

NOISE ELEMENT

INTRODUCTION

Noise is that portion of acoustical energy that the ear hears and the brain interprets as being annoying, unpleasant, painful, disturbing, or too loud by one or more segments of the population. The overall purposes of the Noise Element of the General Plan are to: develop a public awareness of noise as an adverse environmental factor; control or abate objectionable or harmful noises at their source; moderate noises to acceptable and safe levels; increase the livability of all sections of Redwood City; and provide a guide for Redwood City in matters of noise, for its control, prevention, or abatement.

Redwood City's goal with respect to noise is to

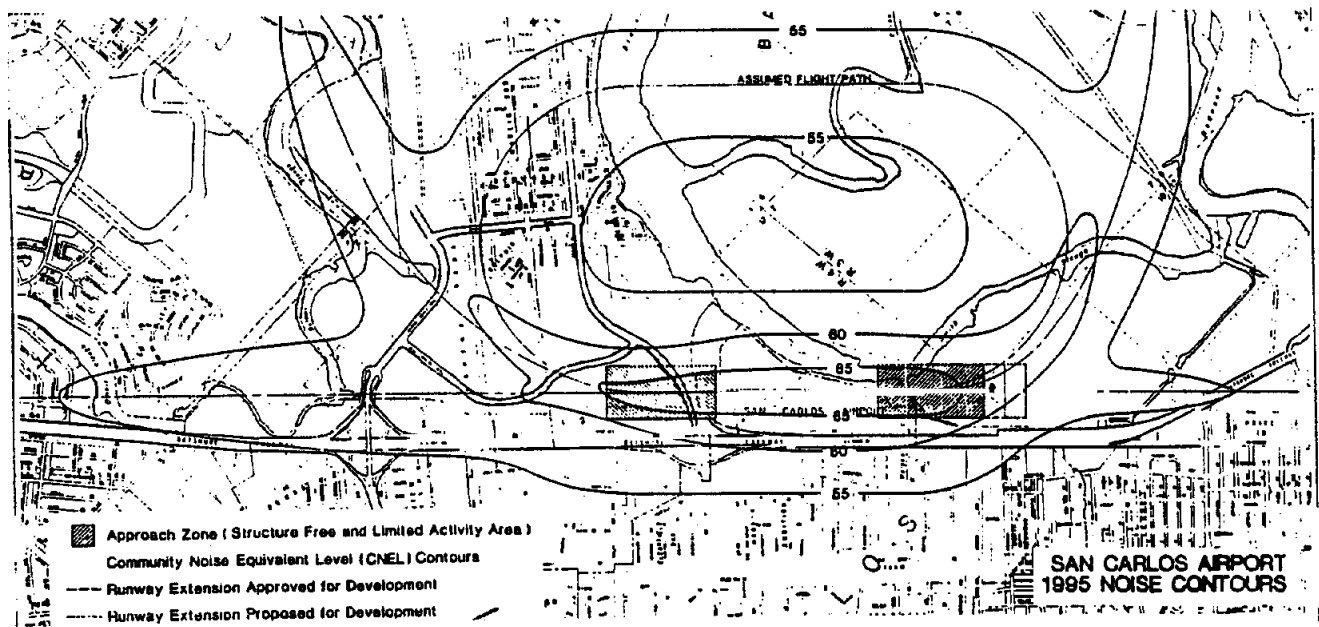
ESTABLISH MAXIMUM TOLERABLE LIMITS FOR POINT NOISE SOURCES AND AMBIENT NOISE LEVELS.

Noise control is a matter of considerable social and economic importance. The Noise Element should guide the location of new roads and transit facilities as well as land use.

RELEVANT ISSUES

Identification and Appraisal of Major Noise Sources: The most widespread and continual sources of noise in Redwood City are transportation facilities. Unfortunately, in terms of improving the noise environment, these same facilities are those over which the City has the least control—the Santa Fe/Southern Pacific railroad line, the Bayshore Freeway, and the San Mateo County owned San Carlos Airport adjacent to the Redwood Shores area of the City of Redwood City.

The Airport Land Use Plan adopted by the Airport Land Use Commission (ALUC), establishes criteria to determine the compatibility of new land uses with airport operations. Residential uses are considered more noise sensitive than commercial or industrial uses. The ALUC criteria for San Carlos Airport allows residential development only where the noise level does not exceed 60 CNEL



AIRPORT NOISE CONTOURS

(Community Noise Equivalent Level). A noise analysis is required between 55 and 60 CNEL. Additional criteria are specified for commercial, industrial, and open space land uses.

The noise levels from the San Carlos Airport are of major concern to Redwood City due to the circling and flight paths over residential areas of Redwood Shores. A large number of residences are also impacted from the noise generated by major arterials. The Bayshore Freeway impacts large areas of the Friendly Acres and Centennial neighborhoods. Residential areas near El Camino Real and Woodside Road are also affected by noise but to a lesser extent. Redwood City should work with the San Carlos Airport and CalTrans to reduce noise impacts to Redwood City residents.

Existing and Projected Levels of Noise and Noise Contours for Major Noise Sources: One way of describing the noise environment of the entire City is through a noise contour map. Similar to topographic contour maps, a noise contour map has lines which indicate areas of equal noise levels.

