels."

The City of Chico is acquiring property within the airport clear zone and 65 dB CNEL level to provide limited short term protection of future airport operations from encroaching incompatible residential uses.



-  65 CNEL
-  70 CNEL
-  AIRPORT BOUNDARY
-  AREA TO BE ACQUIRED IN FEE TITLE FOR CLEAR ZONE
-  EXCESS LAND - TAKING AREA TO BE ACQUIRED IN FEE TITLE

SOURCE: Federal Aviation Administration (FAA).
 Airport District Office, Burlingame, California.
 December 9, 1975

NOISE ELEMENT - CHICO AIRPORT NOISE CONTOURS
 Butte County
 FIGURE NO - 4

□ NOISE ELEMENT □

Noise-Sensitive Areas: Noise-sensitive sites shown on Figure NO-1 include the Butte Ecology Conservation Center, Butte College, public schools in unincorporated areas and inside the edges of cities, public and private rest homes with occupancies over 15 persons in unincorporated areas, wildlife management areas, and the Feather River Hospital in Paradise. These sensitive receptors need adequate quiet to properly conduct their activities.

Noise Survey: A community noise survey was conducted in December 1976 for three purposes: (1) to measure the noise environment at typical receptors deemed noise-sensitive and located outside of the Ldn 60 dB noise levels generated by major noise sources (roadways, airports, railroads); (2) to provide information on major noise sources where predictive results are uncertain (railroad maintenance and switching yards); and (3) to define ambient noise levels in representative areas of the County.

The ten representative sites listed in Table NO-5 were monitored to determine Ldn noise levels. Measurements were taken at each site between 7:00 a.m. and 10:00 p.m., and between 10:00 p.m. and 7:00 a.m. A-scale readings were taken at each site every 5 seconds for periods of at least 10 minutes with a Bruel and Kjaer Precision Sound Level Meter, using a 1-inch condenser microphone with a windscreen. The instrument was checked for calibration before each monitoring period. Meteorological conditions varied from clear to foggy, with calm winds and temperatures from 45 to 66 degrees.

The calculated day-night average levels which indicate typical levels to be expected at the sites can be applied to other similar locations in the County. The measurements taken at the Western Pacific maintenance and switching yards in Oroville show high levels at nearby residences.

Summary: There have been few noise complaints in the County and most of these involve in-city noise problems. The unincorporated areas of the County generally have low noise levels and most of the noise producing activities (motorcycle tracks, gravel-crushing operations, etc.) are sufficiently remote from populated areas to cause few complaints.

There are very few persons exposed to noise levels above an Ldn of 60 dB in the unincorporated areas of the County. Railroads, high-speed highways, industries, and airports currently affect few residential areas or other sensitive receptors.

□ NOISE ELEMENT □

Table NO - 5		
AMBIENT NOISE MONITORING SITES		
Type of Facility	Facility Name Measurement Location	Ldn
Major Sources		
1. Railroad maintenance yard	Western Pacific Shops in Oroville; measure at residences across the street	70 dB
2. Railroad switching yard	Western Pacific switching yards in Oroville, measured at residences across the street	62 dB
Sensitive Areas		
3. Rest Home in a residential neighborhood	Edgewood Care Home in Paradise; measured on front lawn	41 dB
4. Community Hospital in a residential neighborhood	Feather River Hospital Paradise; measured in hospital parking lot	51 dB
5. Outlying school or other facility in a rural area	Butte College; measured on student center lawn	51 dB
6. Rural community school	Durham Elementary in Durham; measured in parking lot near Highway 99	56 dB
7. Rural community school near light industry, school activities in progress	Richvale Elementary in Richvale; measured in school parking lot near Highway 99	61 dB
8. Suburban community school, school activities in progress	Las Plumas High School in Oroville; measured in school parking lot	57 dB
9. Wildlife refuge near an urban community	Feather River Wildlife Management Area, southwest of Oroville; measured near Pacific Heights Road	40 dB
10. Wildlife refuge in rural area	Grey Lodge Wildlife Management Area southwest of Gridley; measured near Liberty Road.	40 dB
Source: CH2M HILL, December 1976.		

