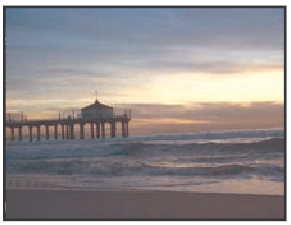
Noise Element

Vision



The beach and vast expanse of the Pacific Ocean draw many residents and visitors to Manhattan Beach. The sound of the ocean is refreshing and soothing. We enjoy relaxing where noise does not invade our thoughts and activities on Sunday morning or other times when we expect relative quiet. Excessive noise from traffic, business and industrial operations, construction, and concentrated activities can be disruptive and erode the quality of our community. Manhattan Beach strives to substantially reduce noise and its impacts within the urban environment, with a focus on protecting residential neighborhoods, schools, and similar noise-sensitive uses.

Noise Environment

Measuring Noise

Noise is generally defined as unwanted or intrusive sound. Because noise consists of pitch, loudness, and duration, describing noise with a single unit of measure presents a challenge. The A-weighted decibel scale, or dB(A), has been developed to describe the loudness of a sound or sound environment based on the sensitivity of the human ear. A sound level meter that measures A-weighted decibels has an electrical circuit that allows the meter to have the same sensitivity to sound at different frequencies as the average human ear.

Studies have documented the adverse effects of noise on human health. Based on these studies, criteria have been developed for establishing noise limits that can avoid adverse health effects. The criteria contained in the State *General Plan Guidelines* are presented in Table N-1.

Table N-1
Maximum Limits to Minimize Adverse Noise Effects

Objective	Maximum dB(A) Range
Prevent Hearing Loss	75-80
Prevent Physiological Effects (Other than hearing loss)	65-75
Prevent Speech Interference	50-60
Address People's Subjective Preference for Noise Control	45-50
Prevent Sleep Interruption	35-45

Source: *California General Plan Guidelines*, 2000.

The dB(A) descriptor only reports noise from a single source or combination of sources at a point in time. To allow a more comprehensive description of a noise environment, Federal and State agencies have established noise and land use compatibility guidelines that use averaging approaches to noise measurement. Two measurement scales commonly used in California are the Community Noise Equivalent Level (CNEL) and the day-night level (Ldn). To account for increased human sensitivity at night, the CNEL level includes a five-decibel penalty on noise during the 7:00 P.M. to 10:00 P.M. time period and a ten-decibel penalty on noise during the 10:00 P.M. to 7:00 A.M. time period. The Ldn level includes only the ten decibel weighting for late-night noise. These values are nearly identical for all but unusual noise sources.

Sources of Noise

Noise typically is categorized as transportation-related or non-transportation noise. Transportation noise refers to noise from automobiles, trucking, airport operations, and rail activity. Non-transportation noise refers to noise from stationary sources such as machinery, air conditioning systems, compressors, landscape maintenance equipment, and a range of activities (e.g., live music/concerts, outdoor cafes, amplified music from stereos, and loud voices of crowds).

In Manhattan Beach, vehicular traffic represents the primary noise source. Stationary sources such as industrial and commercial activities also present some concerns, particularly where such operations abut residential neighborhoods. Aviation activities and heavy industrial operations in adjacent communities also impact the City. Due to the compactness of development in Manhattan Beach, noise impacts generated by construction activities, as well as special events at schools, parks, commercial businesses and public assembly places, are also of concern.

Figure N-1 displays a composite picture of average noise levels in Manhattan Beach in 2002 using noise contours. Noise contours define areas of equal noise exposure. Noise is at the highest level near the source and decreases with distance.

