

OCEANSIDE



NOISE ELEMENT

CITY OF OCEANSIDE, CALIFORNIA

Prepared by

Planning Department
City of Oceanside
August, 1974

Adopted by

City Council
City of Oceanside
September 25, 1974
Resolution No. 74-198

Approved by

Planning Commission
City of Oceanside
August 19, 1974
Resolution No. 74-P70

Text Reformatted in 2002 by

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Reformatting included the reorganization of the existing text, the addition of introductory material and revision of the Scope and Content subsection.

(Figures were not reformatted.)



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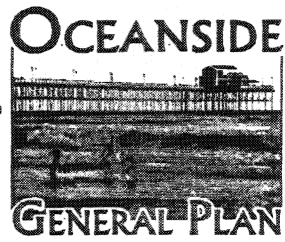


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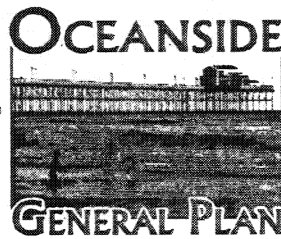
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NOISE ELEMENT

INTRODUCTION

Noise has become an ever-present nuisance to our society. Its effects upon people's lives, their health and mental well-being are beginning to show. More pressure is being applied to governmental agencies to control noise. Programs eliminating unnecessary noises, planning for areas where noise will not harm man, and establishing standards for areas where noise cannot be avoided are being prepared and adopted at the federal, State, and local levels. The Noise Element of the City of Oceanside is devoted to these objectives.

The Noise Element for the City of Oceanside has been prepared by using the base information made available by the Comprehensive Planning Organization (CPO). Noise contour formulas used in the preparation of CPO's noise contour maps were developed for the San Diego Region by Wyle Laboratories. Maps prepared by CPO include noise contours for all federal and State highways, railroads, and airports. Using the formulas developed by Wyle Laboratories, additional noise contours have been prepared for all major streets within the City of Oceanside. This information has been used to design the proposed noise control ordinance.

Since noise levels have a definite effect on the human living environment, the Noise Element, when adopted, must be used for guidance when considering future land use designations or changes along major travel routes.

Purpose and Authority

The responsibility of controlling noise pollution falls on the three levels of government: federal, State, and local. Governmental noise controls have historically been concerned with three types of noise generators: aircraft, motor vehicle, and general noise.

Federal

The federal government controls aircraft noise by imposing regulations on aircraft through the Federal Aviation Administration (FAA) as recommended by the Environmental Protection Agency (EPA). Vehicle noise is controlled by the Federal Aid Highways Act which sets standards for maximum acceptable highway noise levels and by the Noise Control Act of 1972 (NCA) which regulates noise from surface carriers and motor vehicles engaged in interstate commerce. For general noise, the Walsh Healy Act has established noise standards for all federal contracts. The National Occupational Safety and Health Act (OSHA) sets standards for noise to businesses engaged in interstate commerce, and NCA gives the EPA authority to set

Noise Element

standards for new products such as construction equipment, transportation equipment, motors or engines, and electric/electronic equipment; they also have the power to label noise emitting or noise-abatement equipment.

State

At the State level, California can establish controls for aircraft noise on all aircraft operations not already pre-empted by the FAA. Motor vehicle noise is regulated by the State through the Motor Vehicle Code establishing noise standards for motor vehicle operation. The California States and Highways Code regulates freeway noises and the Harbor and Navigation Codes regulate noise emissions from motor boats in or near inland waterways. General noise control is under the enforcement of the Division of Industrial Safety that publishes noise regulations, the Penal Code that prohibits loud and unusual noise that disturbs the peace, and through the California Environmental Quality Act, which encourages local agencies to control environmental quality.

Local

The responsibilities of local government serve to complete the controls upon noise sources. In the matter of aircraft noise, local government may impose curfews for airport operations but only if the local government is the airport proprietor. To control motor vehicle noise, the local authority may enact regulations for off-highway motor vehicles, refuse vehicles, and sound trucks. They may also prohibit the use of certain highways to vehicles that may generate undesirable noise levels. Noise in general may be regulated by ordinances which control (a) construction noise, (b) amplified sound, (c) fixed noise sources, (d) loud or unusual noise, (e) and all other noise sources where control is not preempted by State or federal Law.

Scope and Content

Control of general noise pollution has been assigned to the local level of government through the requirement of a Noise Element and resulting implementation methods such as noise control ordinances. The California State Government Code Section 65302 establishes the required components of the Noise Element.

The Noise Element is comprised of three sections: 1) Introduction; 2) Long-Range Policy Direction; and 3) the Noise Plan. In the Long-Range Policy Direction Section, a goal, objective, and policies are identified to address noise related issues in the community. The goal and objective are overall statements of the City's desires and comprise broad statements of purpose and direction. The policies serve as guides for reducing or avoiding adverse noise effects on residents. The Plan explains how the goal, objective, and policies will be achieved and implemented. Additional background information on noise is contained in the Noise Appendices.

Related Plans and Programs

There are a number of existing plans and programs that directly relate to the goals of the Noise Element. These plans and programs have been enacted through State and local legislation and are administered by agencies with powers to enforce State and local laws.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was adopted by the State legislature in response to a public mandate for thorough environmental analysis of projects that might affect the environment. Excessive noise is considered an environmental impact under CEQA. The provisions of the law and environmental review procedure are described in the CEQA Statutes and the CEQA Guidelines, which were amended in 1998. Implementation of CEQA ensures that during the decisions making stage of development, City officials and the general public will be able to assess the environmental impacts associated with private and public development projects to the environment.

California Noise Insulation Standards (Title 24)

The California Commission of Housing and Community Development officially adopted noise insulation standards in 1974. In 1988, the Building Standards Commission approved revisions to the standards (Title 24, Part 2, California Code of Regulations). As revised, Title 24 establishes an interior noise standard of 45 dB(A) for residential space (CNEL or Ldn). Acoustical studies must be prepared for residential structures to be located within noise contours of 60 dB(A) or greater (CNEL or Ldn) from freeways, major streets, thoroughfares, rail lines, rapid transit lines, or industrial noise sources. The studies must demonstrate that the building is designed to reduce interior noise to 45 dB(A) or lower (CNEL or Ldn).

City of Oceanside Noise Ordinance

The City's Municipal Code includes a Noise Ordinance, which identifies acceptable noise levels within the community. Specific acceptable noise standards are identified for individual zoning districts. Certain noise sources are prohibited and the ordinance established an enforcement process. The Noise Ordinance is the City's major tool to implement the goal and policies contained in this element.

Relationship to Other General Plan Elements

While each General Plan element, including the Noise Element, is independent, all the elements together comprise the General Plan. All elements of the General Plan are interrelated to a degree, and certain goals and policies of each element may also address issues that are primary subjects of other elements. The integration of overlapping issues throughout the General Plan elements provides a strong basis for implementation of plans and programs,

Noise Element

and achievement of community goals. The Noise Element relates most closely to the Land Use and Circulation Elements.

Policies and plans in the Noise Element are designed to protect existing and planned land uses identified in the Land Use Element from excessive noise. Potential noise sources are identified in the Noise Element and implementation strategies established to avoid or mitigate noise impacts from planned development. The distribution of residential and other sensitive land use in the Land Use Element is designed to avoid areas where noisy conditions have been identified.

The Noise Element is inextricably linked to the transportation policies in the Circulation Element. Transportation noise is largely responsible for excessive noise levels in certain locations in urban environments. Noise Element contains policies and plans to minimize the effects of transportation noise (generated through the implementation of the Circulation Element) on existing and planned land uses.

The Noise Element also relates to the Recreational Trails and Environmental Resources Management Elements. Excessive noise can diminish enjoyment of parks and open space and noise information should be considered in planning new recreational areas. Open space areas can be used to buffer noise sensitive land uses from noise producers.



OCEANSIDE LONG-RANGE POLICY DIRECTION



Goal Formation

The formation of goals and objectives and their adoption are the key elements necessary in developing a general plan and implementation methods. The following list has been prepared by the League of California Cities as specific recommendations to aid in solving community noise problems:

1. Each City council should adopt a policy statement for reducing noise in the community as part of a broad approach to environmental quality control.
2. Cities should adopt a noise ordinance to prohibit unwanted and unnecessary sounds of all types within the community.
3. Cities should review their existing ordinances that relate to noise control for compatibility with the above.
4. Cities should undertake a study of excessive noise sources in the community (part of the Noise Element).
5. Cities should develop a noise enforcement and regulation program and consider assigning an existing staff member or creating an administrative position within the City to be concerned with noise problems. Such a staff person could be in the Planning Department, Building Department, Police Department, Administrative Office, or Environmental Control Division.
6. Cities should review their own functions and activities to make sure that noise, such as construction, refuse collection, and street sweeping has been reduced to the lowest possible level.
7. Cities should enforce the motor vehicle code as it applies to excessive noise.
8. Cities should conduct an educational campaign consisting of civic group presentations, news releases, studies, and reports to inform citizens of the dangers of noise and the actions each person can take to help reduce noise pollution.
9. Cities should incorporate noise standards in zoning ordinances that will prohibit incompatible land uses with respect to noise.
10. Cities should adopt building codes to insure adequate sound insulation between dwelling units, and where appropriate, to insure adequate sound insulation of interior areas of both apartments and single family residences from especially loud external noise sources.

Noise Element

11. Cities should consider the development of “quiet zones” in special areas of the City, perhaps in already existing recreation areas. All forms of noise would be controlled so that people could visit and enjoy solitude as part of their recreation and leisure experience.
12. Cities should include maximum noise level requirements in specifications for equipment purchases, construction contracts, and refuse collection. Where specific noise levels cannot be set, specifications should require that vendors state maximum noise levels expected to be produced by their equipment and/or operations.
13. Cities should review and reevaluate their traffic flow systems to synchronize signalization to avoid traffic stops, which produce excessive noise, and to adjust traffic flow to achieve noise levels acceptable to surrounding areas.
14. Citizens should seek to develop regional planning agreements for zoning and soundproofing to reduce noise incompatibilities across City boundaries.
15. Cities should review County and regional comprehensive plans to identify noise environmental impacts and develop alternatives for the control of major noise sources. In any single function of County or regional plans for transportation, airport development, highway development, etc., the same provisions should apply.
16. Cities should contact State and federal officials to convey their concern over noise problems and encourage residents to do the same. Many aspects of noise pollution require State or federal action and governmental officials at all levels should be aware of public need for a solution to noise problems.

