NOISE ELEMENT
of the
SANTA MARIA GENERAL PLAN

Adopted December 16, 1997
City Council Resolution No. 97-140

Amendment #1
Adopted April 15, 2009
City Council Resolution No. 2008-52

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Preface

The Noise Element is one of seven state-mandated General Plan Elements. As such, State law requires the City to adopt a noise element that assesses noise sources and noise exposure, and which aims to minimize noise conflicts. The City's existing Noise Element was adopted by the City Council on April 21, 1987. In February 1989, the Element was amended to incorporate airport noise contours adopted by the Santa Barbara County Airport Land Use Commission, and to make the Noise Element consistent with the information contained in the Santa Maria Public Airport Master Plan. This document updates the City Noise Element that was adopted in 1987 and amended in 1989. It provides new noise information (including noise contours), and develops new goals, policies, objectives and implementation programs. Where necessary, code references have been updated and the text revised to reflect statutory changes.

The Noise Element follows State guidelines in the State Government Code Section 653021 and Section 46050.1 of the Health and Safety Code. A Background Information Report (Technical Appendix) published on July 24, 1997, contains a more comprehensive inventory of current and forecast noise conditions, background information on noise, health effects of noise, methodology, measurement and modeling results and a bibliography.

Assumptions

This Noise Element is based on several assumptions about the existing noise environment and the future growth in the planning area. Those assumptions are:

1. Based on the growth rate assumptions from the Land Use Element of the General Plan and the Sphere of Influence Study, the City's population is expected to be about 82,400 in the year 2000 and 100,000 by the year 2010. According to the 1994 Growth Forecast prepared by the Santa Barbara County Association of Governments, Orcutt is expected to have a population of about 37,600 by the year 2010. Based on these figures, the population of the Santa Maria/Orcutt area is projected to be 137,600 by the year 2010.

2. All roadway improvements identified in the adopted Circulation Element will be constructed in support of buildout under the General Plan Land Use Element.

3. Future airport expansion and growth will be consistent with planned airport improvements contained in the Santa Maria Public Airport Master Plan dated August 1994 and the SMPAD Research Park Specific Plan dated 1995.

4. Heavy commercial manufacturing, industrial plants and agricultural operations will continue to be concentrated in those areas designated in the General Plan Land Use Element as Heavy Industrial (Refer to the City's adopted Land Use Policy Map).

I. INTRODUCTION

A. Purpose

The purpose of the General Plan Noise Element is to set forth goals and policies that regulate the City's existing and future noise environment to protect residents and workers from exposure to excessive noise. By definition, noise is undesirable or unwanted sound and is known to have several adverse effects (i.e., hearing loss, speech interference, sleep disruption, physiological responses and annoyance) on people. The Noise Element's primary goal is to work towards attaining and maintain an environment that is free of objectionable and excessive noise which may be harmful to Santa Maria residents. As a planning document, the Noise Element is a comprehensive program which provides the framework in which potential noise impacts and appropriate mitigation measures are addressed during project review and long range planning.

Santa Maria Noise Element

In accordance with State Law, the Santa Maria Noise Element:

a. Identifies and defines existing and future environmental noise levels from sources of noise within and adjacent to the City of Santa Maria. Noise information is defined by means of text, tables, graphs and noise contour maps (Figures N-1 and N-2) for the purpose of developing programs to protect Santa Maria residents will be protected from excessive noise intrusion.

b. Establishes goals, objectives, policies and implementation programs to control and reduce noise impacts to acceptable levels. Table N-4 shows the acceptable interior and exterior noise standards for the City of Santa Maria.

Santa Maria Noise Ordinance

While the Noise Element is directed at minimizing future noise conflicts, a noise ordinance is directed at resolving existing noise conflicts. A noise ordinance is used to address noise levels generated by existing industrial and residential uses, which are not regulated by federal or state noise level standards. The regulation of noise sources such as traffic on public roadways, railroad line operations and aircraft in flight is preempted by existing federal and/or state regulations, meaning that such sources generally may not be addressed by a noise ordinance. The Noise Element addresses the prevention of noise conflicts from all of these sources.

B. Authority

Section 65302(f) of the California Government Code requires a Noise Element which identifies and appraises noise problems in the community. The Santa Maria Noise Element recognizes the guidelines established by the Office of Noise Control in the State Department of Health Services. In accordance with State Law, the Noise Element analyzes and quantifies, to the extent practicable, current and projected noise levels for the following sources:

1. Highways and freeways.
2. Primary arterials and major local streets.
3. Passenger and freight on-line railroad operations and ground rapid transit systems.
4. Commercial and general aviation, aircraft overflights, heliport, helistop, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
5. Commercial manufacturing and industrial plants.
6. Other ground stationary noise sources.

The Santa Maria Noise Element contains noise contours for traffic and aircraft noise. Noise contours for railroad operations were not mapped because present railroad activities do not generate existing 60+ dB CNEL noise contours beyond the Railroad right-of-way (ROW). Noise contours for commercial activities and industrial plants could not be developed or mapped because they are site specific and the development of noise contours at this stage of the planning process would be too speculative. Noise impacts of commercial and industrial uses will be examined on a case by case basis to develop appropriate mitigation measures.

The Noise contours contained in this Element are stated in terms of community noise equivalent level[1] (CNEL), and were prepared on the basis of noise monitoring or by following generally accepted noise modeling techniques. For more detailed information on methodology, please refer to the Technical Appendix (Background Information Report dated July 24, 1997).

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1 CNEL is a 24-hour average describing a noise environment consisting of a variety of events. To account for increased sensitivity to noise during nighttime hours, the CNEL calculation penalizes evening and night sound levels. The decibel (dB) scale is logarithmic; a 3 dB difference is barely discernible to most people; and a 10 dB increase is subjectively heard as a doubling of noise. Every day sounds normally range from 30 dB (very quiet) to 100 dB (very loud).

C. Relationship to Other Elements of the General Plan

The General Plan Guidelines require all elements of the General Plan to be internally consistent. The Noise Element is directly related to the Land Use, Housing, Circulation and Open Space[2] Elements of the General Plan. Understanding how the Noise Element relates to these Elements is necessary to prepare an integrated general plan and to initiate changes which will reduce noise exposure to acceptable levels in areas where noise may presently exceed the levels set forth by the adopted policies of the Noise Element. The relationship between these elements is briefly discussed below.

1. Land Use: The Noise Element provides noise exposure information for use in the Land Use Element which designates acceptable land uses in relation to existing and projected noise levels, including appropriate noise mitigation measures.

2. Housing: The Housing Element considers the provision of adequate sites for new housing and standards for housing stock. Since residential land uses are noise-sensitive, the noise exposure information of the Noise Element must be considered when planning the locations of new housing. The State Noise Insulation Standards may influence the locations and construction costs of residential development, which should be considered by the Housing Element.

3. Circulation: The circulation system, which is a major source of noise, must be correlated with the Noise Element. Noise exposure is a decisive factor in the location, design and expansion of new transportation facilities, and in the mitigation of noise produced by existing facilities upon existing and planned land uses.

4. Open Space: Since excessive noise adversely affects the enjoyment of recreational pursuits in designated open spaces, noise exposure must be considered in planning this kind of open space use. Conversely, open space can be used to buffer noise-sensitive uses from noise sources by setbacks and visual screens.

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2 A state-required General Plan Element, the Santa Maria Open Space Element is contained within the City's Resources Management Element which was adopted on May 7, 1996.

II. FINDINGS

EXISTING NOISE LEVELS

The major sources of noise in Santa Maria are:

A. Vehicular traffic on U.S. Highway 101 and major city streets;

B. Aircraft operations from the Santa Maria Public Airport (SMPA); and

C. Train movements on the Santa Maria Valley Railroad (SMVRR). Although train movements on the SMVRR were not sufficient to generate existing 60 dB CNEL noise contours beyond the railroad right-of-way, future changes in train or light rail activity could result in noise impacts on adjacent land uses (See Circulation Element for discussion of future light rail on the SMVRR ROW).

D. Commercial activities and industrial plants are also noise generators in the City of Santa Maria.

A. Roadway Noise

The major source of noise in Santa Maria is vehicular traffic including automobiles, trucks, buses and motorcycles. The level of vehicular noise generally varies according to the number of vehicles per hour traveling adjacent to the noise receptor, the speed of traffic, the distance between the noise generator and receptor, the type of vehicles, the functioning of the engine (acceleration or deceleration) and exhaust system, road-tire interaction (pavement type and texture, tire condition and speed). Noise generated by vehicular traffic is greatest along U.S. Highway 101 and the City's major roadways which include Broadway (State Route 135), Miller Street, Blosser Road, Skyway Drive, Donovan Road, Main Street, Stowell Road, and Betteravia Road. A complete list of the City's primary and secondary arterials streets and collectors streets is included in the adopted Circulation Element.

To assess the impacts of roadway noise on the community, Brown-Buntin Associates conducted a noise study in September of 1996. Based on the study, a map of existing traffic noise contours[3] (based on 1995 traffic volumes) was prepared (Figure N-1). Table N-1 also shows the 55 to 70 dB CNEL/L_{dn}[4] contour distances for existing roadway noise conditions.

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3 Noise contours represent lines of equal noise exposure. They provide a visualization of estimates of sound level.

4 Day-Night Average Level (Ldn) is the equivalent energy (energy average) sound level during a 24-hour day, obtained by adding 10 decibels to sound levels between 10 p.m. to 7 a.m. The Ldn is generally computed for annual average conditions.

B. Aircraft Noise

Noise exposure contours around airports are based on the number and type of aircraft using the airport, magnitude and durations of each flyover, flight paths, and time of day when the flights occur. Figure N-1 shows aircraft CNEL noise contours for the year 2005[5]. These contours were taken without modification directly from the 1986 Santa Maria Public Airport Master Plan prepared by PRC Engineering.

According to the Airport Noise Standards contained in Title 4 of the California Administrative Code, an airport shall not permit noise exposures of 65 dB CNEL to extend into residential areas, schools or land uses other than specified compatible land uses. According to the noise contour map, the 65 dB CNEL is mostly contained on airport property. As such, there are a few homes currently within the 65+ dB CNEL from the Santa Maria Public Airport. They include an existing mobile home park on Airport property and a small portion of Foxenwoods Estates. Further discussion of the present type of airport operations and their impacts on the City of Santa Maria and the unincorporated areas of Santa Barbara County can be found in the 1986 Airport Master Plan and Final Environmental Impact Report.