Determination of the Extent of Noise Problems in the Community: Redwood City is not inordinately plagued by noise. Barking dogs, train whistles, and motor acceleration stand out because of the City's low ambient noise level, generally below 40 dB(A). In cities with higher ambient noise levels, such point noise sources are less noticeable because of the ear's screening mechanism triggered by the higher ambient noise. In places with lower ambient noise levels, e.g., a remote farm by way of illustration, such point noise sources would be even more apparent than in Redwood City because of the ear's unprotected vulnerability. Thus, cities with lower ambient noise levels are more apt to experience complaints about point noise sources than cities with higher ambient noise levels.

Selection and Imposition of Methods of Noise Attenuation and the Protection of Residences From Excess Noise: The perception of noise involves a source (e.g., a passing truck), a trans-

mission phase (the broadcast bombardment of molecules through space), and a receiver (in our case, the human ear). The sequence can be interrupted at any of the three points and the noise impacts reduced. (1) The noise source can be controlled through regulation such as a noise ordinance or through muffling techniques which reduce the amount of sound emitted. (2) The transmission phase can be interrupted through the creation of a buffer between the source and the receiver, such as a noise wall, earth embankment, or building. (3) The receiver can be protected from the noise impacts through insulation, building orientation, shielded areas, or the wearing of earplugs.

NOISE OBJECTIVES

1. Minimize the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies.
2. Reduce future impact of all types of point source noises.
3. Reduce ambient noise levels in all parts of the City to safe, optimum levels.

NOISE POLICIES

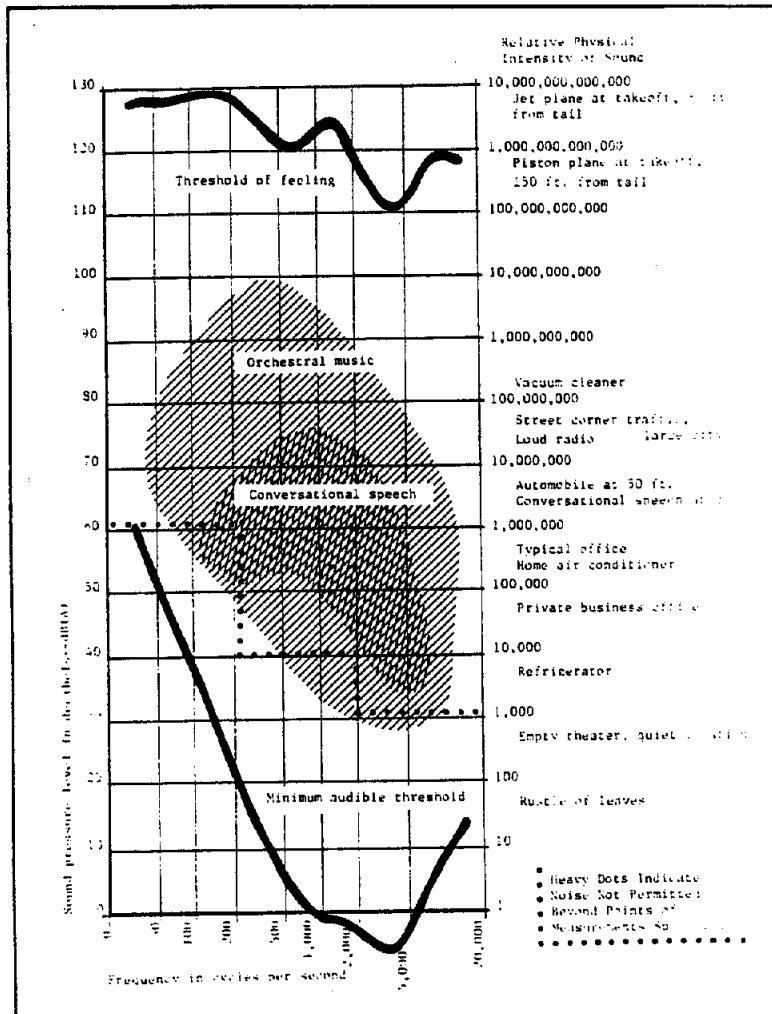
- N- 1. The City should include appropriate noise attenuation techniques in the design of all new arterial streets.
- N- 2. Limit the hours of operation at all noise generation sources wherever practicable, unless an emergency exists.
- N- 3. Require all exterior noise sources (construction operations, air compressors, pumps, fans, and leaf blowers) to use available noise suppression devices and techniques to bring exterior noise down to acceptable levels compatible with adjacent land uses.
- N- 4. Commercial drive-through uses should only be allowed when compatibility with adjacent land uses can be demonstrated.
- N-5. Land uses within the Planning Boundary of

NOISE ELEMENT, CHAPTER 11

San Carlos Airport shall be compatible with the Aircraft Noise/Land Use Compatibility Standards found at page 8 of the 1981 San Mateo County Airport Land Use Plan. The "Planning Boundary" for San Carlos Airport is considered the ground area encompassed by the combination of the line depicting the 55 CNEL Noise Contour, as shown on the Noise Contour Map at page 7 of the 1981 San Mateo County Airport Land Use Plan and the outer boundary (Elevation 359) of the Hazard Zoning Plan at page 11 of the 1981 San Mateo County Land Use Plan.

N-6. Refer all amendments to the Noise Element to the Airport Land Use Commission for a determination of consistency with the Airport Land Use Plan.

N-7. Redwood City will take appropriate steps to reduce noise impacts to residents living near the San Carlos Airport and major arterials, particularly the Bayshore Freeway.



COMPARATIVE SOUND PRESSURE LEVELS