City Goal, Objective, and Policies

From the list compiled by the League of California Cities, goals and policies can be established to abate noise problems. This singular goal will express the City’s intent to control noise and improve Oceanside’s environment. The objectives are the rationale behind the creation of the goal and serve to further clarify the goal. Policies are the specific actions recommended to be taken and should be used as guides in the decision making process. Finally, the recommendations are those actions that must be taken and should be used as guides in the decision making process. Finally, the recommendations are those actions that must be taken in order to implement the policies.

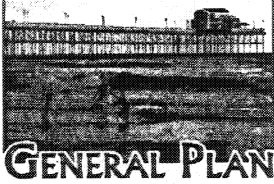
GOAL: To minimize the effects of excessive noise in the City of Oceanside.

OBJECTIVE: To protect the residents and visitors to Oceanside from noise pollution. To improve the quality of Oceanside’s environment.

Policies:

- Noise levels shall not be so loud as to cause danger to public health in all zones except manufacturing zones where noise levels may be greater.
- Noise shall be controlled at the source where possible.
- Noise shall be intercepted by barriers or dissipated by space where the source cannot be controlled.
- Noise shall be reduced from structures by the use of soundproofing where other controls fail or are impractical.
- Noise levels shall be considered in the approval of any projects or activities, public or private, which requires a permit or other approval from the City.
- Noise levels shall be considered in any changes to the Land Use and Circulation Elements of the General Plan.
- Noise levels of City vehicles, construction equipment, and garbage trucks shall be reduced to acceptable levels.

OCEANSIDE NOISE PLAN



Noise Level Identification in Oceanside

The noise evaluation scale used by CPO for the regional Noise Element and in turn used in the preparation of the Oceanside Noise Element is the Day-Night Average Sound Level scale, L_{dn} , has been deemed most appropriate in response to the requirements of the California State Code. The selection of the L_{dn} scale was based on the following facts:

1. It is essentially similar to the presently used CNEL scale for description of airport noise, though slightly simpler in its computation. It can be shown that the estimated L_{dn} and CNEL contours for airports will agree within L_{10} .
2. L_{dn} is the scale recommended by Wyle Research for the description of the cumulative noise emitted by railroad operations.
3. The methodology developed for assessment of highway traffic noise in terms of L_{dn} has been designed to be compatible with the L_{10} method (the A-weighted noise level exceeded 10 percent of the time during peak traffic flow periods) presently under use by Caltrans. This methodology allows computation of both L_{dn} and L_{10} values, given the same input parameters, and using the same noise prediction curves.
4. The L_{dn} rating scale is the method that has been recommended by the Environmental Protection Agency for use in the description of cumulative noise from all environmental noise sources.

The CPO formula is presented in the Background Report¹. This appendix explains the methodology used in establishing noise contour lines. The results of the mathematical plotting of noise have been checked by metering machine to verify its accuracy.

Noise Level Identification

State law mandating the Noise Element requires the identification of noise contours for fixed sources; i.e. airports, highways, and railroads. These measurements are required because noise levels are the highest and most troublesome near sources that continually emit noise due to their constant activity – primarily transportation facilities. In the future these sources



¹ The referenced information is located in Appendix C of the background report prepared for the Noise Element. The background report is available for study at the offices of the Oceanside Planning Department or in copies of the Element at the Oceanside Public Library.

could have increased noise levels as a result of increased traffic associated with higher population levels, thus the need to project noise levels and contours to 1995. Contour mapping for 1973 and 1995 shows, however, that noise levels are usually less, due to State laws requiring a gradual reduction in allowable noise from individual motor vehicles.

In the City of Oceanside, noise contours have been plotted for the following sources (see Figure N-1).

1. Oceanside Airport
2. Interstate 5 from Camp Pendleton to the Buena Vista Lagoon
3. State Highway 78 from Interstate 5 to Vista City limits
4. State Highway 76 from Interstate 5 to East City limits
- 4a. State Highway 76 (expressway)
5. Santa Fe Railroad from Camp Pendleton to the Buena Vista Lagoon
6. Santa Fe Railroad spur from the main line to Vista City limits
7. Coast Highway (Hill Street) from Camp Pendleton to south City limits
8. Vandegrift Boulevard from N. River Road to Camp Pendleton
9. Vista Way from Coast Highway (Hill Street) to Interstate 5
10. N. Santa Fe from State Highway 76 to Vista City limits
11. Murray Road from N. River Road to State Highway 76
12. Canyon Drive from N. River Road to Oceanside Boulevard
13. College Boulevard from Lake Boulevard to Mission Avenue
14. N. River Road from Canyon Drive to Vandegrift Boulevard
15. Mission Avenue from Interstate 5 to Coast Highway (Hill Street)
16. Oceanside Boulevard from Coast Highway (Hill Street) to Melrose
17. El Camino Real from State Highway 78 to N. River Road.
18. Rancho del Oro from Mission Avenue to Highway 78
19. Lake Boulevard
20. Civic Center Drive (Fourth Street)
21. Melrose Avenue

Noise Contours

These noise contours have been prepared by CPO and Wyle Laboratories and by the City Traffic Engineer who used the same methodology as CPO.

Table N-1 shows the relationship of the 1973 and 1995 noise contours and their distance from the center of the outside (curb) lane for each directional of travel. Generally, it can be seen that noise levels are expected to decrease. Those sources with only 1995 contour distances are streets proposed for development but not built in 1973.

The 65dB noise contour lines key areas for the City of Oceanside are included in this report. Noise contours are shown for 1973 and 1995.

