

NOISE ELEMENT

ABSTRACT

The Noise Element contains four general goals and nine policies, which are designed to protect all areas from noise infiltration and reduce the City's ambient noise level. West Covina intends to reduce noise where feasible in order to enhance the City's living environment.

AUTHORITY AND SCOPE

Government Code Section 65302 (f) requires that all cities and counties shall include a noise element as part of the required General Plan. This requirement is intended to assure that cities and counties identify noise sources and provide baseline levels for local noise ordinance enforcement.

The Noise Element is divided into four policy sections:

1. Mobile Source Noise
2. Stationary Source Noise
3. Noise in the Living Environment
4. Noise Contour Map

These sections include discussions, which pertain to noise generated by aircraft, automobiles and various stationary sources. In addition these sections also include discussions, which pertain to the provision of acceptable noise levels for various land uses.

The scope of the element is limited to the City of West Covina and those portions of Los Angeles County that are in West Covina's sphere of influence. However, some noise generated outside West Covina affects West Covina and has also been addressed.

INTRODUCTION

Noise is defined as unwanted sound. It is an undesirable by-product of transportation elements and commercial activities within the community. Annoyance caused by noise is more often experienced the most by those that benefit the least from its cause. A neighbor's home air conditioner or a passing motorcycle, are but a few examples of this insidious disturbance to our urban environment.

The citizens of West Covina have become increasingly aware of the impact of noise on the quality and livability of their neighborhoods. The primary sources of noise affecting West Covina stem from various modes of transportation. Because the City is divided by the San Bernardino Freeway and various north-south and east-west arterial streets, most areas of the City are affected by traffic noise.

Whether a sound is a noise or not will vary with the sound's source, loudness and shrillness or degree of vibration, the time of day, the situation and the listener. The same truck driving in the same gear at the same speed will seem much more annoying in a quiet residential area at night than it will be in a busy industrial area during the day, and what music is to one may be noise to another, or vice-versa. The difference in our reactions is explained by perceived noisiness, or the unwantedness of a sound. Being a subjective value, the perceived noisiness of a particular sound can only be measured by a survey of individual responses, and these responses will always vary from one community to another. An unwanted sound may be extremely irritating though it is not unreasonably loud. Recent studies have documented more serious effects of noise than annoyance, among them physical and psychological stresses such as:

1. General hearing loss or damage.
2. Impaired hearing for speech communication.
3. Interference with one's ability to understand oral communication.
4. Sleep interference.
5. Nervousness.

As a matter of public health then, as much as community preference, noise pollution must be controlled. The latest findings of physical emotional effects have mobilized many state and county health departments to strongly recommend a clamp down on noise levels. The areas most vulnerable to the harmful effects of sounds seem to be residential communities, particularly at night, but all human activities can be adversely affected by noise.

GOALS

The purpose of the Noise Element is to accomplish the following general goals through policies and implementation measures:

IT IS THE GOAL OF THE CITY OF WEST COVINA TO...

ENSURE THAT ALL AREAS OF THE CITY ARE FREE FROM EXCESSIVE NOISE AND THAT APPROPRIATE MAXIMUM LEVELS BE ADOPTED FOR RESIDENTIAL, COMMERCIAL AND INDUSTRIAL AREAS.

REDUCE NEW NOISE SOURCES TO THE MAXIMUM EXTENT POSSIBLE.

REDUCE, TO THE MAXIMUM EXTENT POSSIBLE, THE IMPACT OF NOISE WITHIN THE CITY.

ENSURE THAT LAND USES ARE COMPATIBLE WITH THE RELATED NOISE CHARACTERISTICS OF THOSE USES.

GENERAL POLICIES

The measurement of sound is accomplished using a standard unit of measurement called the decibel (dB). Sound level meters have been developed which can measure noise levels in terms of decibels. The typical sound level meter contains at least three different weighting networks A, B, or C, which emphasize or de-emphasize sounds in selected frequency ranges. The A-weighted sound level is the most commonly used, primarily because it corresponds most closely to the auditory sensitivity of the human ear. Abbreviated dB(A), the A-scale will be used throughout this Noise Element for West Covina.

The A-weighted sound pressure levels of a few typical sources of noise are listed in Exhibit "IV/2-A". In addition to indicating the relative noise level of sources, this list provides a comparison of their relative loudness.