Transportation-Related Noise

Traffic is one of the most important quality of life issues faced by Manhattan Beach residents and businesses. Traffic-related issues like noise also impact our community. Large volumes of vehicles travel to, from, and through Manhattan Beach daily. Noise is generated as vehicles travel at high speeds, drivers use their horns, and vehicle engines gear up after stalling behind a red light, stop sign, or traffic jam. The most heavily traveled roadways in the City include Sepulveda Boulevard, Rosecrans Avenue, Aviation Boulevard, Artesia Boulevard, and Manhattan Beach Boulevard, and portions of Highland Avenue and Marine Avenue. As shown in Figure N-1, noise levels are highest along these travel routes.

Many trucks carrying heavy loads of goods travel to and from commercial and industrial operations in Manhattan Beach, as well as through the City to other communities. These heavy trucks present traffic-related issues such as wide turn radius, noise, air quality, and vibrations. Truck routes have been designated for use by heavy trucks to access most commercial areas in the City, including Downtown and North End, to protect residences from such impacts.

See the Infrastructure Element for discussion and map of truck routes.

Residential uses along portions of Rosecrans Avenue, Aviation Boulevard, and Marine Avenue are particularly impacted by the heavy traffic. To mitigate traffic noise impacts on residences, the City has designated residential lots along a portion of Rosecrans Avenue as Design Overlay District 1. Residents are allowed to erect higher fences in the setback areas to screen out traffic noise. Similarly, portions of Marine Avenue and Aviation Boulevard are designated Design Overlay District 4 – Traffic Noise Impact Areas. Residential properties within Traffic Noise Impact Areas are also permitted to have fences and other noise-shielding barriers above standard heights.

See the Land Use Element for additional discussion on Design Overlay Districts.

Some neighborhoods are impacted by noise associated with cut-through traffic. The City has adopted a Neighborhood Traffic Management Program to address cut-through traffic and related impacts on residential neighborhoods.

See the Infrastructure Element for detailed discussions on Neighborhood Traffic Management Program.

Non-Transportation Noise

Stationary noise sources that affect noise-sensitive land uses in Manhattan Beach include the El Segundo Power Generation Facility, the Chevron Refinery, and the Los Angeles International Airport, as well as other industrial and commercial uses in El Segundo and Hawthorne, all of which are located north and east of the City boundary. Residents in the North End and El Porto neighborhoods, and those in the north end of the Tree Section, are mainly affected by these industrial uses. Additionally, commercial uses within the City near residential uses can cause noise impacts, such as in the Downtown, the North End and El Porto, and along Sepulveda Boulevard.