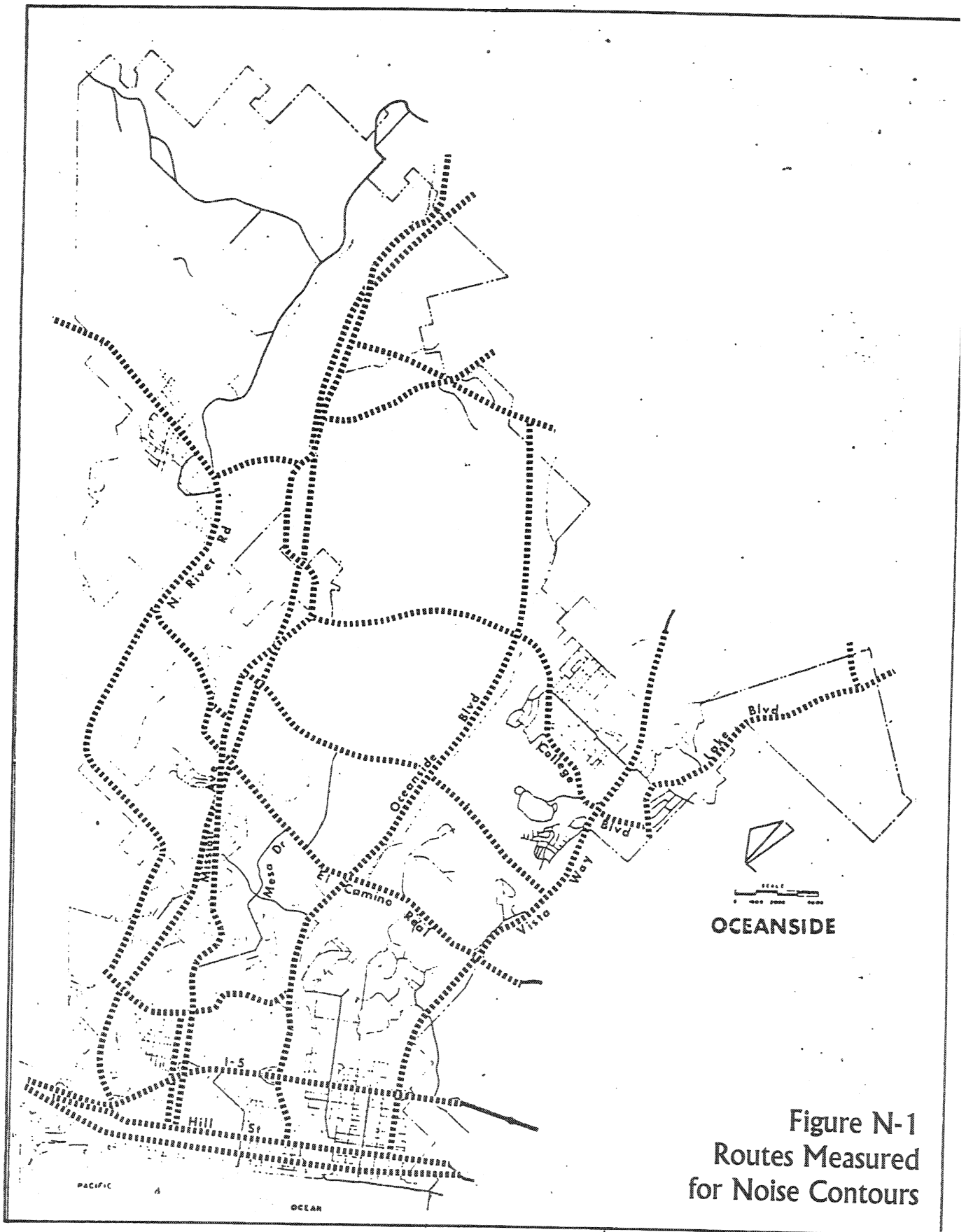


Figure N-1
Routes Measured
for Noise Contours

**Table N-1
Distance to 65 dB Noise Contours
(1973 to 1995)**

Roadway Segment		1973*	1995**
Interstate 5***	North City limits to Civic Center Drive (4th Street)	390'	300'
	Civic Center Drive (4th Street) to Brooks Street	415'	315'
	Brooks to Cassidy Streets	450'	300'
	Cassidy Street to South City limits	340'	290'
Highway 78***	Interstate 5 to Jefferson Street	190'	180'
	Jefferson Street to East City limits	250'	225'
Highway 76*** (Mission Avenue)	Interstate 5 to Canyon Drive	300'	125'
	Canyon Drive to Airport	210'	60'
	Airport to El Camino Real	200'	50'
	El Camino Real to North River Road	150'	50'
	North River Road to North Santa Fe Road	130'	50'
Expressway 76***	North Santa Fe to East City limits	150'	50'
	Interstate 5 to Mission Avenue		200'
	Mission Avenue to City limits		200' (EB) 150' (WB)
Coast Highway (Hill Street)	Harbor to South City limits	75'	50'
Vandegrift Boulevard	North River Road to Camp Pendleton	160'	125'
Vista Way	Coast Highway to Interstate 5	50'	50'
North Santa Fe	76 to Vista City limits	50'	90'
Murray Road	North River Road to 76	50'	75'
Canyon Drive	Mission Avenue to Oceanside Boulevard	50'	50'
College Boulevard	78 to Oceanside Boulevard	50'	50'
North River Road	76 to Vandegrift Boulevard	160'	125'
Mission Avenue	Interstate 5 to Horne Street	85'	
	Horne Street to Coast Highway (Hill Street)	50'	
Oceanside Boulevard	Coast Highway (Hill Street) to Interstate 5	85' (WB) 65' (EB)	50'
	Interstate 5 to El Camino Real	75''	50''
El Camino Real	78 to 76	See Fig. N-3	50-85'
	76 to North River Road		50'
College Boulevard	Oceanside Boulevard to Mission Avenue		50'
Oceanside Boulevard	El Camino Real to College Boulevard	95'	
	El Camino Real to Melrose Avenue		75'
North River Road	Golf Course to Canyon Drive		90'
Rancho del Oro	Mission Avenue to Vista Way		50'
Lake Boulevard	College Boulevard to Melrose Avenue		75'
Civic Center Drive (Fourth Street)	Canyon Drive to Coast Highway (Hill Street)		50'
Melrose Avenue	76 to Lake Boulevard		95'
<p>* Noise levels based upon 1973 Traffic volumes and roadway configurations. The distance to the 65dB noise contour is measured from the center of the outside (curb) lane in each direction of travel, and is the same for each direction unless noted.</p> <p>** Noise levels shown above are based upon projected 1995 traffic volumes, and roadway configuration shown on the City of Oceanside Major Street Plan 1967. Date: 11/14/73</p> <p>*** Noise volumes of freeways and highways made by CPO in 1973.</p>			

**Table N-2
1973 65dBA Noise Contours
El Camino Real - Highway 78 to Highway 76***

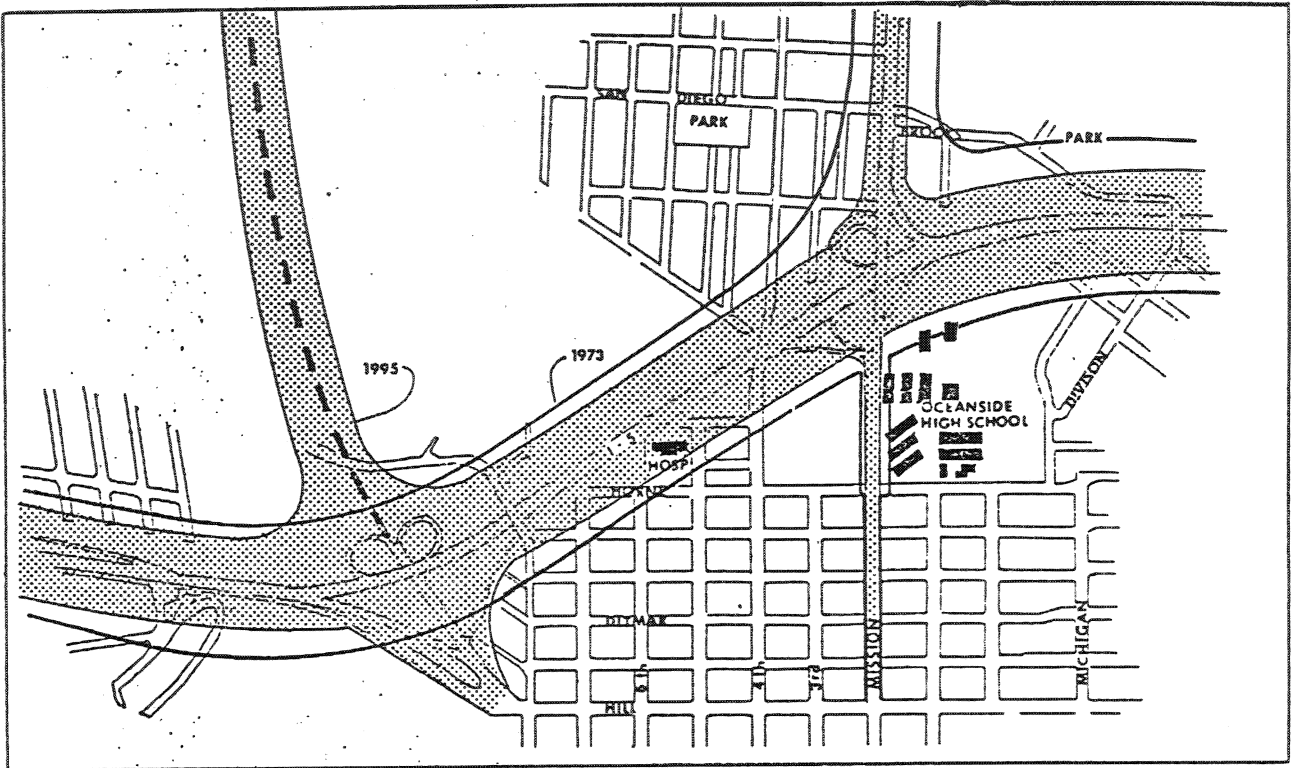
Street Intersections	Distance to 65dB (in feet)	
	Easternmost	Westernmost
Vista Way to Via Las Rosas	125	75
Via Las Rosas to Fire Mountain/Skyline	75	75
Fire Mountain/Skyline to Railroad crossing	75	125
Railroad crossing to past Oceanside Boulevard	75-125	75
Past Oceanside Boulevard to Mesa Drive West	75	125
Mesa Drive East to Mesa Drive West	80	75
Mesa Drive West to before Vista Oceana	125	75
Before Vista Oceana to Vista Oceana	95-75	75-95
Vista Oceana to Vista Rey	75	85
Vista Rey to Mission	75	80-85
* El Camino Real was selected for a detailed noise contour analysis because it is designated as a primary arterial and traverses numerous grades exceeding 6 percent. The CPO Noise Study indicates that short, severe grades exceeding 6 percent have a significant impact in noise preparation. The chart below shows the distance from the centerline of the easternmost (E) lane or westernmost (W) lane to the 65dB noise contour.		

Noise Contour Maps

As already stated, noise contours have been mapped for 1973 and 1995. To understand the areas impacted by noise, 11 selected maps have been prepared and are included in this report. Each map shows the 65dB contour line for 1973 and 1995. The area between the 65dB contour lines experiences noises greater than 65dB. For areas where the impact of noise is of specific concern (hospitals, airports), contour lines have been developed to levels lower than the 65dB.

As a result of the 1973 and 1995 noise contour mapping, the following conclusion can be made: Noise impact areas are expected to decrease as State controls on motor vehicle noise come into effect, regardless of the expected increases in vehicular traffic. Detailed noise contours, maps at 800 and 1000 scale showing 1973 and 1995 projected noise contours for freeways, major streets, railroads and airport areas in the City of Oceanside are on file in the Planning Department.

Figure N-2
Interstate 5 & Mission Avenue



**INTERSTATE 5, HIGHWAY 76
MISSION AVENUE, EXPRESSWAY 76**

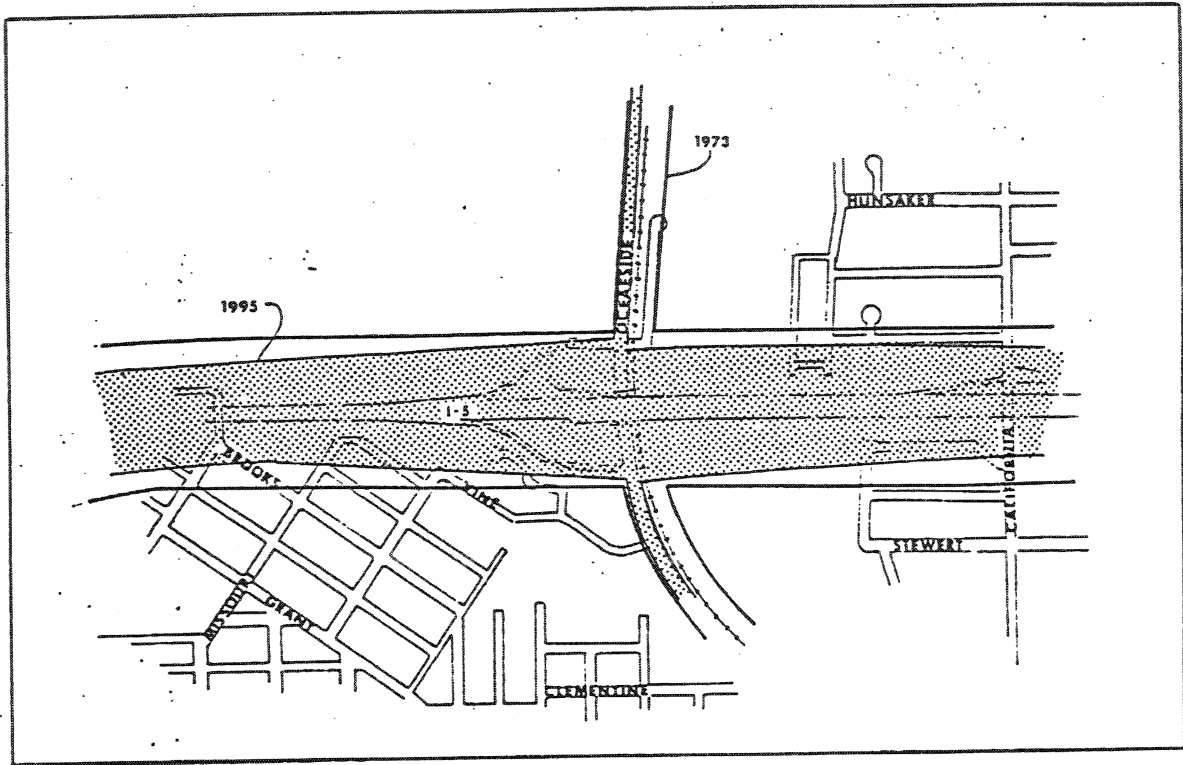
Noise contours (65dBA) are shown by the heavy black line for 1973. The 1995 noise contours (65dBA) are the shaded areas. As can be seen from the map, the 1995 noise contours are expected to be lower.