C. Railroad Noise

Train movements on the Santa Maria Valley Railroad (SMVRR) were not sufficient to generate existing 60 dB CNEL noise contours extending beyond the railroad right-of-way. However, future changes in train movements could result in noise impacts on adjacent land uses that would have to be evaluated and mitigated to minimize or avoid such an impact. The SMVRR ROW is designated in the Circulation Element as a future light rail corridor; therefore, land use changes in close proximity to the SMVRR ROW should take this into consideration.

D. Commercial Manufacturing, Industrial Plants and Agricultural Operations

In Santa Maria, heavy commercial manufacturing, industrial plants and agricultural operations are primarily located near the Santa Maria Public Airport and in other areas away from noise-sensitive land uses such as residential (See the adopted Land Use Element and Land Use Policy Map for those areas designated for noise-generating type land uses). To achieve acceptable noise levels and maintain land use compatibility, the City discourages the location of noise-sensitive land uses in close proximity to noise-generating commercial and industrial land uses, and vice versa. When there is a potential land use conflict, the City requires a noise analysis to determine the exact noise impact and to develop site specific noise mitigation measures.

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5 The Airport Noise Contours shown in the Existing Noise Contours map (Figure N-1) are for the year 2005.

Table N-1
EXISTING DISTANCE OF CNEL NOISE CONTOURS
(Distance From Roadway Center to Traffic Noise Contours)[1]

East-West Streets Roadway Name	Segment Description	1995 ADT	dB CNEL 70	65	60	55
			Feet to Contour Line			
Donovan Road	Blosser-Broadway	9600	19	41	89	192
	Broadway-US 101	12700	23	50	107	231
	E of US 101	11900	22	48	103	221
Alvin Avenue	Blosser-Broadway	6200	14	31	67	143
	Broadway-US 101	6600	15	32	69	150
Main Street(SR 166)	Black-Blosser	10300	21	45	97	209
	Blosser-Broadway	17000	29	63	135	291
	Broadway-U.S. 101	19500	32	69	148	319
	East of U.S. 101	17500	30	64	138	297
Cook Street	Blosser-Broadway	6100	14	31	66	142
	Broadway-College	8800	18	39	84	181
Stowell Road	Blosser-Broadway	8500	22	47	101	218
	Broadway-U.S. 101	14500	31	67	145	311
Battles Road	Depot-Broadway	5100	13	27	58	126
	Broadway-College	10600	21	44	95	205
Betteravia Road	Mahoney-Blosser	11300	40	86	186	401
	Blosser-Broadway	14800	48	103	223	480
	Broadway-U.S. 101	19700	58	125	269	580
	U.S. 101-Rosemary	8000	32	69	148	318
McCoy Lane	Blosser-Orcutt Expressway	5500	20	43	92	197
	Orcutt Expressway-W.S. 101	9600	29	62	133	286
Lakeview Road	Orcutt Expressway-U.S. 101	9550	19	41	89	191
Foster Road	Blosser-Orcutt Expressway	6600	15	32	69	150
	Orcutt Expressway-Bradley	5300	13	28	60	129
Clark Avenue	CA-Orcutt Expressway	10600	21	44	95	205
	Orcutt Expressway-Bradley	15800	27	58	124	268
	Bradley-U.S. 101	16000	27	58	125	270

[1] Assumes no change in elevation and no structural buffers.

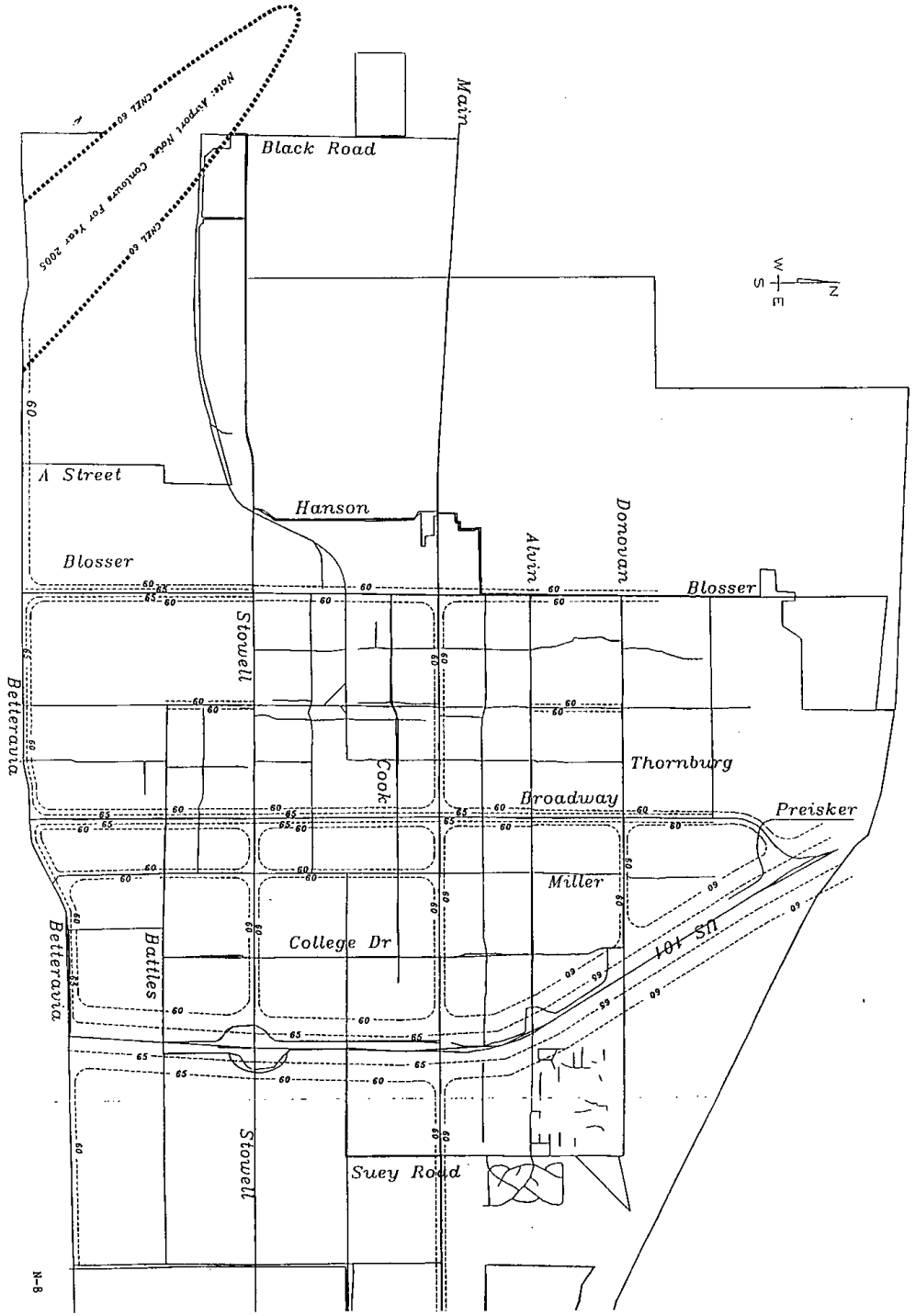
SOURCE: Brown-Buntin Associates, Inc.

Table N-1
EXISTING DISTANCE OF CNEL NOISE CONTOURS
(Distance From Roadway Center to Traffic Noise Contours)[1]

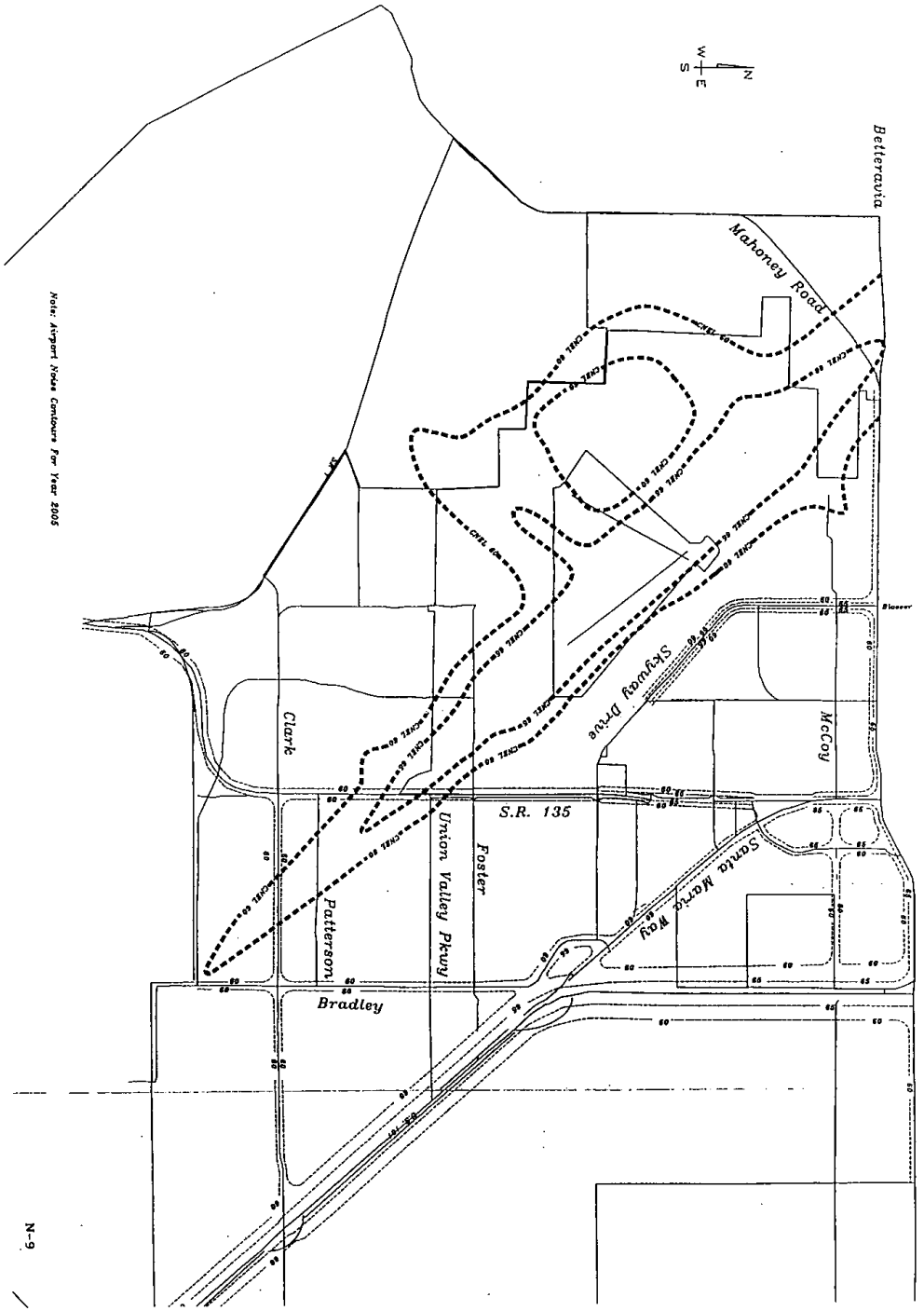
North-South Streets Roadway Name	Segment Description	1995 ADT	dB CNEL 70	65	60	55
			Feet to Contour Line			
Black Road	SR1-Betteravia	6300	14	31	67	145
Skyway Drive	Industrial-Fairway	11500	48	103	222	478
	Fairway-Betteravia	14400	56	120	258	555
Blosser Road	Betteravia-Stowell	12500	51	109	235	505
	Stowell-Main (SR 166)	17700	46	98	211	456
	Main (SR 166)-Alvin	14000	39	84	181	390
	Alvin-Taylor	10500	32	69	149	322
SR 1	South of Orcutt Expressway	15500	46	100	215	463
Depot Street	Battles-Stowell	7700	25	53	115	247
	Stowell-Cook	5300	19	41	89	193
	Alvin-Donovan	6800	23	49	106	227
Orcutt Expressway	SR1-Clark	12800	35	75	161	347
	Clark-Foster	16000	40	87	187	402
	Foster-Lakeview	20000	47	101	217	467
	Lakeview-Waller	29500	60	130	281	605
	Waller-Santa Maria	19600	46	99	214	460
	Santa Maria-Betteravia	30500	62	133	287	618
Broadway	Betteravia-Stowell	30500	62	133	287	618
	Stowell-Cook	30500	62	133	287	618
	Cook-Main (SR 166)	28000	58	126	271	584
	Main (SR 166)-Alvin	26600	56	122	262	564
	Alvin-Taylor	19900	47	100	216	465
	Taylor-U.S. 101	13200	35	76	164	354
Miller Street	Santa Maria-McCoy	16400	27	59	127	274
	McCoy-Betteravia	21600	33	71	153	330
	Betteravia-Stowell	16200	27	59	126	272
	Stowell-Main (SR 166)	15000	26	56	120	258
	Main (SR 166)-Alvin	9300	19	40	87	188
Santa Maria Way	U.S. 101-Orcutt Expressway	12050	33	72	155	333
College Drive	Battles-Stowell	5200	16	34	73	157
	Stowell-Main (SR 166)	8200	17	37	80	173
	Main (SR 166)-Alvin	10300	20	43	93	201
	Alvin-Donovan	6000	14	30	65	140
Bradley Road	River Ranch-Clark	8400	26	56	121	262
	Clark-Patterson	13400	36	77	166	357
	Patterson-Foster	10900	31	67	145	311
	Foster-Santa Maria	17500	43	92	198	427
	Battles-Main (SR 166)	9650	29	62	133	287
U.S. 101	South of Clark	23600	111	239	515	1109
	Clark-Santa Maria	32000	136	293	630	1358
	Santa Maria-Betteravia	35000	139	299	644	1388
	Betteravia-City Limit	47000	169	364	784	1690
Suey Road	Main (SR 166)-Alvin	6000	17	37	80	173