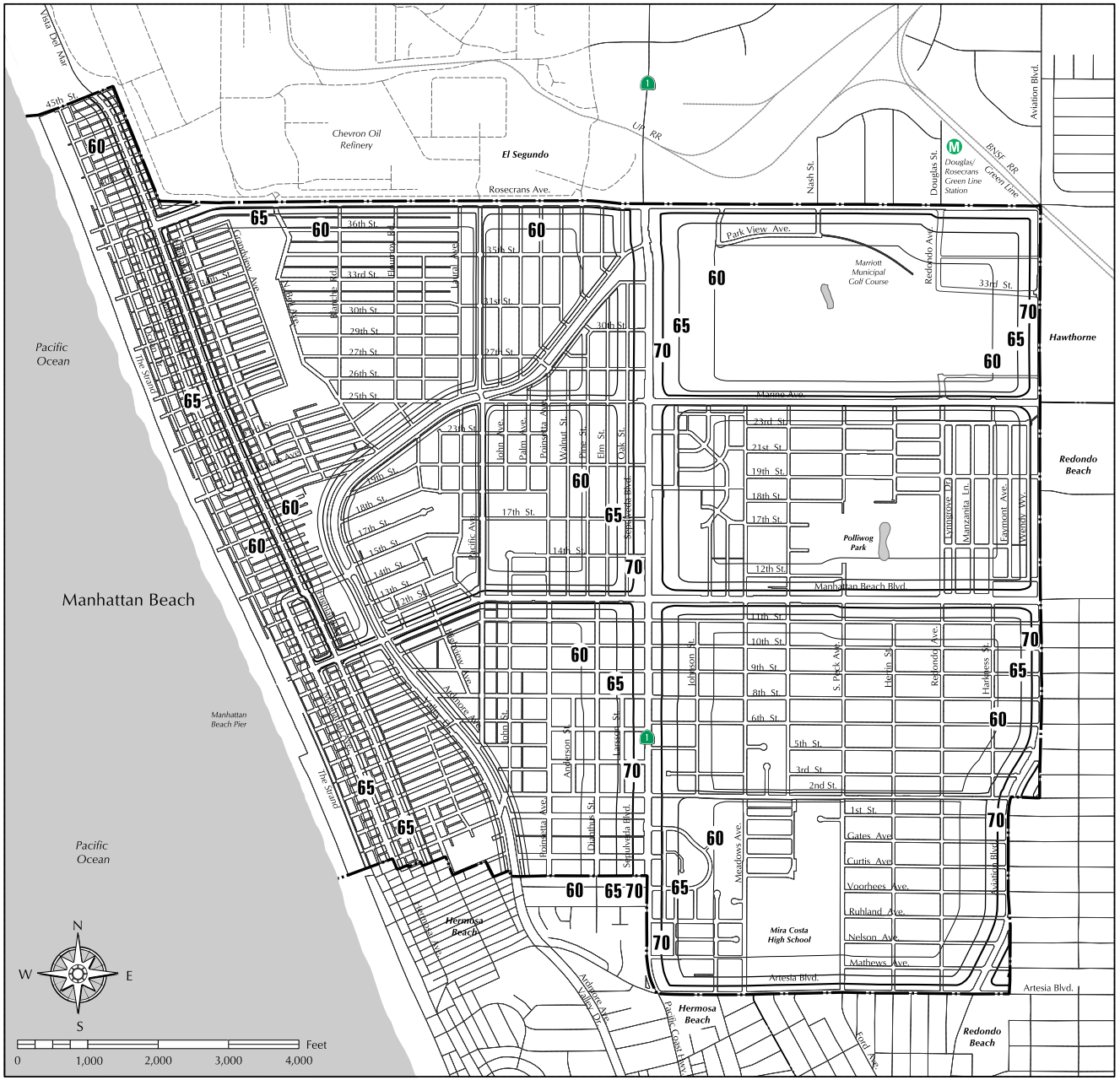
El Segundo Generating Station

The El Segundo Generating Station (ESGS), located immediately north of Manhattan Beach, provides electric power to Southern California residents and businesses. While located in an industrial area of El Segundo, the facility abuts residential uses in Manhattan Beach, and for many years the noisy operations have impacted North End residents. The operator has initiated a phased program to remove and replace two electric generation units (Units 1 and 2) located on the north end of the facility, with three new Units (Units 5, 6, and 7) in the same location. Only minor modifications are planned for Units 3 and 4 located in the middle of the ESGS. The expansion program also includes the removal of two large fuel oil tanks that visually and acoustically shield Manhattan Beach residents from the ESGS. Residents are concerned that removal of the tanks could significantly increase noise levels from the ESGS. Construction noise impacts are also a concern. The City will need to work with the California Energy Commission to proactively monitor the construction and operation of the ESGS to ensure that North End residents are not exposed to significant noise impacts.

Chevron Oil Refinery

The Chevron Oil Refinery in El Segundo lies directly north of Manhattan Beach (north of Rosecrans Avenue and east of Highland Avenue). This oil refinery is configured to produce large volumes of high-value, cleaner-burning gasoline and diesel fuels designed to meet the air quality standards of the California market. This facility has a capacity of 260,000 BCD (Barrels per Calendar Day).[1] Operating around the clock daily, this facility contributes to the ambient noise environment that impacts Manhattan Beach residents, particularly those whose homes face Rosecrans Avenue.

[1] Energy Information Administration, U.S. Department of Energy, 2002.