Substantial change is expected along Mission Avenue with the construction of Expressway 76 and resultant traffic volume changes.

Tri-City Medical Center is impacted by noise according to the mathematical formulas used. Inspection of the site shows questionable validity to the existing noise contours. This condition may be due to the deep cut the freeway follows and the location of the hospital over the line.

All of the existing classroom buildings of Oceanside High School are outside the 1973 and 1995 contours. Only sections of the music and gym buildings are within the contours.

Figure N-3
Oceanside Boulevard & I-5



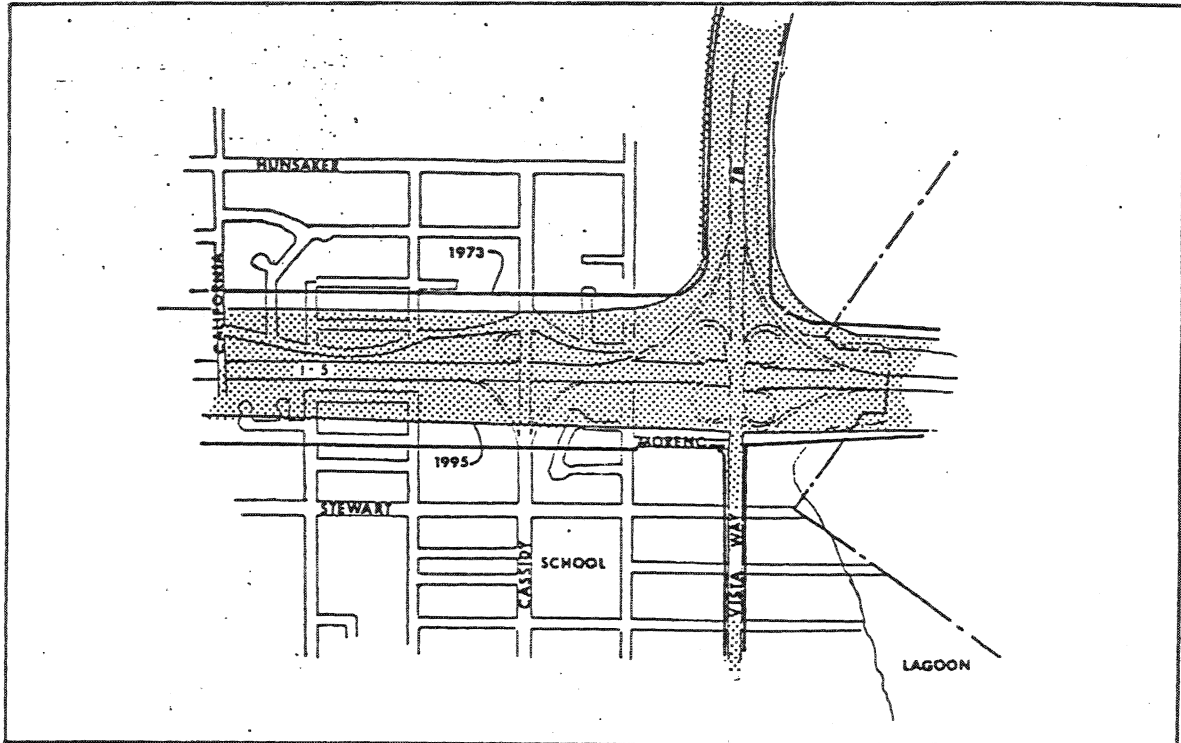
**OCEANSIDE BOULEVARD, INTERSTATE 5
ESCONDIDO SPUR AT AT&SF RAILROAD**

1973 65dBA contours are shown as the heavy black lines. 1995 65dBA noise levels are within the shaded area. This map shows the expected decrease in the 65dBA noise levels due to State implementation of noise control.

Noise contours for 1995 along the railroad right-of-the-way were unavailable for this report.

Several homes along this section of the freeway near California Street are presently within the 65dBA contour. By 1995, only those directly adjacent to the freeway will be impacted.

Figure N-4
Vista Way & I-5

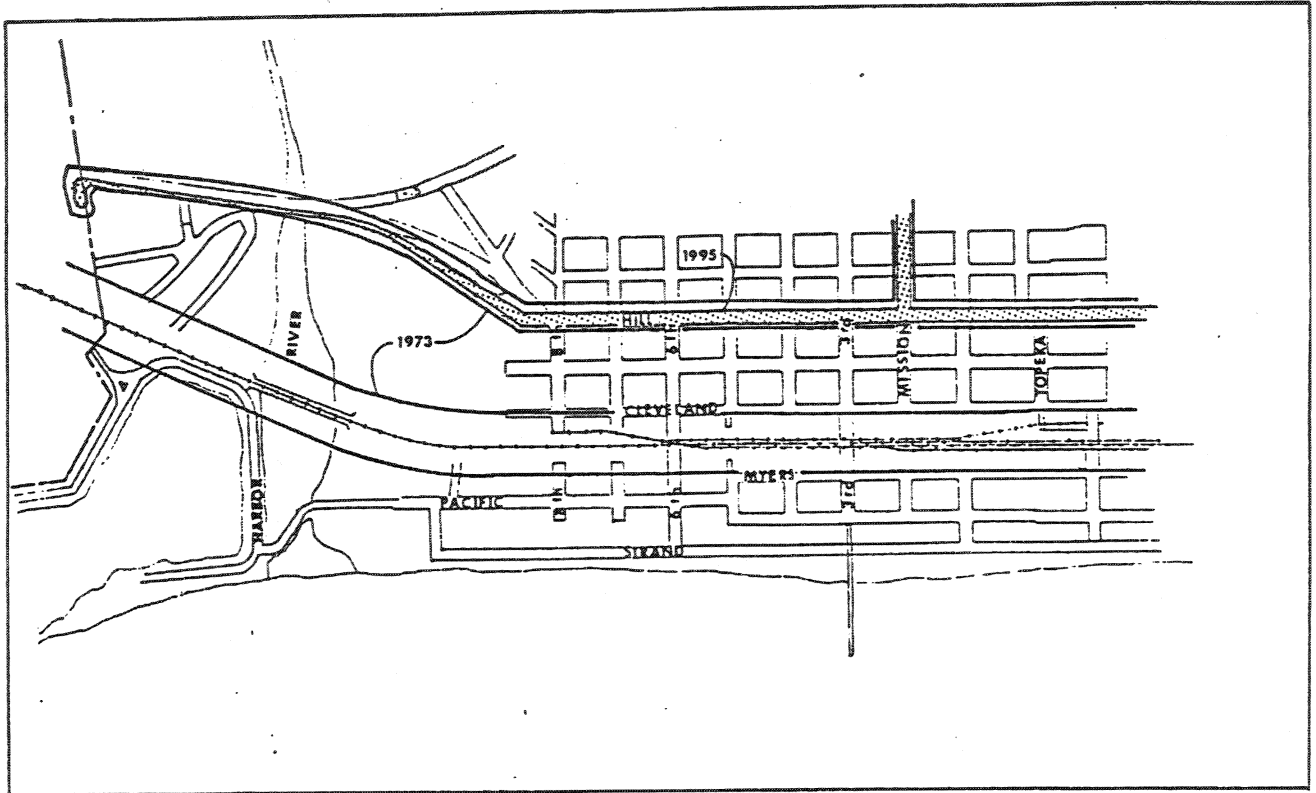


**INTERSTATE 5, VISTA WAY
HIGHWAY 76**

Noise contours for 1995 are expected to decrease from the 1973 contour areas (1973 area – black line; 1995 – shaded areas).

Numerous homes in this area are presently impacted and several will continue to be even after 1995. Existing vacant land should be encouraged to develop in nonresidential uses more compatible with the freeway environment.

Figure N-5
Hill Street (Coast Highway)
& AT&SF Railroad

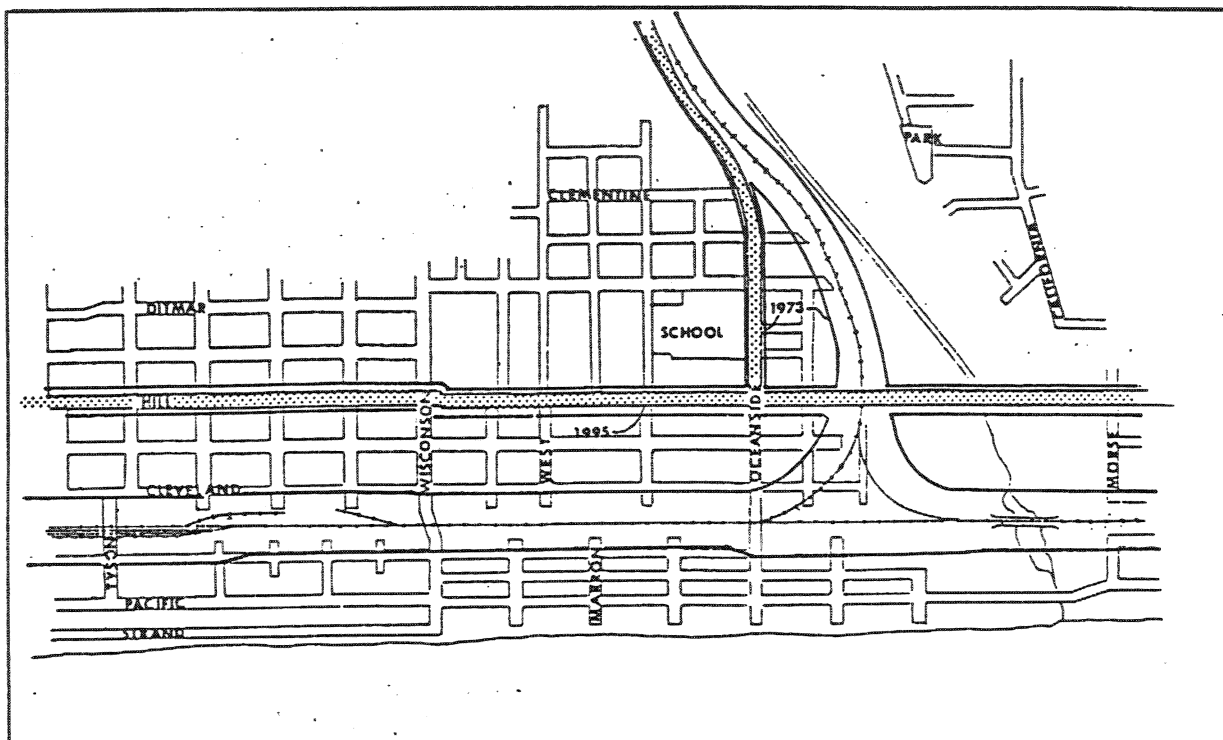


COAST HIGHWAY (HILL STREET) & AT&SF RAILROAD

1973 and 1995 65dBA noise contours are shown for the downtown area of Oceanside from the harbor to Topeka Street. Noise levels for Coast Highway (Hill Street) are expected to decline as State noise enforcement comes into effect. Noise contours for 1995 are not available for the Main Line of the railroad.