[1] Assumes no change in elevation and no structural buffers.

SOURCE: Brown-Buntin Associates, Inc.



City of Santa Maria General Plan Noise Element	Existing (1995) **CNEL/Ldn NOISE CONTOURS**	**FIGURE N-1** Santa Maria River to Betteravia Road	



City of Santa Maria **General Plan** **Noise Element**	Existing (1995) **CNEL/Ldn NOISE CONTOURS**	**FIGURE N-1** Betteravia Road to Clark Road

FUTURE NOISE ENVIRONMENT

A. Roadway Noise

Future noise levels were projected using traffic volumes generated at buildout of the General Plan (2010). Table N-2 shows the 55 to 70 dB CNEL contour distances for future conditions. The distances in Table N-2 do not take into account shielding by sound walls, terrain changes or other sound buffers. They represent worst-case noise levels along the streets and can be used for a basis in developing noise mitigation measures for proposed development projects. Figure N-2 is a map of future (projected) CNEL roadway noise contours for the year 2010.

It is anticipated that the number of homes exposed to roadway noise levels greater than 60+ dB in the future will increase due to future residential construction and increased traffic volumes. Potential new roadway noise sources would be traffic on proposed streets such as "E" Street, College Drive and Union Valley Parkway. Please refer to the Circulation Element for a complete discussion of future traffic levels and street improvements.

B. Aircraft Noise

The airport noise contours incorporated into the Noise Element represent the airport's existing and projected contours due to expanded services. These contours are consistent with the noise contours adopted by the Santa Barbara County Airport Land Use Commission. Figure N-2 shows future aircraft CNEL noise contours for 2005. The contours were taken without modification directly from the Master Plan for the Santa Maria Public Airport prepared by PRC Engineering (1986).

The number of homes exposed to aircraft noise is anticipated to increase or decrease depending upon future operations at the Santa Maria Public Airport. Future aircraft operations include scheduled passenger service, using a B727-200 aircraft, expanded helicopter operations and an additional parallel runway constructed to accommodate future demand of general aviation aircraft. A more detailed discussion of future airport operations is contained in the Circulation Element. In order to protect residents from excessive noise from aircraft overflights, the City Council has maintained a consistent policy of restricting residential development under the 60+ CNEL noise contour.

The SMPAD continues to require commercial and private jet aircraft operating between 10 p.m. and 7 a.m. to meet Stage III noise standards. SMPAD will continue to encourage present and future commercial and private jet operations to meet Stage III requirements.

C. Railroad Noise

Train movements on the Santa Maria Valley Railroad were not sufficient to generate existing or future 60+ dB CNEL noise contours extending beyond the railroad right-of-way. However, the General Plan Circulation Element provides for the future development of a light rail transportation system along the SMVRR right-of-way. This future change in the type of trains and train movements could result in noise impacts on land uses adjacent to the ROW which would have to be evaluated and mitigated to minimize or avoid such an impact. However, without the benefit of detailed information such as the type of light rail system and frequency of trips, future 60 dB CNEL noise contours could not be developed or mapped.

D. Commercial Manufacturing, Industrial Plants and Agricultural Operations

One of the basic assumptions of this Noise Element is that heavy commercial manufacturing, industrial plants and agricultural operations will continue to be located in those areas appropriately designated in the General Plan Land Use Element. However, to ensure that the City of Santa Maria maintains an acceptable noise environment, future commercial, industrial and agricultural operations and developments will be reviewed on a case by case basis to: 1) determine if there is a potential noise impact associated with that development; 2) to identify the exact noise impact; and 3) to develop site specific noise mitigation measures to minimize noise to the maximum extent feasible. This information will be used to decide if a project or land use change is approved. This will ensure that the City of Santa Maria maintains an acceptable noise environment as the City continues to grow.

E. US 101 Freeway

The Circulation Element plans for expansion of the U.S. Highway 101 between Union Valley Parkway and the Santa Maria River. The California Department of Transportation (Caltrans) determines how many lanes are needed to accommodate future traffic volumes. Caltrans has determined that U.S. 101 will be expanded to six lanes in this area.

Expected future increases in traffic volumes on this freeway will cause an increase in noise levels that may require mitigation if noise limits are exceeded. Noise walls are one form of acceptable mitigation for these impacts.

F. On-going Noise Problem Areas

In accordance with State law, a Noise Element is required to provide for the enforcement of noise mitigation measures and on-going mitigation monitoring to determine the effectiveness of those measures. Recent noise studies conducted for proposed projects in the City have identified several on-going noise problems that need to be addressed.

Noise mitigation for existing neighborhoods where soundwall installation is infeasible due to front yard orientations has become an on-going problem in Santa Maria. This situation currently occurs along roads such as Miller Street, Taylor Street, Donovan Road, Western Avenue and College Drive. Lowering the noise levels of these neighborhoods would take place in the event of an application for land-use approval, and would require creative solutions and noise attenuation to minimize traffic increases and traffic speeds so that the front yard noise levels remain below 60 dB CNEL, a level at which interior and exterior yards will still meet acceptable levels.

Another problem involves a situation in which noise mitigation was established based on previous noise conditions, but increases in traffic volumes and speeds have caused exterior noise levels to exceed the standards for existing noise-sensitive land uses. This situation presently occurs along Miller Street where existing traffic noise causes an above standard exterior noise environment (above 60 dB CNEL) at the first row of residences located along Miller Street (Toby Ranch, Los Cabos), even with the noise mitigation effect of an existing 7-foot high wall[6]. It is also believed that this situation occurs at Miller Elementary School and other locations throughout the City. This on-going noise problem could be mitigated by a number of creative solutions, including implementation of attenuation measures to address increases in traffic noise. Strategies which may achieve acceptable interior and exterior noise levels include: smoothing traffic flow to reduce acceleration noise peaks, reduction of the volume of traffic, use of smooth pavements, routing strategies, speed strategies, noise attenuation barriers, and other feasible measures.

Other on-going noise generators include the Santa Barbara County Fairgrounds and the Santa Maria Speedway. According to the General Manager of the Santa Barbara County Fair, the Fairgrounds operates year-round to make up for community events, especially the fair, that lose money. Throughout the year, the Fairgrounds sponsors numerous public and private events which include dances, wedding receptions, outdoor concerts, cultural celebrations, religious functions (i.e., revivals) and other events involving amplified sound. These events produce substantial nuisance noise[7] in the community. These events have resulted in the City of Santa Maria receiving numerous noise complaints from community residents, some of whom live up to one-half mile from the Fairgrounds.

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6 Based on the noise analysis contained in the Final Environmental Impact Report (FEIR) prepared for a proposed Wal-Mart Commercial project. The Wal-Mart FEIR was prepared by Rincon Consultants, Inc. and certified by the Santa Maria City Council on May 21, 1996.

7 Noises or noise sources which because of the when they are emitted or their quality, intensity, frequency or uniqueness, are not amenable to measurement, but which nevertheless are offensive or detrimental to the health, safety or welfare of other persons, or which substantially interfere with the reasonable quiet enjoyment of property by other persons, are found and determined to be nuisances (Santa Maria Noise Ordinance, Section 5-5.06)

While these residents' homes would appear to be a safe distance from the Fairgrounds, the combination of sound characteristics (amplitude, frequency) and atmospheric conditions (low cloud cover) causes the sounds generated by events at the Fairgrounds to travel substantial distances. Although the Fairgrounds falls under the jurisdiction of the State Fairgrounds Commission and the Fairgrounds Board, the City has been working with Fairground management to address this issue. While the City would like to have voluntary compliance and compatibility with adjoining properties and their uses, the City must refer complaints to the entity having jurisdiction. The City's authority is limited to the regulation of the location of noise-sensitive land uses and enforcement of the City Noise Ordinance emanating from land in the City's jurisdiction (Section 5-5.06 of the Noise Ordinance covers unmeasurable nuisance noise). The City will continue to enforce the Noise Ordinance and discourage noise-sensitive land uses from locating in close proximity to the Fairgrounds. In those situations where noise-sensitive land uses are located close to the Fairgrounds, a noise study will be required to develop appropriate mitigation measures to minimize Fairground noise. In addition, the City will continue to work with Fairground Management to find ways to minimize nuisance noise from the annual events held at the Fairgrounds.