The League of California Cities recommends that the community ambient noise level of all background sounds should not exceed the values indicated in Exhibit "IV/2-B". It should be the goal of the City of West Covina to at least maintain ambient noise levels considered "quiet" to most reasonable people as indicated in this exhibit.

It is recognized that a given level of noise may be more or less tolerable depending on the duration of exposure experienced by an individual. There are numerous measures of noise exposure which consider not only the A-level of variation of noise, but also include the duration of the disturbance. The State Department of Aeronautics has adopted the Community Noise Equivalent Level (CNEL). This measure considers a weighted average noise level for the evening hours from 7:00 a.m. to 10:00 p.m., increased by 5 dB, and the late evening and morning hour noise levels from 10:00 p.m. to 7:00 a.m., increased by 10 dB. The daytime noise levels are combined with these weighted levels and averaged to obtain a CNEL value.

The California Standard (CNEL) will be used in this study to evaluate the impact of noise exposures. A comparative description of outdoor CNEL values is provided in Exhibit "IV/2-C". Exhibit "IV/2-D" provides an interpretation of the U.S. Department of Housing and Urban Development (HUD) Noise Standard in Terms of the CNEL measures of noise exposure. Recently, a state agency has applied the CNEL measures to the evaluation of noise impact near highways and railways.

MOBILE SOURCE NOISE

Mobile source noise in West Covina generally falls into two categories: aircraft noise and motor vehicle noise.

A-WEIGHTED SOUND PRESSURE LEVELS

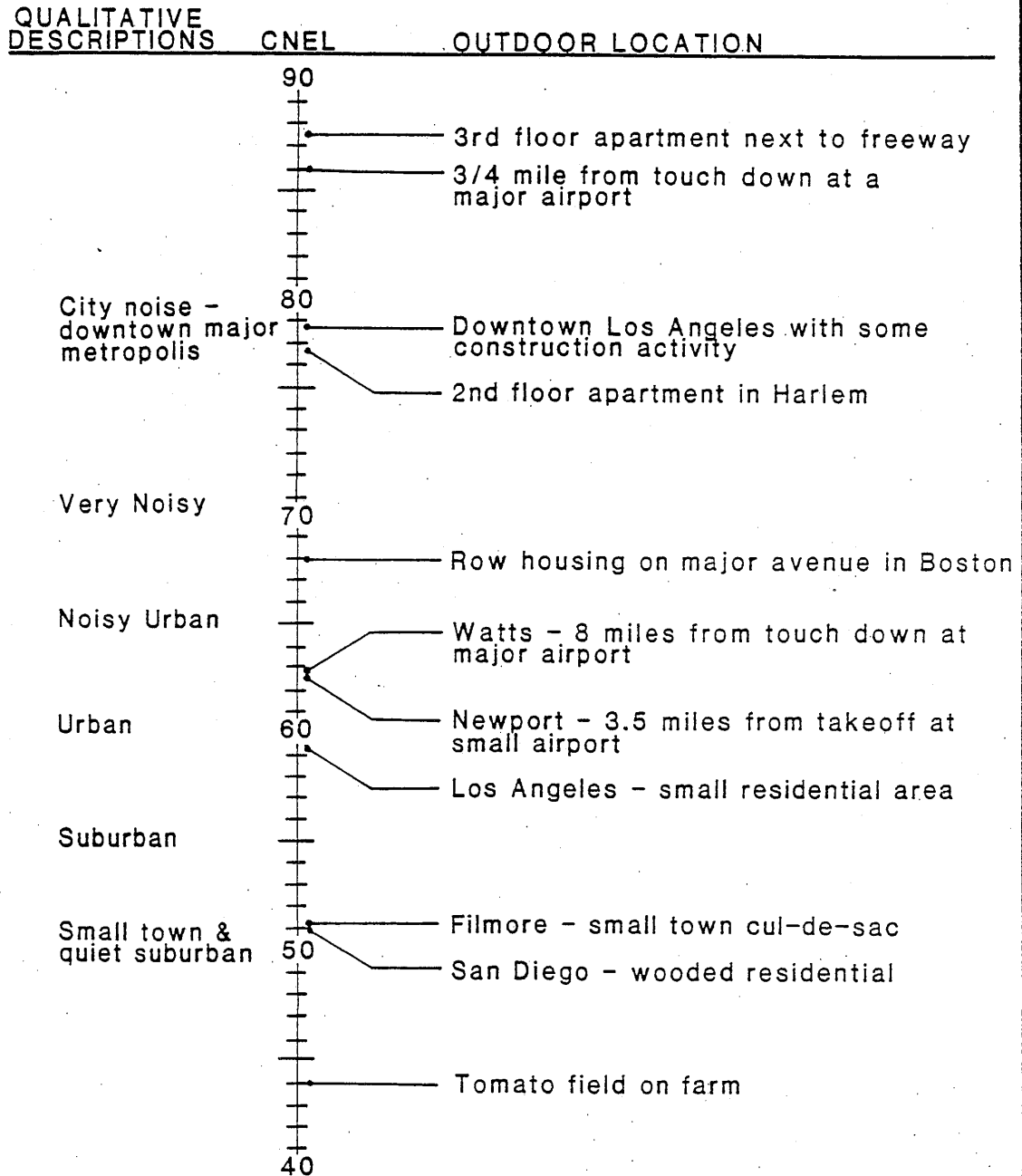
DECIBEL RATINGS dB(A)	OVERALL	OUTDOOR NOISE SOURCES	LOUDNESS
130		Jet aircraft take-off with after-burner	32 times as loud
120	Uncomfortable	Turbo-prop aircraft at take-off Jet fly – over at 1,000 feet	16 times as loud
100	Very Loud	Diesel truck at 40 MPH at 25 feet Power mower, leaf blower Motorcycle at 25 feet	8 times as loud
90		Gasoline powered trucks at 25 feet Car wash at 20 feet	4 times as loud
80		Propeller plane fly – over at 1,000 feet	2 times as loud
	Moderately Loud	Automobile at 65 MPH at 25 feet High urban ambient sound	REFERENCE NOISE
60		Air conditioning unit at 100 feet	½ as loud
50	Quiet	Large transformers at 100 feet	¼ as loud
40		Bird calls, lower limit	1/8 as loud
10	Just audible Threshold of hearing		