New noise contours will be applicable after the possible lowering of the railroad tracks and/or the establishment of a high-speed rail line through Oceanside. Noise projections after the lowering of the railroad will be a part of the Railroad Lowering Feasibility study presently being prepared by consultants.

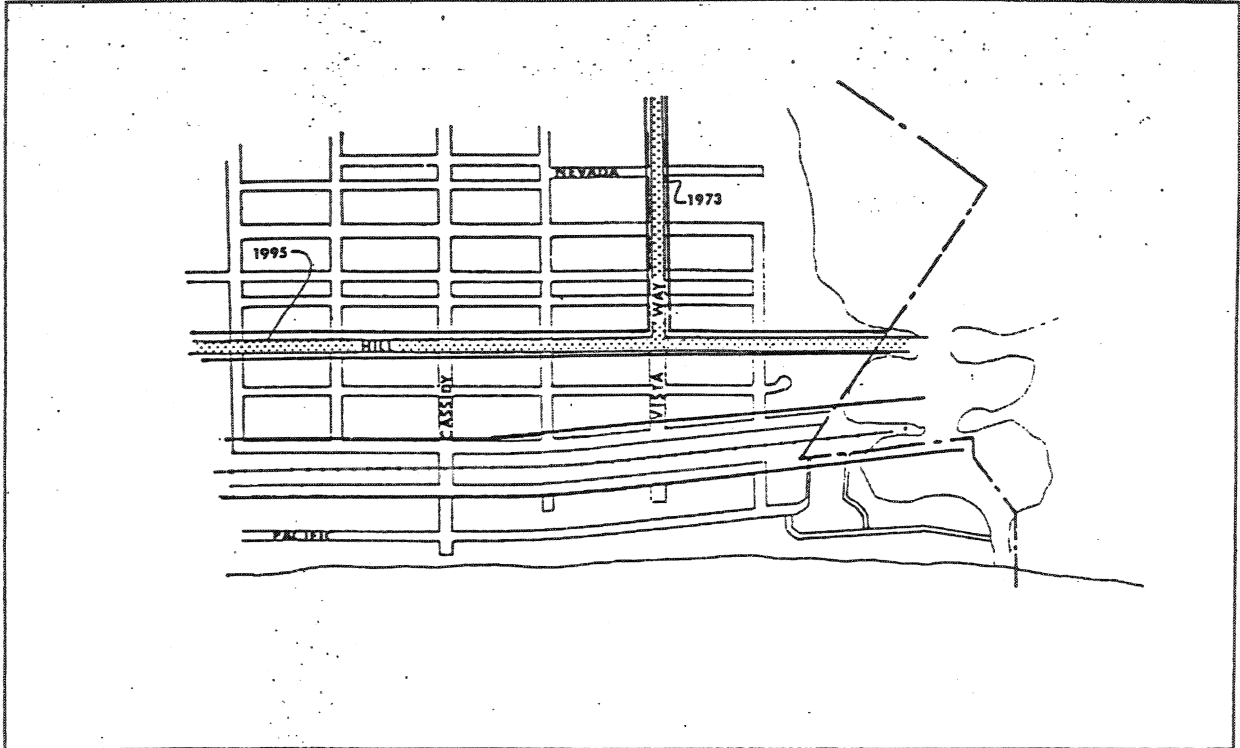
**Figure N-6
Hill Street (Coast Highway),
AT&SF Railroad & Oceanside Boulevard**



COAST HIGHWAY (HILL STREET), AT&SF RAILROAD AND OCEANSIDE BOULEVARD

Noise levels are expected to decrease along both Coast Highway (Hill Street) and Oceanside Boulevard. 1995 railroad noise contours are unavailable.

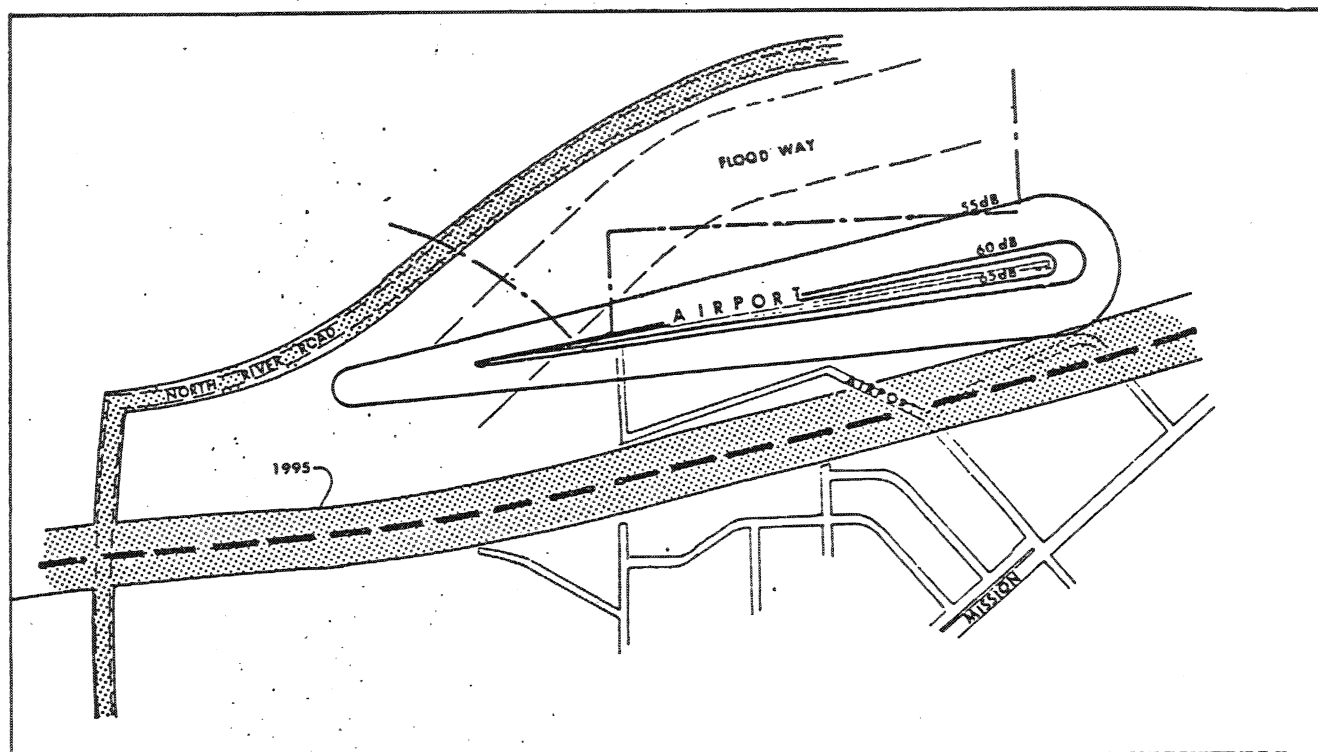
Figure N-7
Hill Street (Coast Highway),
AT&SF Railroad & Vista Way



COAST HIGHWAY (HILL STREET), AT&SF RAILROAD, VISTA WAY

1973 noise levels along the railroad right-of-way are generally to the nearest property lines of adjacent property because 1995 levels cannot be predicted at this time since sufficient data is unavailable.

Figure N-8
Airport



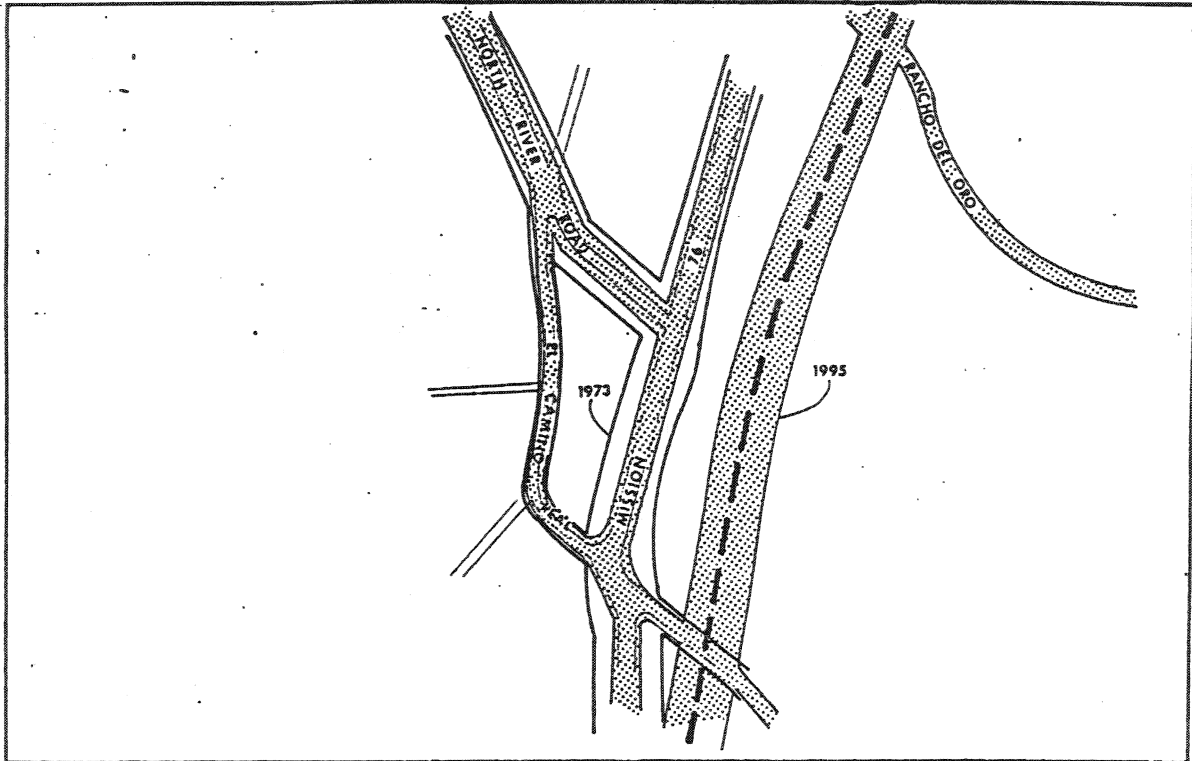
OCEANSIDE AIRPORT, EXPRESSWAY 76, NORTH RIVER ROAD

Contour lines are shown for Oceanside Airport as black lines. 65, 60, and 55 dBA contours have been established by CPO for 1973. Data for 1995 predictions are not available.