The Santa Maria Speedway is located just north of the City Limits and the Santa Maria River in San Luis Obispo County. Each weekend, except in the rainy season, the Speedway hosts auto racing and a demolition derby. These racing events generate nuisance noise because the cars have modified engines and exhaust systems which amplify the noise above the car's original system. Although racing events at the Speedway are seasonal, the noise generated has become an on-going nuisance for community residents whom live in the northern portion of Santa Maria. To address this situation, the City will continue to enforce the Noise Ordinance by monitoring activities at the Santa Maria Speedway as well as working with San Luis Obispo County and the agencies and/or associations responsible for regulating activities at the race track.

In an effort to minimize or reduce the on-going noise problems in the community, the City of Santa Maria will continue to explore creative and feasible solutions to resolve these on-going noise problems, and to create quieter neighborhoods, schools, parks, and living and working environments for all Santa Maria residents.

Table N-2
FUTURE (2010) DISTANCE OF CNEL NOISE CONTOURS
(Distance From Roadway Center to Traffic Noise Contours)[1]

East-West Streets Roadway Name	Segment Description	2010 ADT	dB CNEL 70	65	60	55
			Feet to Contour Line			
Taylor Street	Blosser-Railroad	6900	15	33	71	154
	Railroad-Broadway	10100	20	43	92	199
Donovan Road	Blosser-Broadway	14650	25	55	118	254
	Broadway-U.S. 101	16300	27	59	127	273
	U.S. 101-Suey	12100	22	48	104	224
Alvin Avenue	Blosser-Broadway	9400	19	41	88	189
	Broadway-Suey	7700	17	36	77	166
Fesler Street	Blosser-Railroad	6600	15	32	69	150
Main Street (SR 166)	Black-Blosser	11700	23	49	105	227
	Blosser-Railroad	24100	37	79	171	368
	Railroad-U.S. 101	20500	33	71	153	330
	U.S. 101-Suey	16700	29	62	134	288
Cook Street	Blosser-Broadway	8800	18	39	84	181
	Broadway-College	13600	24	52	112	242
Morrison Avenue	Blosser-Railroad	7500	16	35	76	163
Stowell Road	Blosser-Broadway	23000	44	94	203	437
	Broadway-U.S. 101	15900	34	74	159	342
Enos Drive	"A"-Blosser	7800	17	36	78	167
Battles Road	Black-Blosser	9800	19	42	90	195
	Blosser-Broadway	21500	33	71	153	329
	Broadway-U.S. 101	17900	29	63	135	291
Carmen Lane	Railroad-Broadway	15600	27	57	123	265
Betteravia Road	"E"-Blosser	17700	57	123	266	572
	Blosser-Broadway	23900	70	151	324	699
	Broadway-U.S. 101	36000	92	198	426	919
	U.S. 101-Rosemary	7100	31	67	144	311
McCoy Lane	"E"-Blosser	7300	24	51	111	238
	Blosser-Orcutt Expressway	17800	43	93	200	432
	Orcutt Expressway-College	18800	45	96	208	448
	College-U.S. 101	11200	32	68	147	317
Mahoney Road	Olivewood-Betteravia	11700	22	47	102	219
Fairway Avenue	"E"-Blosser	6700	15	33	70	151
Lakeview Road	Orcutt Expressway-College	14300	25	54	116	250
Foster Road	Blosser-Orcutt Expressway	11400	22	46	100	215
Union Valley Parkway	SR 1-Blosser	10000	20	42	92	197
	Blosser-Orcutt Expressway	14000	25	53	115	247
	Orcutt Expressway-Bradley	18100	29	63	136	293
	Bradley-U.S. 101	25600	37	80	171	369
Clark Avenue	Blosser-Orcutt Expressway	13900	25	53	114	246
	Orcutt Expressway-Bradley	15650	27	57	123	266
	Bradley-U.S. 101	15350	26	57	122	262
Rice Ranch Road	Orcutt Expressway-Bradley	6200	14	31	67	143

[1] Assumes no change in elevation and no structural buffers.

SOURCE: Brown-Buntin Associates, Inc.

Table N-2
FUTURE (2010) DISTANCE OF CNEL NOISE CONTOURS
(Distance From Roadway Center to Traffic Noise Contours)[1]

North-South Streets Roadway Name	Segment Description	2010 ADT	dB CNEL 70	65	60	55
			Feet to Contour Line			
Black Road	SR 1-Olivewood	6600	15	32	69	150
	Stowell-Main (SR 166)	5780	14	29	64	137
Olivewood Road	Sandalwood-Mahoney	10500	20	44	95	204
"E" Street	Union Valley-Betteravia	14100	25	53	115	248
	Betteravia-Stowell	12950	23	50	109	234
"A" Street	Fairway-Betteravia	5900	14	30	64	139
	Betteravia-Stowell	9400	19	41	88	189
Skyway Drive	Orcutt expressway-Fairway	17850	64	138	298	641
	Fairway-Betteravia	17100	62	134	289	623
Blosser Road	Betteravia-Stowell	21200	72	155	334	719
	Stowell-Main (SR 166)	22600	77	165	356	767
	Main (SR 166)-Alvin	23800	78	167	360	777
	Alvin-Hidden Pines	7900	37	80	173	372
SR 1	Solomon-Clark	8300	31	66	142	305
	South of Orcutt Expressway	15200	39	84	180	389
Depot Street	Betteravia-Main	15700	40	86	184	397
Railroad Avenue	Main-Fesler	7400	16	35	75	161
	Fesler-Donovan	11800	22	47	102	220
	Donovan-Hidden Pines	7200	16	34	74	158
Foxenwood Frontage	Foster-Skyway	8400	18	38	82	176
Orcutt Expressway	SR 1-Clark	12400	34	73	157	339
	Clark-Foster	21400	49	105	227	488
	Foster-Lakeview	23100	51	111	238	514
	Lakeview-Betteravia	34800	68	145	313	675
Broadway	Betteravia-Stowell	44300	79	171	368	793
	Stowell-Main (SR 166)	31900	64	137	296	637
	Main (SR 166(-Donovan	26800	57	122	263	567
	Donovan-Taylor	34700	67	145	313	674
	Taylor-U.S. 101	27500	58	124	268	577
Preisker Lane	Roemer-Hidden Pines	10800	21	45	96	208
Miller Street	Santa Maria-Betteravia	16300	27	59	127	273
	Betteravia-Stowell	22500	34	73	157	339
	Stowell-Main (SR 166)	19300	31	66	142	306
	Main (SR 166)-Alvin	14000	25	53	115	247
	Alvin-Donovan	6200	14	31	67	143
Santa Maria Way	U.S. 101-Orcutt Expressway	30300	62	133	286	616
College Drive	Santa Maria-McCoy	13000	29	62	134	289
	McCoy-Battles	16300	28	61	132	284
	Battles-Stowell	12500	24	51	110	238
	Stowell-Main (SR 166)	9200	19	42	90	194
	Main (SR 166)-Alvin	17600	30	64	139	299
	Alvin-Donovan	10800	22	47	100	216
Bradley Road	Rice Ranch-Clark	7500	20	44	95	205

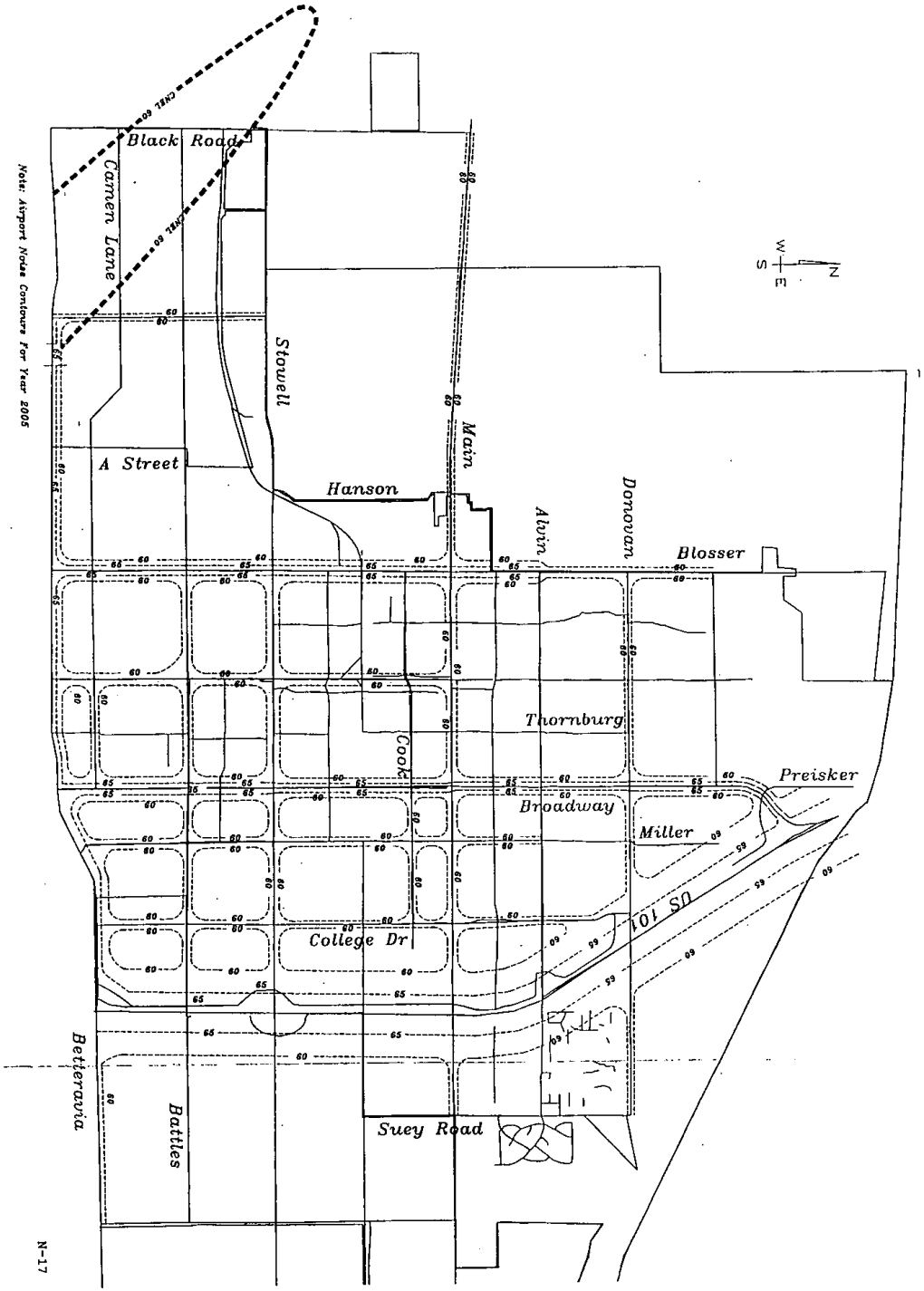
[1] Assumes no change in elevation and no structural buffers.