AMBIENT NOISE LEVELS

<u>ZONE</u>	<u>TIME</u>	<u>QUIET</u>	<u>SLIGHTLY NOISE</u>
Residential	10 p.m. - 7 a.m.	45 dB(A)	50 dB(A)
	7 p.m. - 10 p.m.	50 dB(A)	55 dB(A)
	7 a.m. - 7 p.m.	55 dB(A)	60 dB(A)
Multi-Family	10 p.m. - 7 a.m.	50 dB(A)	55 d(A)
	7 a.m. - 10 p.m.	55 dB(A)	60 dB(A)
Commercial	10 p.m. - 7 a.m.	55 dB(A)	60 dB(A)
	7 a.m. - 10 p.m.	60 dB(A)	65 dB(A)
Industrial	Anytime	70 dB(A)	70 dB(A)

Source: League of California Cities, Quiet City Report

OUTDOOR COMMUNITY NOISE EQUIVALENT LEVELS



Source: U.S. Environmental Protection Agency, Reference 7

CRITERIA FOR LAND USE SUITABILITY

<u>Residential Land* Use Suitability</u>	<u>General Description</u>	<u>HUD Description of Exposure*</u>	<u>Corresponding CNEL Range</u>
Acceptable	The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference.	Does not exceed (45 dB(A) more than 30 minutes per twenty-four (24) hour period.	45 or Less
Normally Acceptable	The noise exposure is great enough to be of some concern, but common building construction will make the indoor environment acceptable even for sleeping spaces.	Does not exceed 65 dB(A) more than eight (8) hours per twenty-four (24) hour period.	46 to 65
Normally Unacceptable	The noise exposure is significantly more severe so that unusual and costly building construction is necessary to insure adequate performance of activities.	Exceeds 65 dB(A) eight (8) hours per twenty-four (24) hour period. Loud repetitive sounds on site.	66 to 75
Clearly Unacceptable	The noise exposure is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive.	Exceeds 80 dB(A) sixty (60) minutes per twenty-four (24) hour period. Exceeds 75 dB(A) eight (8) hours per twenty-four (24) hour period.	76 or greater

*HUD Circular 1390.2

Aircraft Noise

West Covina is affected by aircraft noise from several sources; small aircraft flights over West Covina are quite common, especially near the San Bernardino Freeway and near the eastern edge of the City. Brackett Field in La Verne is the closest airport and only impacts residents lightly, however, future growth of this airport may increase noise. In order to reduce potential noise, flight patterns and altitude restrictions should be strictly enforced.