1995 65dBA contour lines are shown for Expressway 76 (heavy broken line) and the extension of North River Road. Prediction of these noise contour lines have been made by CPO (Expressway 76) and by the Oceanside Traffic Engineer.

Land uses in this area are primarily industrial, therefore, the impact of the airport and future freeway is minimal.

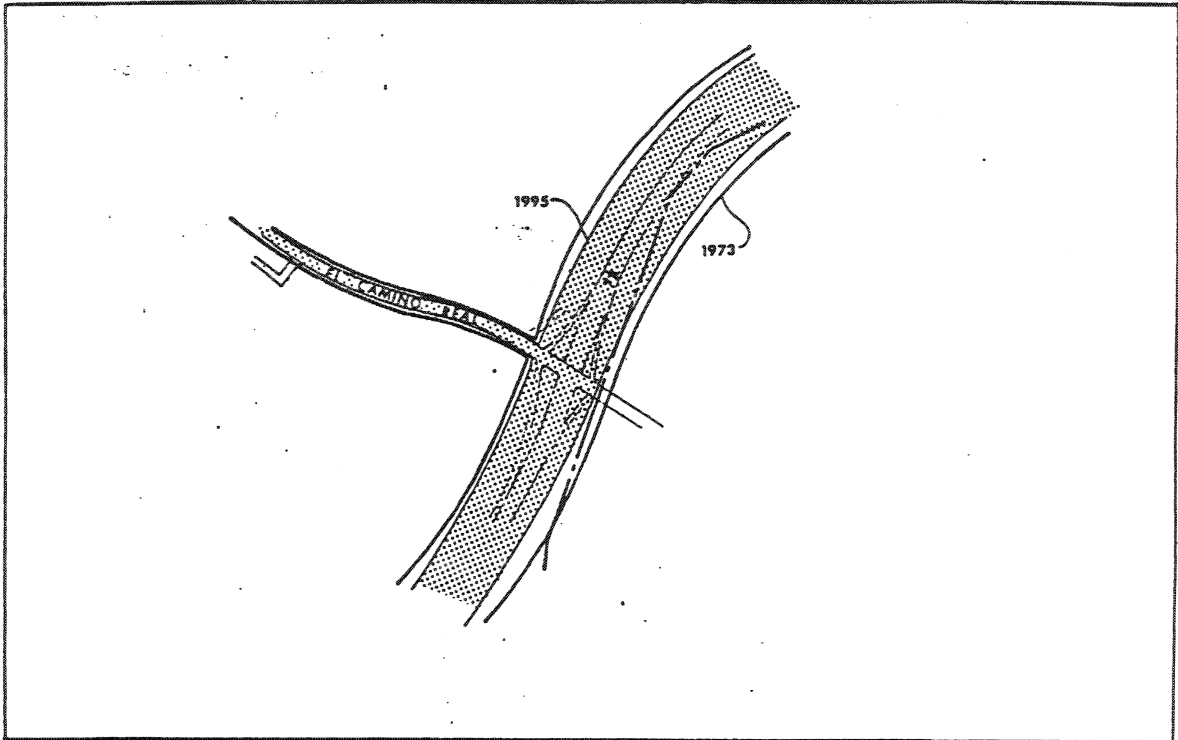
Figure N-9
El Camino & 76 (Mission)



**EL CAMINO REAL, MISSION AVENUE, EXPRESSWAY 76,
NORTH RIVER ROAD, AND RANCHO DEL ORO**

1973 noise contours for North River Road and Mission Avenue are substantially higher than the 1995 65dBA projections. This may be due in part to the construction of Expressway 76 (broken heavy lines). Land uses along Expressway 76 will have to be planned to be compatible with noise generated by the traffic. In this area, for instance, the narrow strip between Mission Avenue and the Freeway has been planned for commercial uses.

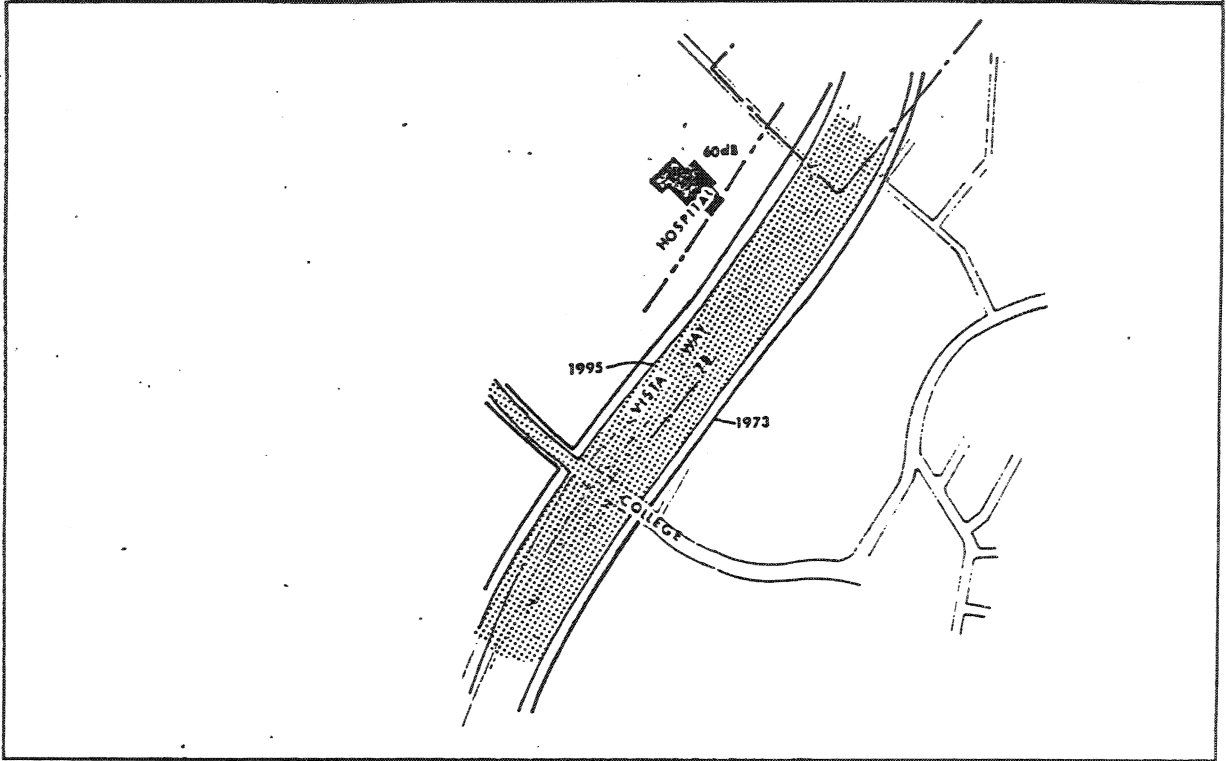
Figure N-10
El Camino & 78



EL CAMINO REAL AND FREEWAY 78

Noise contours are expected to decrease along both routes. The 1995 decrease on El Camino Real reflects changes in the noise controls imposed upon motor vehicles even though its route northerly is a severe grade that produces additional vehicular noise.

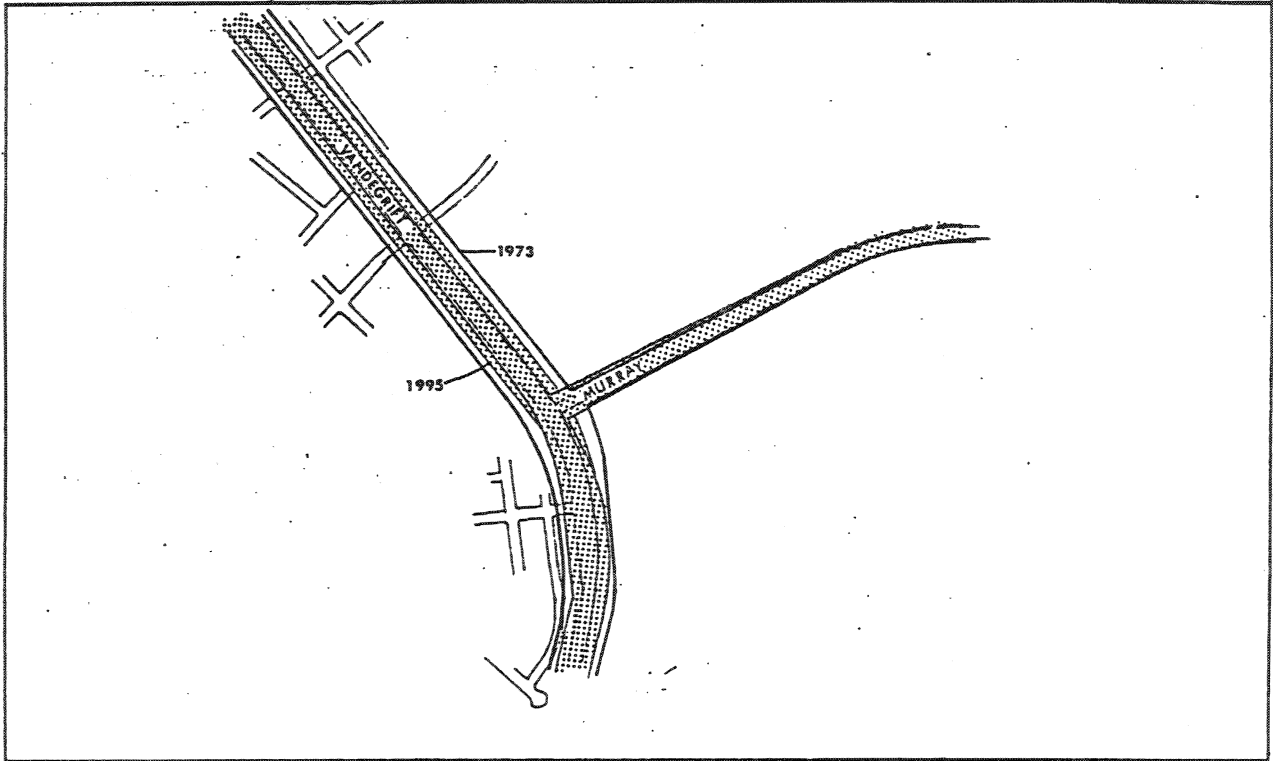
Figure N-11
Tri-City Hospital



VISTA WAY, FREEWAY 78, COLLEGE BOULEVARD, AND THE TRI-CITY HOSPITAL

The identification of noise levels around health care facilities is of primary concern. The broken line is the 60dBA contour line that bisects the hospital site; however, the existing buildings are not within this line. Future construction should be kept north of this line and, when feasible, opening windows should not be located on the south side of buildings.

