

Figure 10-3

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

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

INTERPRETATION



NORMALLY ACCEPTABLE

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



CONDITIONALLY ACCEPTABLE

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



NORMALLY UNACCEPTABLE

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



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

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

B. NOISE SOURCE CHARACTERISTICS

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

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

C. SUITABLE INTERIOR ENVIRONMENTS

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

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

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

SOURCE: Guidelines for Preparation and Content of Noise Elements. State Office of Noise Control. February, 1976