SOURCE: Brown-Buntin Associates, Inc.

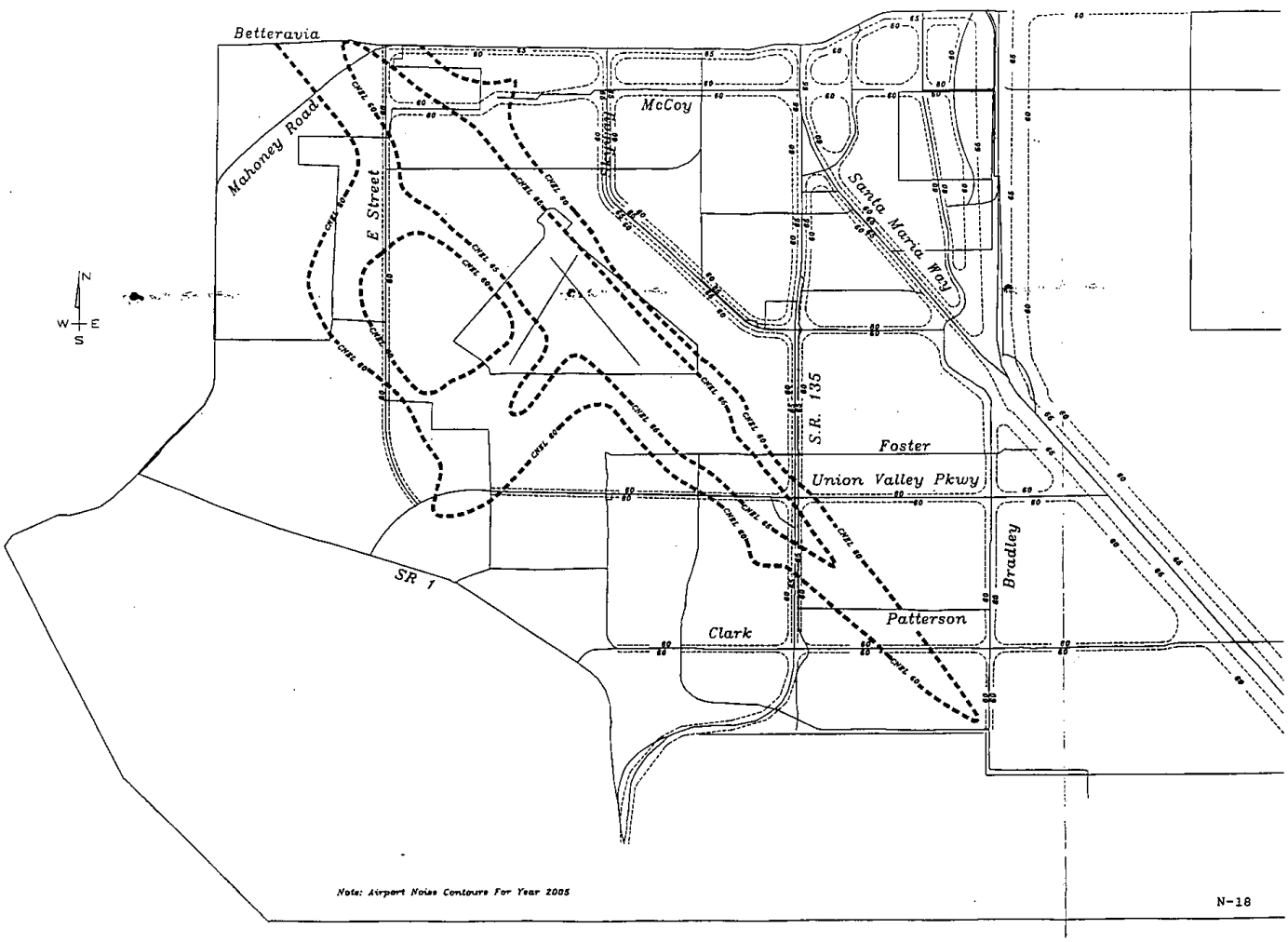
Table N-2 (Continued)
FUTURE (2010) DISTANCE OF CNEL NOISE CONTOURS
(Distance From Roadway Center to Traffic Noise Contours)[1]

North-South Streets Roadway Name	Segment Description	2010 ADT	dB CNEL 70	65	60	55
			Feet to Contour Line			
	Clark-Patterson	9500	24	52	111	240
	Patterson-Foster	14000	31	67	144	310
	Foster-Santa Maria	20300	40	86	185	398
	South of Betteravia	11300	27	58	125	269
	Betteravia-Stowell	17200	36	77	165	356
	Stowell-Main (SR 166)	11300	27	58	125	269
U.S. 101	South of Clark	34000	119	257	554	1193
	Clark-Santa Maria	39600	132	285	613	1321
	Santa Maria-Betteravia	53900	162	350	753	1622
	Betteravia-City Limit	81000	205	441	951	2049
Suey Road	Main (SR 166)-Alvin	6300	15	32	70	151

[1] Assumes no change in elevation and no structural buffers.
SOURCE: Brown-Buntin Associates, Inc.



City of Santa Maria **General Plan** **Noise Element**	**Future (2010)** **CNEL/Ldn NOISE CONTOURS**	**FIGURE N-2** Santa Maria River to Betteravia Road



City of Santa Maria
General Plan
Noise Element

CNEL/Ldn NOISE CONTOURS
Future (2010)

FIGURE N-2
Betteravia Road
to
Clark Road

SUMMARY OF NOISE IMPACTS

A summary of noise impacts by source is provided in Table N-3.

Table N-3
Noise Impacts By Source

Source	Impacts
U.S. 101	CNEL noise levels are substantial and exceed 60 dB along major portions of U.S. 101.
Major Roadways	Noise-sensitive land uses along major roadways are impacted by traffic noise. Noise impacts are projected to worsen as roadway expansion and volumes increase.
Santa Maria Public Airport	Airport activities do not currently generate significant noise impacts in the City. However, projected increases in aircraft operations will generate a 60+ dB CNEL noise contour that impacts existing residential uses in the unincorporated areas of Santa Barbara County to the southeast.
Santa Maria Railroad	Rail line operations are not sufficient to create a 60 dB CNEL extending beyond the right-of-way. However, train activities including noise, air horn blasts and vibrations in the late night and early morning may annoy residents adjacent to the railroad tracks.
Construction	Construction noise can be annoying to adjacent noise-sensitive land uses. However, construction noise is typically limited to a two to three month period during daytime hours.
Commercial/Industrial	In general, commercial/industrial operations are not considered a city-wide noise problem. However, isolated noise problems can occur where commercial/industrial uses are located near a noise-sensitive land use.

III. GOALS, POLICIES AND PROGRAM

GOAL N.1
To protect present and future Santa Maria residents and workers from the harmful and annoying effects of exposure to excessive noise levels.

POLICY N.1.a - Overall Noise Control in Santa Maria
Protect and enhance the quality of the City's noise environment by controlling noise at its source, along its transmission paths, and at the site of the ultimate receiver.

POLICY N.1.b - Location of New Noise Generators
Regulate the placement and construction of new noise generators, to avoid excessive interior and exterior noise level impacts on adjacent noise sensitive properties; and of new noise receptors (such as housing and schools), to minimize the negative effects of local noise generation.

POLICY N.1.c - Noise Control with the Required Environmental Planning and Regulatory Process
Control harmful or undesirable noise through the environmental planning and regulatory process with emphasis on noise/land use compatibility planning.

POLICY N.1.d - Explore New Measures to Address Existing and Future Transportation Noise.
Explore possible strategies to control vehicular noise generation that would reduce noise impacts on existing noise-sensitive land uses (residential and schools) located within the 60+ dB CNEL contour.

OBJECTIVE N.1.a - Existing Noise Levels
To have mobile and stationary noise sources in compliance with the Santa Maria Noise Element and Noise Ordinance, and state and federal noise regulations.

OBJECTIVE N.1.b
To maintain and reduce noise to acceptable levels throughout the community.

OBJECTIVE N.1.c - Mitigation of New Transportation Noise Sources
Noise created by new transportation noise sources, including roadway, airport and railway improvements, shall be mitigated to the maximum extent feasible, using Table N-4 or other credible evidence as a guide.

OBJECTIVE N.1.d - New Development Projects
All new development projects will meet the acceptable exterior and interior noise level standards specified in Table N-4: *"Interior and Exterior Noise Standards"*.

Table N-4
City of Santa Maria
Interior and Exterior Noise Standards

LAND USE CATEGORIES		STANDARD (dB CNEL)	
CATEGORIES	USES	INTERIOR	EXTERIOR
Residential	Single Family, Duplex, Multiple Family, Mobile Home	45	60[4]
Commercial	Retail, Restaurant, Professional Offices	55	65[1,2]
Industrial	Manufacturing, Utilities, Warehousing, Agriculture	65	70[3]
Noise-Sensitive Land Uses	Motel, Hospital, School, Nursing Home, Church, Library, and other	45	60
Open Space	Passive Outdoor Recreation	--	65

Notes

1. The Commercial Exterior Noise Standard is a noise level of 65 dB CNEL or less, or which does not interfere with normal business activity.

2. Where commercial development proposes outside activities such as patio dining, outside play and picnic areas, the noise standards shall not apply to those outdoor areas.

3. The Industrial Exterior Noise Standard is a noise level of 70 dB CNEL or less or which does not interfere with normal business activity.

4. Exception to allow elevated noise levels in outdoor living areas. Outdoor living areas such as patios and balconies may be incorporated into multifamily development projects ("Duplex" and "Multiple Family", and mixed use projects which incorporate these uses) in areas which experience elevated noise levels. These noise levels may not exceed the "Normally Unacceptable" Community Noise Exposure levels (75dB and above) specified in Figure 2 of the "Noise Element Guidelines" (Appendix C of the California General Plan Guidelines). Furthermore, prospective buyers and future occupants of dwellings shall be provided the following notice:

   This property is presently located in an urban area which periodically and regularly experiences elevated noise levels. Potential sources of this noise may be automobile traffic, railroad operations, flying aircraft, industrial/commercial uses and general human activity in an urban environment. You may wish to consider what noise level annoyances, if any, are associated with the property before you complete your purchase and/or rental agreement and determine whether they are acceptable to you.