Figure N-12
Vandegrift & Murray



VANDEGRIFT BOULEVARD AND MURRAY ROAD

1995 65dBA noise contours for Vandegrift Blvd. are expected to substantially decrease because of increased noise controls on motor vehicles. There is little impact on existing residential development because adjacent homes do not front on Vandegrift Boulevard thereby allowing the rear yard and fencing to serve as sound buffers.

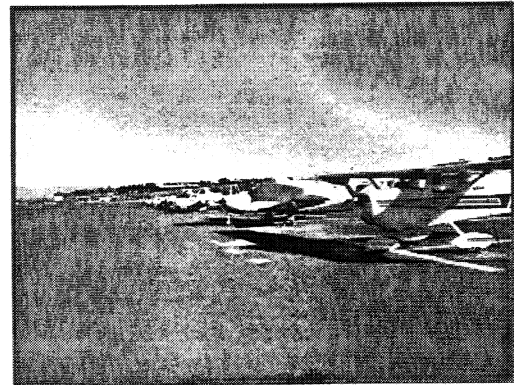
Establishment Of Desirable Maximum Noise Levels

Cities such as National City, San Diego, Santa Barbara, Torrance, and Hemet have prepared and adopted noise control ordinances using scientific methods to identify "noise" and noise sources and establishing enforcement provisions.

Noise types are broken into seven categories: aircraft, motor vehicles, construction, noise amplification equipment, noise making apparatus, disturbers of the peace, human voice, and noises caused by animals. Each of these types of noise has different characteristics and requires specialized attention. The following are suggested controls for each type of noise source:

Aircraft Noise

Due to the difficulty in enforcement and the unlikelihood of Oceanside's airport serving jet traffic, noise controls for aircraft are not necessary.



Motor Vehicles

1. **Off Highway Motor Vehicles:**
Use restrictions for off-road vehicles should be such that vehicles will not emit noise in excess of:
82dBA – for a vehicle 6,000 lb. or more in weight
77dBA – for a motorcycle
74dBA – for any other on-highway vehicle used off-road
70dBA – for any off-road vehicles less than 6,000 lb. in weight
2. **Powered Model Vehicles:** Powered model vehicles should be limited to operation between 7 AM and 9 PM and their noise levels should not exceed 5dBA over the ambient level at the property line.
3. **Vehicle Repairs:** It should be unlawful to repair or rebuild any motor vehicle between 9 PM and 7 AM in such a manner that the ambient noise levels exceeds 50dBA at the property line.
4. **Refuse Vehicles:** No refuse vehicles should be permitted to operate when trash compacting creates a sound in excess of 86dBA at 50' from the center line of a street. No refuse collection should be allowed before 7 AM.
5. **Watercraft:** No person shall operate any engine powered pleasure vessel or motorboat within two miles of the City limits in excess of 85dBA to be measured not less than 50' from the path of travel of the vessel before January 1, 1975, and 76dBA thereafter.

Construction Noise

1. It should be unlawful for any person within any residential zone or 500' therefrom to operate any pile driver, power shovel, pneumatic, power hoist, or other construction equipment between 8 PM and 7 AM generating an ambient noise level of 50dBA at any property line, unless an emergency exists.
2. It should be unlawful for any person to operate any construction equipment at a level in excess of 85dBA at 100' from the source.
3. It should be unlawful for any person to engage in construction activities between 6 PM and 7 AM when such activities exceed the ambient noise level by 5dBA. A special permit may be granted by the Director of Public Works if extenuating circumstances exist.

Amplified Sound

(Although the use of amplifying equipment is protected by constitutional rights, it may be reasonably regulated to protect the public welfare.)

1. Curfews for use of amplifiers should be established at reasonable times such as 9 PM to 9 AM. Noise levels should not be audible at a distance of 300 feet from the amplifying equipment and should not be audible within any hospitals, rest home, or convalescent hospital and shall not exceed an ambient noise level of 55dBA at any property line for "R" zoned properties. Special permits to exceed the above curfew hours may be issued by the Chief of Police for temporary events sponsored or conducted by nonprofit organizations.

Noise Making Apparatus

1. Noise making apparatus should include radios, television sets, phonographs, and similar devices. Ordinances have been or may be created to prohibit the use of such devices if such use disturbs the quiet and comfort of a neighboring resident. Curfews may be established whereby no operation between 10 PM and 8 AM is permitted if sound is audible at 50' from the source. Provisions may be adopted prohibiting any noise source extending the ambient noise level at the property line of any "R" zoned property by more than five (5) decibels which shall be prima facie evidence of a violation.
2. Machinery, circulation devices, fans, and other such equipment should not be permitted to operate when a noise level is created at the property line exceeding 5dBA above the ambient level.
3. Sound trucks used for commercial purposes should be required to receive permits from the noise control officer of the City.

Noise Element

4. Emergency signal devices should be operated or used only in cases of an authentic emergency and should be used only for a period of time necessary to respond to such emergency. No person should operate or permit to be operated an emergency signal device installed in an authorized emergency vehicle which, when operated, creates a sound level in excess of 90dBA when measured 50' from the center of the forward face of such vehicle.

Disturbers of the Peace

It should be unlawful for any person to make or continue any loud, unnecessary noise that causes annoyance to any reasonable person of normal sensitiveness. Standards should include but not be limited to noise level intensity, noises that are usual or unusual/natural or unnatural, the level and intensity of background noise, the proximity of noise to residential sleeping facilities, the nature and zoning of areas within which noise emanates, the density of inhabitation, time of day or night, duration of noise, whether noise is recurrent, intermittent or constant, and whether noise is produced by commercial or noncommercial activity.

Human Voice and Animal Noise

1. Hawkers and peddlers should be restricted to selling by outcry to licensed sporting events and entertainment, prohibiting such outcry in residential areas.
2. Animals and fowls should be restricted such that no person can keep any animal or fowl otherwise permitted to be kept if it shall cause discomfort to a person of normal sensitivity.

Implementation

The Noise Element thus far has identified the existence of noise, its health effects, areas impacted by noise and suggested goals and policies the City may wish to follow. In order to implement these goals, several recommendations have been prepared which will effectively abate or reduce undesirable noises.

Recommendations

The following implementation program is recommended:

1. A new Noise Control Ordinance (possibly the same or similar in format as suggested by the League of California Cities Model Noise Ordinance – Background Report²) should be adopted. This Ordinance should establish stricter noise

² The referenced information is located in Appendix A of the background report prepared for the Noise Element. The background report is available for study at the offices of the Oceanside Planning Department or in copies of the Element at the Oceanside Public Library.

controls and should designate enforcement powers to a specific department (Building, Planning or Police Department).

Although the City Code presently contains provisions prohibiting unnecessary and loud noises of various origins (Background Report³), these provisions are not explicit and do not comply with State of California requirements.

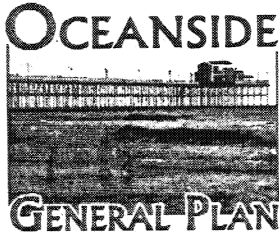
2. In order to measure noise levels, a noise meter must be acquired. This meter is necessary to identify and measure noise sources and noise levels.
3. Strict enforcement of the provisions of the Noise Control Ordinance and effective penalties for violations should be established.
4. Truck traffic on residential streets should be prohibited for all vehicles over two tons in weight. This recommendation is based upon complaints from residents subjected to severe noise and disruptions caused by heavy trucks using residential streets not designed for that purpose. (Oceanside currently has no streets prohibited to trucks in excess of certain weight.)
5. Land uses in the City of Oceanside should be planned in order to insure that residential areas will not be impacted by noise. Approval of any project in the City where the health of future residents or occupants may be adversely affected by noise associated with the site should be taken to reduce or abate the noise effects or should be denied approval and recommended for an alternative site (example – a new rest home or hospital should not be constructed in areas subjected to noise levels 65dBA or higher).
6. The Zoning Ordinance should contain provisions for the mitigation of noise to surrounding property or residents and should impose performance standards upon those activities associated with each zone. These standards would help to ensure compatibility of land uses and lessen the danger of harmful effects upon people involuntarily subjected to noise.
7. The City should establish a truck route to serve commercial and manufacturing areas of the City in order to eliminate undesirable truck traffic from residential neighborhood.
8. A quiet zone should be established and posted around Oceanside Hospital, Tri-City Hospital, all medical care facilities, and all schools within the City limits.

³ The referenced information is located in Appendix B of the background report prepared for the Noise Element. The background report is available for study at the offices of the Oceanside Planning Department or in copies of the Element at the Oceanside Public Library.

9. The operations of the Santa Fe Railroad should be examined and efforts be made to change the hours of operation for switching, and more desirably to relocate the switching yard to a more compatible location preferably outside the City limits. The City should contact the Public Utilities Commission through the City Council as to the possibilities of controlling the railroad-related noise.