Another significant, albeit intermittent, source of noise within the West Covina planning area is helicopter operations. The most prevalent source of these operations is Queen of the Valley Hospital. Other sources include Los Angeles County Sheriff patrol helicopters operating near and sometimes within West Covina, and private helicopters.

Noise produced by helicopters is, in many cases, more intense and annoying than noise produced by other aircraft types because helicopters perform maneuvers not commonly used in commercial flights, such as rapid climbs, surveillance dives, tight circular flight patterns, hovering at low altitudes, etc., that tend to require more power and produce more noise. Unfortunately, a large portion of these operations occurs at night in or near residential areas. While many of the current helicopter operations are essential, flight patterns and altitude should be reviewed where possible to minimize impacts to residential areas, especially during nighttime hours.

Motor Vehicle Noise

The predominant source of noise in West Covina is motor vehicles, in the form of trucks, buses, automobiles and motorcycles. Noise generated along the San Bernardino Freeway and various streets and thoroughfares adds to the ambient level of noise and to the annoyance level of city residents.

In general, the control of noise is most effectively accomplished by reducing noise emission from the source. However, the abatement of motor vehicle noise is beyond the power of the City of West Covina. It is the function of the State and Federal governments to regulate motor vehicle noise sources.

Although the City of West Covina is limited in its power to regulate motor vehicle noise, it can encourage or require a variety of methods, which reduce noise impacts through noise reflection or absorption devices. Earth berms, dense plantings, walls, setbacks and other attenuating devices have been found to be successful in reducing the levels of unwanted sound. It is also important to screen unwanted noise visually to alleviate more successfully the impact of noise on the receiver. This may be accomplished by various screening methods.

1. THE CITY SHOULD ENCOURAGE THE ENFORCEMENT OF REGULATIONS SUCH AS STATE VEHICLE CODE NOISE STANDARDS FOR AUTOMOBILES, TRUCKS AND MOTORCYCLES OPERATING WITHIN THE CITY, AS WELL AS ANY CONTRACTUAL AGREEMENTS PERTAINING TO NOISE.
2. THE CITY SHOULD REQUIRE THAT ALL ITS DEPARTMENTS CONSIDER STRICT NOISE CONTROL REQUIREMENTS FOR ALL NEW EQUIPMENT PURCHASES.

STATIONARY SOURCE NOISE

The City of West Covina has the responsibility of regulating and controlling the noise generated from stationary sources and their physical relationship to noise receivers. Stationary source noise includes such items as noise generated by mechanical equipment, manufacturing operations and power tools.

Stationary sources of noise which produce conscious disturbance or disturb sleep should be buffered from adjacent uses. Environmental assessments and, where appropriate, environmental impact reports should address proposed noise impacts from new development as well as potential impacts on new development from surrounding uses.

3. THE CITY SHOULD DEVELOP A POLICY OF NOISE ABATEMENT AND CONTROL OF THE COMMERCIAL/INDUSTRIAL ACTIVITIES WITHIN THE CITY SUCH THAT INTRUSIVE NOISE IS LIMITED TO ACCEPTABLE STANDARDS.
4. THE CITY SHOULD ENCOURAGE ITS AGENCIES AND EMPLOYERS TO OBSERVE THE STATE AND FEDERAL OCCUPATIONAL HEALTH AND SAFETY NOISE STANDARDS.

NOISE IN THE LIVING ENVIRONMENT

Residential neighborhoods and sensitive land uses, such as hospitals and schools, require a quiet environment. Noise, which is generated in or filters into residential areas can bring about problems such as irritability, fatigue, insomnia, tension and distraction. Noise may also cause neighborhood deterioration, as residents who must live in noisy environments tend to spend as much time away as possible.