IMPLEMENTATION PROGRAMS

Planning and Regulatory Process:

1. Review all development proposals, both public and private, for consistency with the policies of this Element.

2. In reviewing and approving new subdivisions, general plan amendments, rezones, specific plans, use permits, conditional use permits and planned development permits, the City may require applicants to evaluate potential noise impacts and require appropriate noise control measures. Noise evaluations may include the review and requirement of: site design criteria, additional setbacks, earthen berms, sound walls, and modification of roadway design. Examples of mitigation measures are outlined in Table N-7; Figures N-3 and N-4 are illustrations of noise mitigation through site design and architectural layout.

3. Use the noise guidelines outlined in this Element and the projected noise contours (Figure N-2) to determine the need for noise studies, and require new developments to construct or pay for noise attenuation features as a condition of approving the project.

   Require a noise study and/or implementation of standard noise control measures based on the measurements at the site for noise sensitive projects within the 60+ dB CNEL contour (see Figure N-2) as part of the project review process. Should measurements indicate that unacceptable noise levels will be created or experienced, noise control measures may be required.

4. Require discretionary development proposals to meet the interior and exterior noise standards specified in Table N-4.

5. Any intensification of an existing activity, which is subject to discretionary review and can reasonably be expected to generate noise which would exceed the allowable noise levels in Table N-4, may be evaluated for compatibility with adjacent noise sensitive land uses. Appropriate mitigation measures may be imposed to result in the activity meeting the noise levels in Table N-4.

6. As part of project review, discourage the intrusion of commercial and industrial traffic onto local residential streets through the circulation planning review process.

Existing Noise Environment Improvements:

7. Evaluate those areas identified in the City with unacceptable noise levels and identify possible attenuation measures to improve that area's existing noise environment. Measures could include offering incentives that encourage developers and homeowners to use noise reduction materials to retrofit existing residences and schools close to U.S. Highway 101, major City roadways, the Santa Maria Public Airport, commercial manufacturing, industrial plants and agricultural operations.

8. Coordinate with the California Department of Transportation to effectively attenuate freeway noise through the placement of noise barriers, berms, and landscaped open space for existing residences, and incorporating design features in new development to reduce future noise level increases.

9. Discourage residential developments where traffic generated noise levels already exceed the acceptable noise levels for residential uses, and where there is no practical way to reduce noise to acceptable exterior and interior noise levels.

10. Continue to make the community aware of the effects of noise, and to keep the community informed of the measures being taken to combat noise.

11. Continue to update and enforce the City's Noise Ordinance.

12. Continue enforcement of the City's Noise Ordinance, both by responding directly to complaints and by conducting field monitoring compliance checks to identify violators. Table N-5 shows the maximum allowed noise levels and time durations which are used to determine if a noise violation has occurred.

Table N-5
Maximum Noise Exposure For Noise-Sensitive Uses

Level (dBA)		Duration in An Hour
Day (7 am to 10 pm)	Night (10 pm to 7 am)	
55	45	30 Minutes
60	50	15 Minutes
65	55	5 Minutes
70	60	1 Minute
75	65	Maximum

A noise violation is determined to exist when the noise level exceeds the ambient noise level or base noise level (Table N-6) as follows:

1. By any amount 30 minutes for any given hour, measure cumulatively;
2. By 5 dBA, 15 minutes for any given hour;
3. By 10 dBA, 5 minutes for any given hour;
4. By 20 dBA at anytime
5. Where zoning districts interface, the ambient noise base level for the most restrictive zones shall prevail.

Please refer to the Santa Maria Noise Ordinance for further detailed discussion.

Stationary Noise Sources:

13. Control noise intrusion from stationary outdoor machinery, appliances, and air conditioners through effective site design and with the site specific mitigation measures specified in Table N-6 and shown in Figures N-3 and N-4, where appropriate.

14. As part of the planning process, evaluate stationary noise sources to identify potential noise impacts. Where appropriate, require mitigation of those impacts so they do not exceed the noise level standards specified in Table N-4.

15. In reviewing development proposals, minimize traffic noise impacts on commercial and office buildings through effective site design and appropriate mitigation measures.

Roadway Noise Programs:

16. Continue to coordinate transportation and land use planning in future General Plan revisions and updates to promote acceptable noise levels for specific types of land uses and activities.

17. Continue to evaluate truck movements and routes in the city to provide for their effective separation from residential and noise sensitive areas.

18. Encourage the enforcement of State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and County Sheriff.

19. Discourage the operation of service and maintenance vehicles of a non-emergency nature in residential areas during early morning and late evening hours.

20. Where appropriate, use less than standard lane widths to reduce vehicle speeds where this would reduce noise levels and protect existing residential neighborhoods.

Airport Noise Programs:

21. Encourage the SMPAD to require "state-of-the art" quiet aircraft for commercial airlines proposed to locate at Santa Maria Public Airport.

22. Where appropriate, require avigation easements and noise mitigation measures in new residential developments near the airport in the 60+ dB CNEL contour and in areas that are commonly overflown.

Building Code Programs:

23. Enforce the California Noise Insulation Standards (California Administrative Code, Title 25) for all new residential construction.

24. Where excessive noise levels exist, the City may require special construction assemblies such as attic and eave vent mufflers to mitigate noise (see Figure N-5).

Construction Noise Programs:

Although construction noise is considered to be a short-term site specific impact, the City of Santa Maria should continue to mitigate and monitor noise generated at construction sites. Figure N-7 shows typical construction equipment noise levels. To minimize construction noise levels, the City of Santa Maria will continue to require the following measures, where appropriate.

25. Limit the hours of construction activity in residential areas in order to reduce the intrusion of noise in the early morning and late evening hours, and on weekends and holidays.

26. Control noise at all construction sites through the provision of mufflers and the physical separation of machinery maintenance areas from adjacent residential and noise sensitive land uses.

27. Continue to work with the Santa Barbara County Fairgrounds Board to find ways to minimize nuisance noise from the events held at the Fairgrounds.

28. Continue to enforce the Noise Ordinance by monitoring activities at the Santa Maria Speedway as well as working with San Luis Obispo County and the agencies and/or associations responsible for regulating activities at the race track.

ACCOMPLISHMENTS TO DATE:

1. The City has adopted a Noise Ordinance to resolve existing noise conflicts. See Section 5.5 of the Municipal Code.

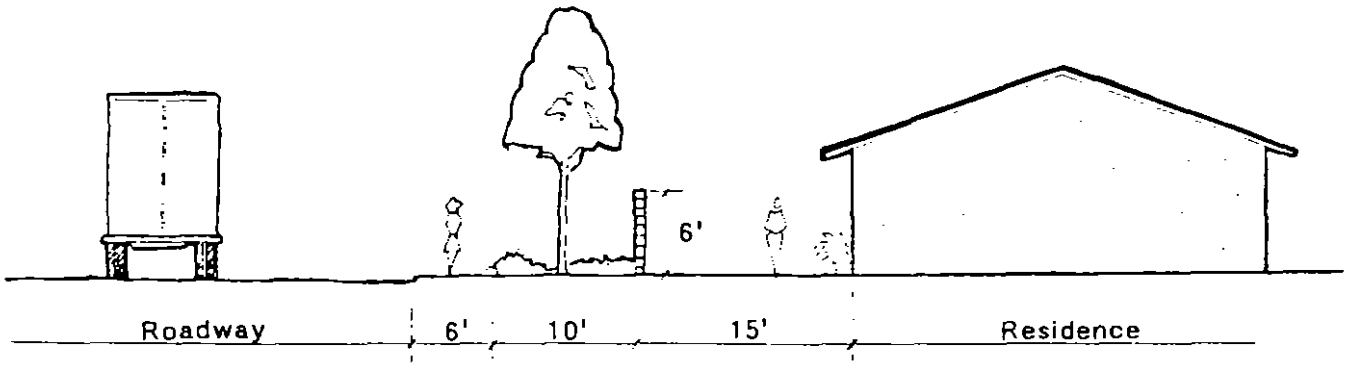
2. Through land use amendments, zone changes, subdivision maps, conditional use permits and planned development permits, the Community Development Department reviews said projects for consistency with the General Plan, Noise Ordinance and requires appropriate mitigation measures. Measures include, but are not limited to setbacks, architecturally treated noise walls, noise attenuation measures within the structure and use restrictions such as hours of operation.

ANTICIPATED RESULTS:

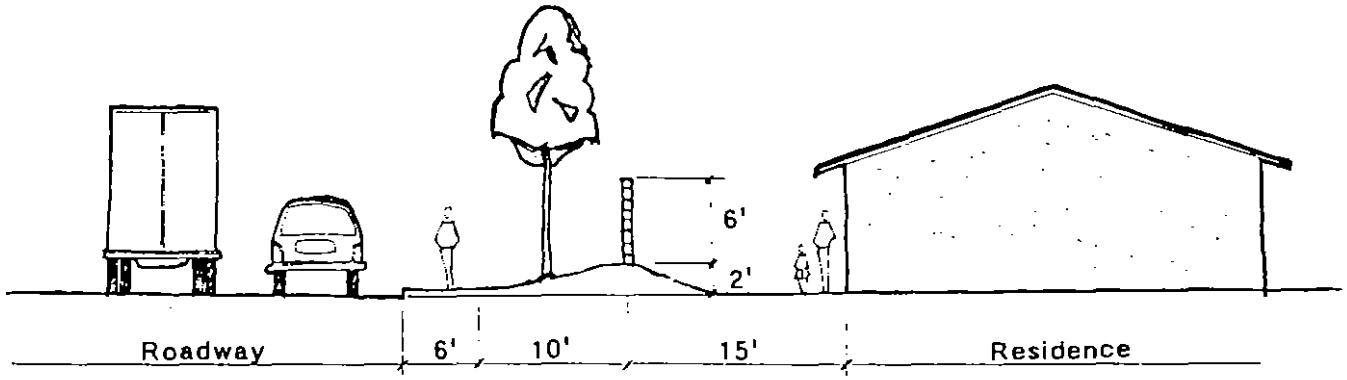
1. Consistent enforcement of the City noise regulations and compliance with state and federal noise regulations.