NOISE ELEMENT APPENDICES



APPENDIX A - UNDERSTANDING NOISE

Noise is commonly defined as “unwanted sound.” It is assumed that there is a difference between intrusive and desirable sounds. To understand noise in relationship to human response, refer to the scale in Table I. This scale establishes the relationship between common sounds and a scientific method of measuring sound, A-weighted sound levels, and their acceptability to the human ear.

The State legislation mandating the Noise Element calls for the plotting of 65-decibel (dB) noise contours. The 65dB contour was selected because this noise level is “generally considered conditionally compatible with unrestricted residential areas.” In a report appearing in Public Works Magazine (Heer & Pavoni – *Noise in the Urban Environment*, October, 1971), 65dB is considered “moderately loud” and background noise levels in excess of 60dB are found to interfere with even the raised voice speaking level. Another study, (Lamber, Dr. Robert – University of Minnesota, as reported in “*Highway Department Buildings Experimental Sound Barrier*” Public Works Magazine, October, 1971) suggests that sound levels above 50dB interfere with sleep. Sound attenuation for residential structures is reported to be about 17dB less with windows open and 25dB less with windows closed. It appears that if a sound level of 48dB (“Quiet”) or lower is to be maintained, residential construction up to the 65dB contour line is acceptable ($65\text{dB} - 17\text{dB} = 48\text{dB}$); however, residential construction within the 65dB contours would be undesirable unless specifically designed to reduce noise. Hospitals, convalescent homes, schools, churches, libraries, and other similar use buildings require specific consideration in the selection of locations and constructions materials to maintain acceptable noise levels.

Noise Sources¹

Noise levels have steadily increased over the past thirty years. The growth of commercial aviation, the additional freeways and auto traffic, and the popularity of recreational vehicles and outdoor home appliances have all contributed to increased noise levels of 10 to 30dB. The sources of noise can be clarified in two categories:

1. Constant Level Noise Events
2. Intermittent Single Noise Events

¹ Noise sources and the effects of noise on health are taken from CPO's report – *Environmental Noise Policy Study*.

**Table I
Acoustical Scale****

	DBA*
LETHAL	-180-
	-175-
	-170-
	-165-
	-160-
	-155-
	-150-
	-145-
	Sonic Boom -140-
	-135-
THRESHOLD OF PAIN	-130-
	Jet Takeoff at 200' -125-
	-120-
	-115- Discotheque
PHYSICAL DISCOMFORT	Motorcycle at 20' -110-
	-105- Power Mower
	-100-
	Freight Train at 50' -95- Newspaper Press
	Propeller Plane Fly-over at 1,000' -90- Food Blender -Hearing damage (8 hours)
	-85- Electric Mixer
	Freeway Traffic at 50' -80- Washing Machine; Alarm Clock; Garbage Disposal; Electric Can Opener
	-75- Office with Tabulating Machines
	Average Traffic at 100' -70- Vacuum Cleaner; Portable Fan
	-65- Electric Typewriter at 10'
	-60- Dishwasher Rinse at 10'; Air Conditioning Unit
	-55-
	-50- Normal Conversation at 12'
	Light Traffic at 100' -45- Refrigerator
	-40-
	-35- Library
	-30-
	-25-
	-20- Motion Picture Studio
	-15-
	-10- Leaves Rusting
	-5-
THRESHOLD OF HEARING	-0-

** Source: Los Angeles County General Plan, Noise Element

* The unit of sound is the decibel (dB). The loudness of sound is typically measured using a sound meter, the A-scale of which corresponds closely to the way the human ear perceives sound. Thus the sound level for noise evaluations is frequently expressed in dBA.

Constant Level Noise Events

Constant level noise events are those noises that increase the outdoor noise levels above the residential noise level for a considerable period of time and increase background noise levels within an area. Noise level ranges for cities and suburbs are as follows:

	Day	Night
Cities	64-80dB	55-75dB
Suburbs	44-59dB	38-50dB

The increase in noise levels are due to the constant noise of air conditioners, industrial equipment, construction site activity, and street traffic or other sources which emit constant noise.

Intermittent Single Event Noise

Intermittent single event noises are those noises that raise the outdoor noise level above the residential noise level for short periods of time. Such noise may be caused by a four-engine Turbofan Jet Aircraft (100dB (A)) landing near a residential area, a garbage truck (84dB (A)), an automobile (74dB (A)) on a residential street, children at play (44dB (A)) or a dog barking (60dB (A)).

Reaction to noise is subjective; there is a wide variation in the sensitivity of different individuals to noise. Also, a noise that may be considered unacceptable in a residential area may be quite acceptable in an industrial park. Thus, the context in which the noise is heard and not just the noise itself is important in the determination of noise as “unwanted” sound.

The Health Effect of Noise on People²

Noise has several characteristics in common with other environmental pollutants. First, the effects of noise, whether biological, psychological, or sociological vary widely. At one end of the spectrum is the noise of explosions capable of destroying sensory receptors of the ear, and at the other, annoyance and impairment of task performance. Secondly, due to this wide range it is difficult to accurately identify the link between different levels of noise and their effects. The physiological effects of noise are understood best.

Physiological/Biological Effects

Ear Damage

Using anatomical methods applied to groups of experimental animals and humans with a terminal illness, scientists have measured the extent of damage to the eardrum and the

² This section in its entirety has been extracted (excluding footnotes) from the CPO report *Environmental Noise Policy Study* which relied heavily on Environmental Protection Agency data.

receptor organ of the inner ear (Organ of Corti). Excessive exposure to noise can result in the destruction of hair cells on the Organ of Corti and thus a loss of hearing. Other effects range from mild structural distortions to partial collapse or complete degeneration. In all cases the receptor cells are highly specialized sensory tissue, and once destroyed, can never be regenerated.

Hearing Loss

Hearing loss can be of a temporary or permanent nature. It is measured by determining the intensity level of the faintest tone an individual can hear (threshold level) prior to his exposure to a noise, and then comparing this level with that measured after his exposure. The difference is called a threshold shift.

If a threshold shift diminishes after the termination of the noise, it is said to be temporary. Generally, A-weighted sound levels must exceed 60 to 80dB (A) before a person will experience a temporary threshold shift even when exposure lasts as long as 8 to 16 hours.

The greater the noise exposure and intensity, the more rapid the threshold shifts. Severe exposures can produce compound threshold shifts, whereby a part of the hearing loss is permanent. Repeated exposures on a near daily basis over a period of many years may result in the cumulation of permanent damage as the ear becomes less and less able to recover from the temporary threshold shift present at the end of each day. Frequent exposures of sufficient duration to noises with A-weighted sound levels greater than 70-80dB (A) may be a cause of the common loss of hearing with increased age.

Sleep Interference

Sleep is necessary to insure health and the normal functioning of the body. Sleep occurs in a series of stages or phases. Depending on one's stage of development (child, adolescent, adult, etc.) the proportion of time spent in any one phase varies; but in all cases the elimination or interference with certain phases of sleep on a regular basis may prove hazardous to health. Noise can serve to interfere with sleep by either awakening a person or causing shifts from one sleep phase to another. Brief sounds of sufficient intensity (48dB (A) or greater) and fluctuating noise levels have been shown to alter the sleep pattern to lighter sleep and hence poorer sleep. Research indicates that when people are exposed to a great deal of noise, they will complain of sleep loss and suffer a reduction in their feeling of wellbeing. Regular interruptions of sleep by noise may prove a health hazard both physically and mentally.

Non Auditory Physiological Responses

Loud and unexpected noises can cause a startling reaction in an individual, resulting in a temporary increase in blood pressure, and a decrease in digestive activity. Colitis, high blood pressure, migraine headaches and nervous disorders can be caused by noise. Furthermore, it has been found that noise will perpetuate a disease of a patient after it has developed, thus

prolonging the convalescence of a sick individual. Noise exposure may cause fatigue, irritability, or insomnia in some individuals, but quantitative evidence is unclear.

Physiological and Sociological Effects

The unacceptability of noise or the degree of annoyance has been found to correlate positively with:

- An increase in the noise level over 50dB (A)
- The interruption of recreational activity
- The unpredictability of the noise

When individuals are forced to interrupt their activities, due to aircraft or construction sound for example, that sound is unwanted, and thus noise, even though it may not be directly harmful physiologically, is annoying. However, symptoms such as headache, insomnia, and nervousness have been associated with noise annoyance. Therefore, there are some indirect physical effects.

Findings of community surveys reveal that a majority of citizens when subjected to a noise sufficient to produce a normalized Community Noise Equivalent Level (CNEL) of 81dB, would be annoyed and expected to produce a vigorous community reaction (legal action, for instance.) They also show that a small but significant percentage of the population is still very much annoyed at the CNEL 55dB value, even where no concerted community reaction would be expected.

Other Effects

Speech Interference

The interference of noise with wanted sounds is called masking. A common example is the masking of speech by noise. If speech is entirely blotted out by a noise, it is said to be below the threshold of detectability. Using these threshold levels, scientists have determined the maximum noise levels under which a normal conversation may be heard:

- | | |
|---------------------------|--------------------------------|
| - Personal conversation | At 5 ft. – 60dB or less |
| - Group conversation | At 5-12 ft. – 50-60dB or less |
| - Public meetings – Parks | At 12-30 ft. – 45-55dB or less |

Task Interference

Obviously, when a task requires the use of speech or other sounds, the masking of such sounds will substantially interfere with task performance. But in addition, tasks which do not require the use of sounds are hampered by noise. Studies of noise effects on the performance of tasks not dependent on auditory signals have reached the following conclusions:

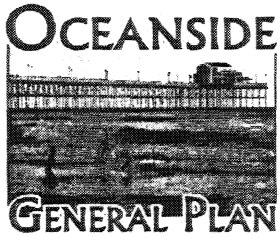
Noise Element Appendices

- Complex and sensitive tasks may be adversely affected by noise at levels of 55dB (A) or greater.
- Steady noises without special meaning do not seem to interfere with task performance unless the noise level exceeds 90dB (A).
- Irregular bursts of noise are more disruptive than steady noises at noise levels near 75dB (A).
- Noise is more likely to reduce the accuracy of work than the total quantity of work.

See Table 2 below for a summary of the effects of different levels of noise.

Table 2
Estimates of Magnitude of Noise Effects (in db(A))

	Moderate	Appreciable
Hearing damage	70	90
Speech interference	45	60
Sleep interference	40	70
Physiological stress	*	90
Startle	*	110
Annoyance	40	60
Task interference	55	75



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