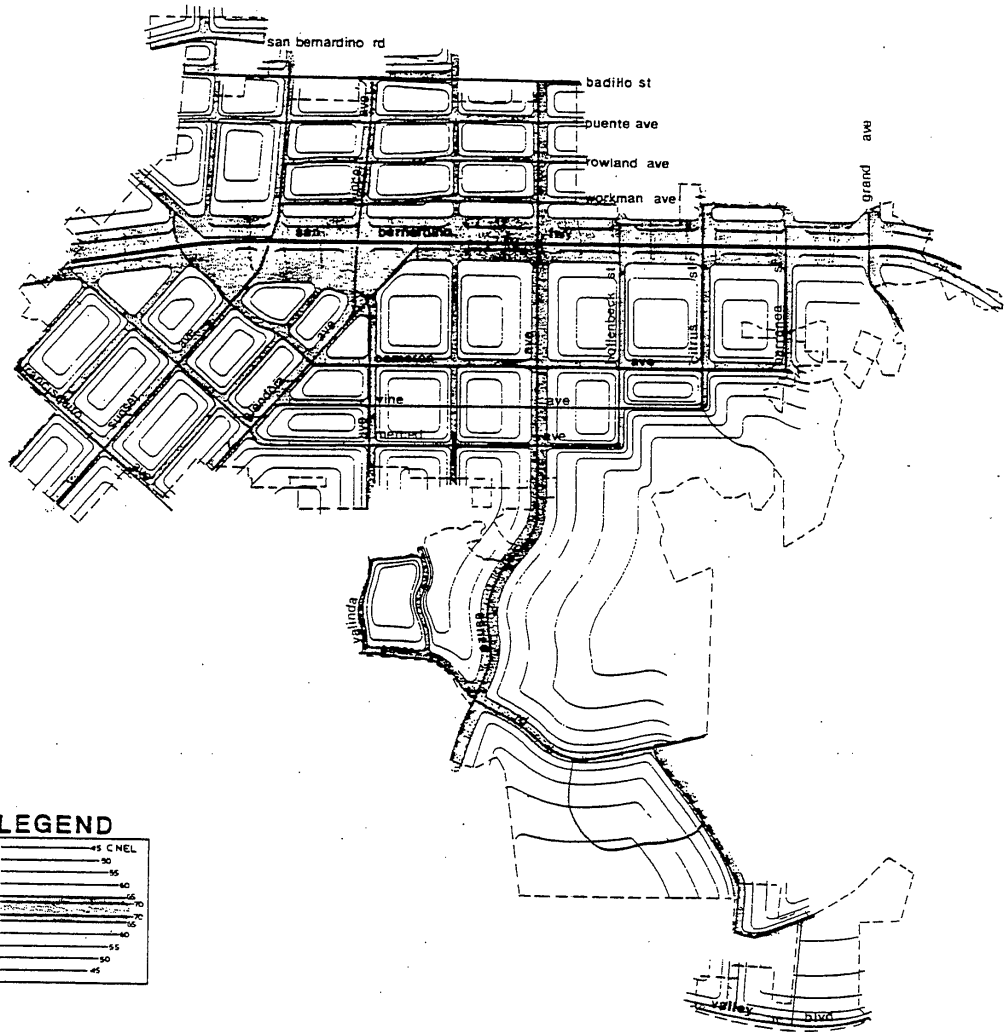
One way of controlling noise disturbance in the living environment is by limiting noise levels to an acceptable level. This can be accomplished by setting maximum noise level standards, establishing standards for acoustic insulation in noise impacted areas and restricting residential development in unacceptably noisy areas.

On the other hand, many noise sources within neighborhoods, while falling below maximum noise levels, can be more annoying and distracting than other loud noise sources. These sounds may include air-conditioning units and other mechanical equipment that are usually located along side yards, affecting the adjacent property. Such noise generators should be located where they do not affect adjacent or surrounding properties. Noises such as loud music or loud voices are distracting but do not usually exceed allowable noise levels. The City is limited in its power to regulate such noise, but voluntary compliance is encouraged.

5. THE CITY SHOULD REQUIRE THAT ALL NEW RESIDENTIAL BUILDINGS OR STRUCTURES MEET THE REQUIREMENTS OF CALIFORNIA'S NOISE INSULATION STANDARDS AS ARE NOW REQUIRED OF NEW MULTIPLE-FAMILY DEVELOPMENTS.
6. FUTURE PROJECTS WITHIN THE CITY SHOULD REFLECT A CONSCIOUSNESS ON THE PART OF THE CITY REGARDING THE ATTENUATION OF UNNECESSARY NOISE NEAR SENSITIVE AREAS SUCH AS PARKS, HOSPITALS AND RESIDENTIAL NEIGHBORHOODS.
7. THE CITY SHOULD MINIMIZE, ELIMINATE OR CONSIDER THE PROHIBITION OF NEW RESIDENTIAL DEVELOPMENTS WITHIN THE "NOISE IMPACT ZONE" DETERMINED AS 65 CNEL OR GREATER ON THE 1985 NOISE CONTOUR MAP.
8. THE CITY'S EXISTING NOISE ORDINANCE SHOULD BE REVIEWED AND EXPANDED TO REFLECT CHANGES IN PUBLIC CONSCIOUSNESS CONCERNING NOISE.
9. THE CITY SHOULD IMPLEMENT A REVIEW PROCESS CONCERNING ITS POLICY AND REGULATIONS AFFECTING NOISE.