2. Compliance with adopted noise standards and the Noise Ordinance and a reasonable quiet community with few complaints.

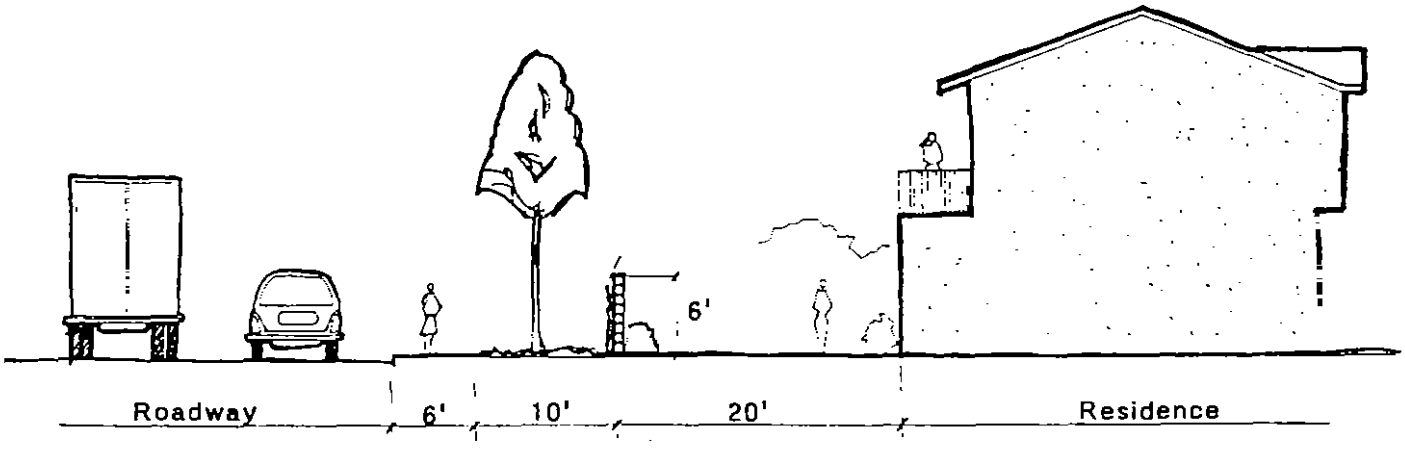
Figure N-3
Noise Barrier Alternatives



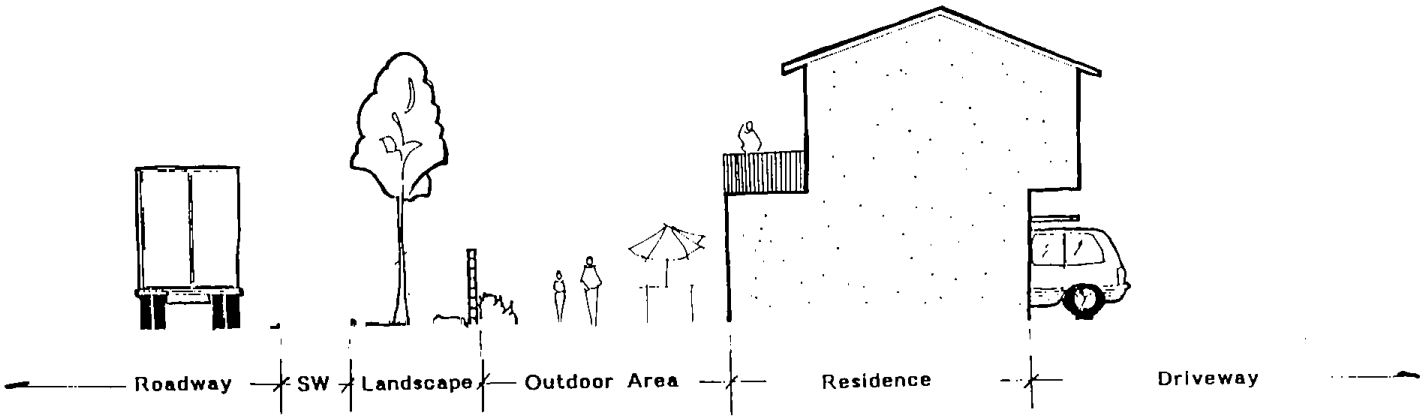
1 6'-0" high masonry sound wall.



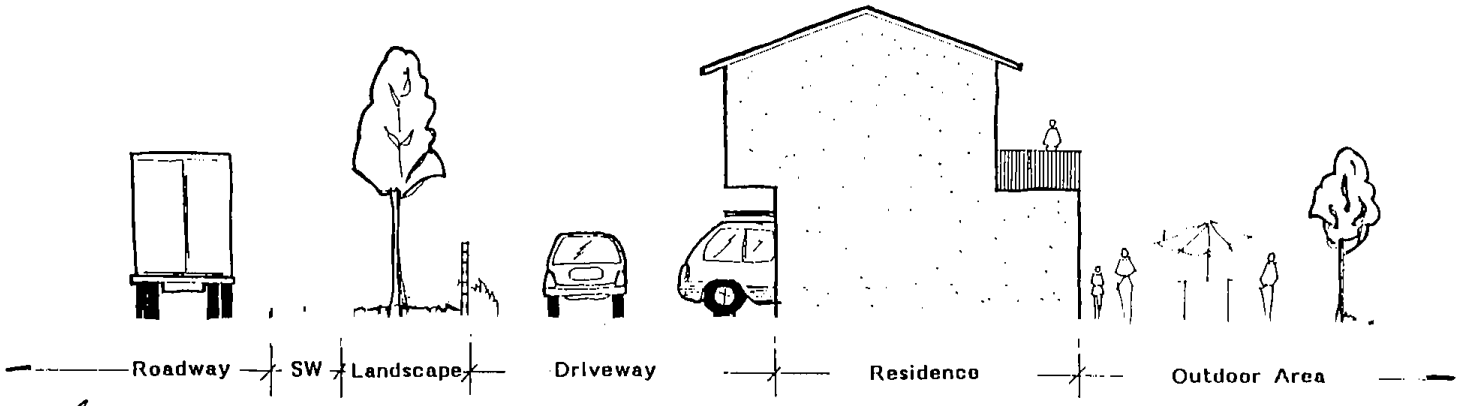
2 8'-0" high combination wall/berm
(6' masonry wall on 2'earthen berm)



3 6'-0" high masonry sound wall
20' Rear yard setback for 2-story building



This design does NOT use the building for additional shielding from roadway noise.



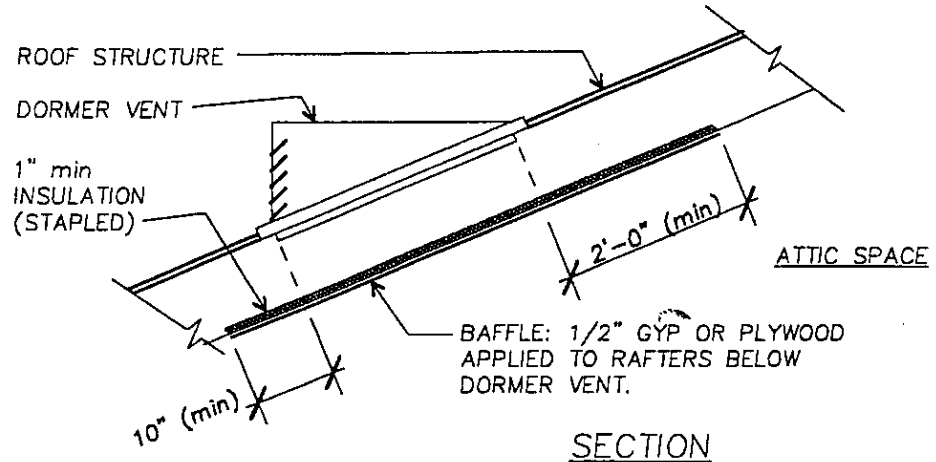
This design uses the building for additional shielding from roadway noise.

Figure N-4
Noise Mitigation Through Architectural Layout

SOUND ATTENUATION at ATTIC VENT

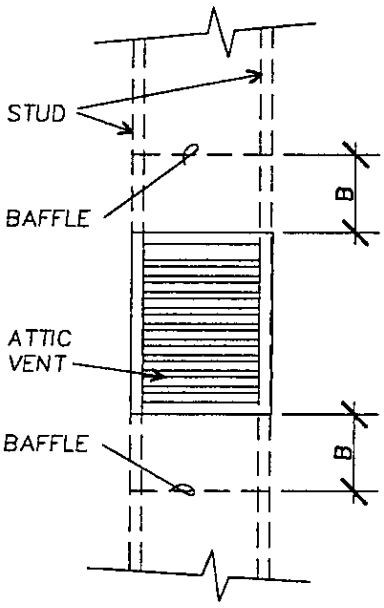
LF124-397

CITY OF SANTA MARIA • COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION • 110 SOUTH PINE # 101 • SANTA MARIA, CA. 93454-5028
(805) 925-0951 ext 241

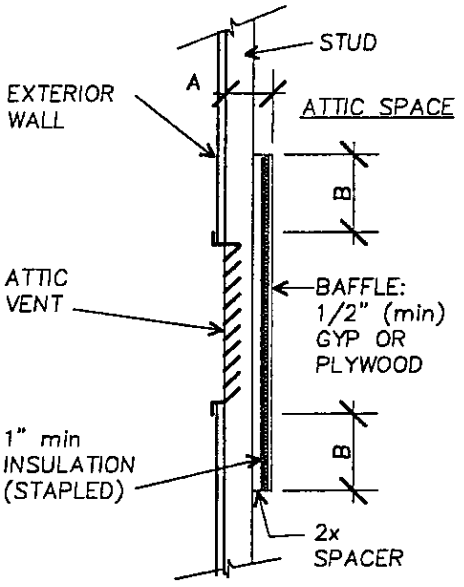


SECTION

DORMER TYPE VENT



ELEVATION



SECTION

WALL TYPE VENT

NOTES :
1) 2x SPACER TO BE SIZED SO THAT DIMENSION "A" PROVIDES ENOUGH OPEN AREA FOR PROPER AIR FLOW VENTILATION, BUT NOT GREATER THAN 18". (MAY BE OMITTED IF ADEQUATE)
2 DIMENSION "B" TO BE 1.5 TIME DIMENSION "A"