The Noise Element evaluation primarily addresses a maximum acceptable community noise level of Ldn - 60 dB to provide a suitable noise environment inside buildings.

□ NOISE ELEMENT □

Since outdoor living is a major activity in Butte County, this standard may not be low enough to permit unhindered speech communication outdoors. Speech communication is severely hindered when background noise levels rise to 50-55 dBA.

FINDINGS, POLICIES, AND IMPLEMENTATION

Governmental policy responses to noise problems can address themselves to different aspects of noise generation and reception. First, noise generation can be abated by controls on the source. Secondly, insulating barriers can be placed between sound generators and the receptors. Thirdly, noise sources and noise-sensitive uses can be located away from each other.

The response to a particular noise problem is usually determined by a comparison of the cost or feasibility of restricting noise generation versus sound barriers versus separating sensitive receptors from major noise sources. Thus, because total abatement of noise is unfeasible, attention should be placed on noise barriers and control of incompatible uses. On the other hand, restricting the use of noisy vehicles or equipment in residential areas is more practical than constructing sound barriers or redesignating land uses and moving houses.

The findings, policies, and implementation of the noise element are discussed below, states the County's policy in response to the findings, and outlines implementation measures.

Finding - 1

Objectionable noise from transportation facilities and stationary sources can have a significant impact on public health and welfare.

Policy - 1

Endeavor to maintain an acceptable noise environment in all areas of the County.

Implementation - 1

Adopt a county noise ordinance. Consider noise levels recommended to Chart NO - 4, Land Use Compatibility for Community Noise Environments during environmental review.

Finding - 2

Some aspects of transportation related noise can be controlled by the County.

Policy - 2

Where possible, control the sources of transportation noise to maintain acceptable levels.

□ **NOISE ELEMENT** □

Implementation - 2

Consider noise in the location and design of county roads. Locate aircraft flight paths away from developed areas where feasible.

Finding - 3

Development contiguous to railroads and highways can create a significant noise problem.

Policy - 3

Special consideration should be given to residential development and other noise sensitive activities near railroads and highways.

Implementation - 3

Consider noise sources in review of zoning and subdivision proposals.

Finding - 4

Development near aircraft flight paths subjects people to objectionable noise and threatens future airport operations.

Policy - 4

Plan for airport development and discourage noise-sensitive activities near airports.

Implementation - 4

Locate noise-sensitive uses away from airports. Prepare specific Airport Environs plans for Chico and Oroville airports. Encourage compatible uses around airports

Finding - 5

Some types of recreational activities make objectionable noise.

Policy - 5

Control recreation activities that have the potential to cause objectionable noise.

□ NOISE ELEMENT □

Implementation - 5

Place limits on the levels of amplified sound and the time and location of outdoor concerts, auto and motorcycle races, and similar noisy activities. Identify locations for such activities that are compatible with the public health, welfare and safety.

Finding - 6

State legislation requires noise insulation of new multi-family dwellings constructed within the 60 dB noise exposure contours.

Policy - 6

Provide 60 dB noise contours around all major sources.

Implementation - 6

Develop 60 dB noise contours around major sources where this information is not presently available.

Finding - 7

Noise problems cross city boundaries.

Policy - 7

Cooperate with the incorporated cities to resolve mutual noise problems

Implementation - 7

Exchange noise contour information. Develop compatible noise control programs.

Finding - 8

As the County grows and activities change, the noise environment will also change.

Policy - 8

Keep the Noise Element current with changing conditions.

□ NOISE ELEMENT □

Implementation - 8

Monitor changes in noise levels. Update noise contour data.

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NOISE ELEMENT - LAND USE COMPATABILITY FOR COMMUNITY NOISE ENVIRONMENTS

Butte County
CHART NO - 4

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L _{dn} OR CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES						
RESIDENTIAL - MULTI. FAMILY						
TRANSIENT LODGING -- MOTELS, HOTELS						
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES						
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS						
PLAYGROUNDS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES						
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL						
INDUSTRIAL, MANUFACTURING UTILITIES, AGRICULTURE						

INTERPRETATION



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Com-

munity Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.