NOISE CONTOUR MAP

The contours of equal CNEL values, Exhibit "IV/2-E", provide noise exposures for the projected 1985 environment within the City. Increases in CNEL values over the eleven year period from 1975 to 1985, due to the traffic generated noise, will be minimal in the northernmost portion of the City and more significant in the southernmost portion. This increase in the southern portion will approximately correspond to the anticipated increase in development and population.



LEGEND

45 CNEL
50
55
60
65
70
75
80
85
90
95
100

WEST COVINA GENERAL PLAN
NOISE NOISE CONTOUR
MAP



EXHIBIT IV/2-E

IMPLEMENTATION

1. The City will be significantly affected by noise by 1985 as shown on the Noise Contour Map. Some of the more affected areas include:
 - a. The San Bernardino Freeway corridor
 - b. Azusa Avenue corridor
 - c. The Amar Road-Nogales Street corridor through Woodside Village.

Additionally, portions of the other corridor areas along many of the City's major arterials may be negatively affected as well.

Effective noise mitigating tools include the use of earthen berms, judicious landscaping, sound attenuating walls and generous setbacks from roadways for future residential development.

For developing areas along Azusa Avenue, Amar Road and Nogales Street in the Woodside Village area, a combination of planting buffers and setbacks should help to mitigate the area's traffic noise.

2. The City should maintain liaison with transportation agencies such as Cal-Trans regarding the reduction in noise from existing facilities. Control of noise through the design and location of new facilities should also be included.
3. Revision of the other elements of the General Plan should be conducted to give recognition to noise levels and land use relationships. For example, the Circulation Element should consider, wherever possible, the diversion of through traffic from residential areas. The buffering of noise sensitive areas from generating land uses must also be considered.
4. Noise monitoring within the City should be an "on-going" process. This duty should be delegated to the appropriate departments. Additionally, liaison should be developed between this monitoring body and the County Health Department in order to prepare standards and ordinances and for assistance in on-site measurements of noise levels.
5. The City shall adopt the suggested ambient noise levels suggested in this element in Exhibit "IV/2-B" as part of its Noise Ordinance No. 1251. Additionally, these ambient noise levels should be keyed to the City's existing land use zoning designations. Additionally, the City should investigate the adoption of a more encompassing model noise ordinance as future needs warrant.

6. Review of ongoing policies and ordinances should be developed every five years or as new technological developments warrant.
7. Various City departments may be involved in the procurement of noise producing equipment such as tractors, bulldozers and helicopters. These types of operating equipment should be purchased with the necessary noise abating equipment installed.
8. The first portion of the standards concerning acceptable interior and exterior noise exposures for multi-family development was adopted by the State. These are now mandated requirements. Since the second part of these requirements, which concerns single-family structures, became effective August 22, 1975, the City should consider this additional aspect for all pending single-family residential projects.
9. For residential areas within the City, the existing municipal code does not regulate intrusive noise. The regulation of external noise emanating from both commercial uses and industrial uses is regulated by the City's municipal code. In these latter two cases, however, acceptable dB (A) ranges have not been designated for these zones and are, therefore, recommended.
10. Close attention should be paid in the future to noise evaluation in environmental impact reports. The existing and future traffic noise contours developed as a part of this element are indicative of problem noise areas, but should not be considered adequate for specific site evaluation. Environmental impact reports with satisfactory noise assessment have the additional value of helping to monitor local noise conditions, and the new noise-mitigating measures they suggest may widen the possibilities for noise control. Some of the environmental impact issues should include:
 - a. Social – Excessive noise is socially disruptive and may be physically and psychologically damaging.
 - b. Economic – Excessive noise adversely affects property values and levels of productivity. In the past the costs of excessive noise from transportation facilities have been passed on to those in the vicinity, rather than being borne by the producer of the noise.