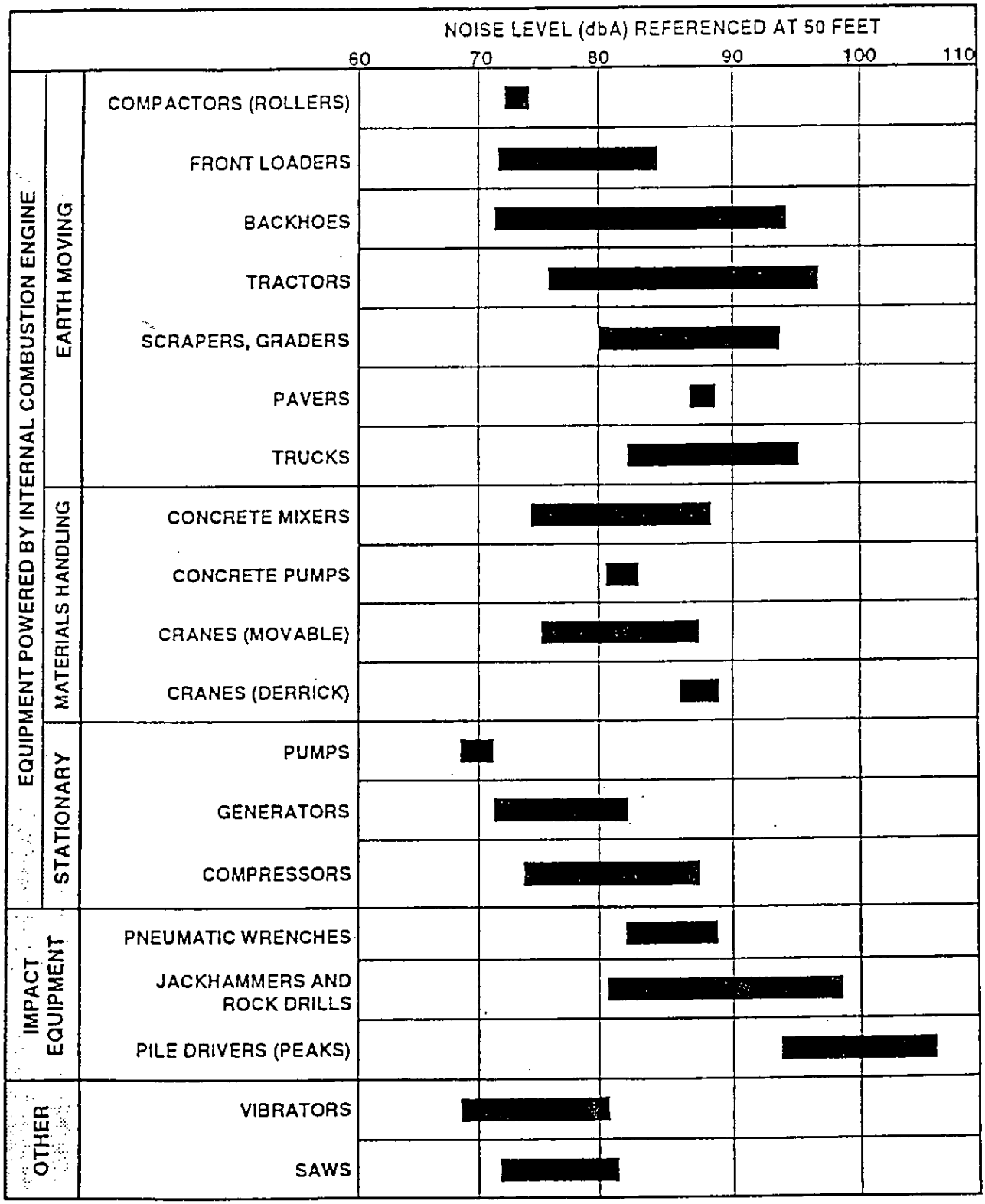
SOUND ATTENUATION at VENT

When required by City Planning

1/2"=1'-0"

THE ABOVE RESIDENTIAL OCCUPANCY DETAIL AND SPECIFICATIONS ARE PROVIDED TO ILLUSTRATE CONVENTIONAL CONSTRUCTION PROVISIONS AS SET FORTH IN THE UNIFORM BUILDING CODE AND OTHER MINIMUM REQUIREMENTS OF THE CITY OF SANTA MARIA. BECAUSE OF VARYING CONDITIONS FROM ONE PROJECT TO THE OTHER, DETAILS AS SHOWN MAY NOT MEET THE REQUIREMENTS OF THE BUILDING CODE, OR OTHER JURISDICTIONS.

Figure N-6
Typical Construction Equipment Noise Levels



NOTE: Based on limited available data samples.

SOURCE: EPA, 1971 "Noise from Construction Equipment and Operations, Building Equipment and Home Appliances," NTID 300-1.

Goal N.2 - Protection of Economic Base

To protect the economic base of the city by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

POLICY N.2- Locate Noise-Sensitive Land Uses away from Noise producers.

Discourage the development of noise-sensitive land uses such as residential, hospitals and schools in areas designated for heavy commercial manufacturing, general industrial and agricultural uses which are considered to be major sources of noise.

OBJECTIVE N.2 - Right of Commercial/Industrial Uses to Continue Operation and Expansion of Facilities.

To preserve the rights of existing and future commercial and industrial users to continue operating and to expand their facilities without creating a noise conflict with a noise-sensitive land use.

IMPLEMENTATION PROGRAMS:

1. Noise Element information shall be considered when making land use decisions that will affect commercial and industrial users which are considered to be noise generators.

2. The City of Santa Maria shall coordinate with the Santa Maria Public Airport, the Santa Maria Valley Railroad, and the Santa Maria Valley Economic Development Association to identify the existing and future plans of commercial manufacturing and industrial businesses in the City of Santa Maria and the Santa Maria Valley. The emphasis will be protect existing commercial and industrial operations and preserve a company's ability to expand its operations without conflicting with noise-sensitive land uses such as residential development.

ACCOMPLISHMENTS TO DATE:

1. The General Plan Land Use has designated areas for noise producing industrial and commercial users. The LUE also provides for adequate buffers to minimize land use conflicts.

ANTICIPATED RESULTS:

1. A noise compatible environment that allows industrial facilities and commercial manufacturing (noise producing uses) to continue to operate and expand in the City of Santa Maria and the Santa Maria Valley.

Table N-6
SUMMARY OF MITIGATION MEASURES BY NOISE SOURCE

Noise Source	Mitigation
U.S. and Major Roadways	Site design, noise barriers, noise reduction strategies, and noise attenuation of structures should all be considered as possible noise mitigating measures.
Santa Maria Public Airport Operations	Continue noise abatement procedures established by the Airport District. If significant growth of airport operations occurs, noise-sensitive uses southeast of the airport should be acquired, redeveloped and/or appropriate noise attenuation measures considered. All proposed development within the City of Santa Maria and County of Santa Barbara should comply with city, county, and state noise standards and guidelines. Where appropriate, aviation easements should be required in new developments that are within the 60 dB CNEL contour and in areas that are commonly overflown.
Santa Maria Railroad	Noise barriers and/or noise mitigation measures shall be considered for residential spaces within 100 feet of the SMVRR right-of-way.
Construction Activity	Heavy construction should be generally limited to the weekday hours (7 a.m. to 6 p.m.) with Saturday (8 a.m. to 5 p.m.) and minimal quiet activity on Sundays. Noise of construction equipment should be considered in the procurement of equipment by City departments.
Commercial/Industrial	Enforce the Noise Ordinance to control fixed sources of noise.
All Sources	Land use compatibility analysis, including noise attenuation measures, for any proposed noise-sensitive development located within a 60 dB CNEL from any noise source.

Specific Noise Mitigation Measures are listed in Table N-8.

Table N-7
Specific Noise Mitigation Measures

The following is a list of typical noise mitigation measures that can be used to reduce noise levels to acceptable levels.

Acoustical Site Planning

1. Increase the distance from the noise source to receiver.
2. Minimize wall and window surfaces that are oriented directly towards noise source.
3. Cluster noise sensitive development away from noise source.

Acoustical Architectural Design

4. Reduce window area-to-wall size percentages.
5. Locate noise sensitive rooms and windows away from noise source.
6. Locate balconies on the sides of homes which are opposite the noise source.
7. Orient eave and roof vents away from noise source.
8. Provide baffles for eave and roof vents facing noise source.

Acoustical Construction

9. Construct walls with greater sound insulation capabilities.
10. Require windows which are oriented towards the noise source to be dual glazed with thicker glass to reduce interior noise levels.
11. Provide air conditioning, as a last resort, to lessen the need to open windows for cool ventilation.
12. Increase the thickness of glass on windows.
13. Install double-glazed windows.
14. Install fixed pane windows and/or glass block.
15. Install baffles in roof and eave vents that face the noise source.

Barriers

16. Construct earth berms, walls, or a combination of both, between the noise source and receptor to decrease noise transmission.
17. Use natural site features, such as hills and depressions, to block noise transmission.

GLOSSARY

A-Weighted Sound Level is the sound level obtained by using an A-weighted filter for a sound level meter. All sound levels referred to in the policies are A-weighted decibels (abbreviate "dBA"). A-weighing de-emphasizes the very low and very high frequencies (pitch) of sound in a manner similar to the human ear. Most community noise standards utilize A-weighing, as it provides a high degree of correlation with human annoyance and health effects.

Ambient Noise Level is the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL), Abbreviated "CNEL" is the equivalent energy (or energy average) sound level during a 24-hour day, obtained by adding approximately five decibels to sound levels occurring between from 7 p.m. to 10 p.m. and ten decibels to sound levels occurring during the night from 10 p.m. to 7 a.m. CNEL is generally computed for annual average conditions.

Day-Night Average Level (L_{dn}), Abbreviated "L_{dn}," is the equivalent energy (or energy average) sound level during a 24-hour day, obtained by adding 10 decibels to sound levels between 10 p.m. to 7 a.m. The L_{dn} is generally computed for annual average conditions.

Decibel (Db) is a measure of sound which people perceive as loudness.

Equivalent Energy Level (Leq) is the sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period.

Habitable Room is any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

Intrusive Noise intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as well as prevailing ambient noise level.

Noise is any unwanted or undesirable sound that interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

Noise Exposure Contours are lines drawn around a noise source indicating constant or equal level of noise exposure from that source. CNEL is the noise index used to relate community exposure to noise.

Noise Sensitive Land Uses mean: residential (single and multi-family dwellings, mobile home parks, dormitories and similar uses); hospitals, nursing homes, convalescent hospitals and other facilities for long-term medical care; and public or private educational facilities, libraries, churches.

Outdoor Activity Areas are: patios, decks, balconies, outdoor eating areas, swimming pool areas, yards of dwelling, and other areas commonly used for outdoor activities and recreation.

Stationary Noise Source is any fixed or mobile source not preempted from local control by existing federal or state regulations. examples of such sources include industrial and commercial facilities, and vehicle movements on private property.

Transportation Noise Source means traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by existing federal or state regulations. However, the effects of noise from transportation sources may be controlled by regulation the location and design of adjacent land uses.