Source: 1986 Manhattan Beach General Plan.

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Figure N-1

Average Noise Levels (2003)

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Aircraft Noise

Los Angeles International Airport (LAX) is located four miles north of Manhattan Beach, and Hawthorne Municipal Airport lies approximately seven miles northeast of the City.

Typically, aircraft noise has more impact on neighborhoods during take-offs than during landings. Out-bound flights from LAX generally follow an east-west route, then turn north or south to all directions.[2] In-bound flights from the south or west may fly over Manhattan Beach to allow the aircraft to turn around for landing on the runways. Due to the altitude of incoming flights, noise impacts on Manhattan Beach fall below 60 dB(A). The City of Manhattan Beach is not located within any Airport Influence Area, as defined by the State of California.

In 2002, LAX accommodated 2,300 operations daily, serving approximately 70 million passengers annually. To accommodate growth in air travel and cargo demands, airport planners have developed a master plan that accommodates expansion. The LAX Master Plan provides for expansion in aircraft operations by adding a new runway either to the north or south of the airport. If expanded, daily operations will increase to 2,700 flights.[3] Increased operations at LAX may potentially increase the aircraft noise impact on nearby communities, including Manhattan Beach. Noise studies conducted for the LAX Master Plan indicate that aircraft operations will not create noise conditions in the City inconsistent with the noise/land use compatibility criteria set forth in this Element (Figure N-2).

Hawthorne Municipal Airport is a small general aviation reliever airport, owned and operated by the city of Hawthorne. Hawthorne Airport is home to fewer than 200 aircraft and handles approximately 85,000 takeoffs and landings annually.[4] Noise from low-flying aircraft using Hawthorne Municipal Airport occasionally impact residential neighborhoods.

A number of agencies and others operate low-flying propeller planes and helicopters that generate occasional noise. These include news helicopters that monitor traffic and report on other events, lifeguards and other agencies that patrol the beach area, "flying" advertisements, and police/sheriff personnel that monitor emergency situations.

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[2] Airport Monitor system, Los Angeles International Airport.
[3] Los Angeles International Airport Master Plan – Alternatives Under Study, 2002.
[4] In Flight USA News Magazine, August 2001.

Construction

Manhattan Beach is a highly desirable residential community. Due to the high real estate values, new homes are constantly being built, replacing older, smaller homes with larger homes with more amenities. Commercial redevelopment is also active in the Downtown area and along Sepulveda Boulevard and Manhattan Beach Boulevard. Because of the dense development pattern and narrow streets in some neighborhoods, construction activities present not only traffic congestion issues but also noise impacts, particularly when multiple construction projects occur on the same block. Monitoring of construction activities is necessary to ensure that noise impacts are mitigated to the extent feasible.

The City limits construction activities to between the hours of 7:30 A.M. and 6:00 P.M. on Monday through Friday and between 9:00 A.M. and 6:00 P.M. on Saturday. Construction activities are prohibited on Sundays and on six specified public holidays. The City also enforces the "reasonable person" standard, meaning that noise is considered a nuisance if it causes discomfort or annoyance to any reasonable person of normal sensitivity, or if it exceeds the noise standards set forth in the Manhattan Beach Municipal Code.

Neighborhood Noise

See Noise Ordinance discussion under Goal N-3.

Regular neighborhood activities generate noise. Stereos, pets, outdoor activities such as children at playgrounds or sports events, emergency signaling devices (e.g., car and fire alarms, home security devices), and landscape and garden maintenance equipments all generate noise. The City adopted the Noise Ordinance to regulate excessive neighborhood noise that may erode the quality of our neighborhoods. Specifically, the use of mechanical blowers is prohibited in Manhattan Beach.

Noise and Land Use Planning

Noise is most problematic when noise-sensitive uses are affected. Noise-sensitive uses -- defined as activities that are interrupted by noise -- include residences, schools, hospitals, recreation areas, and public assembly places.

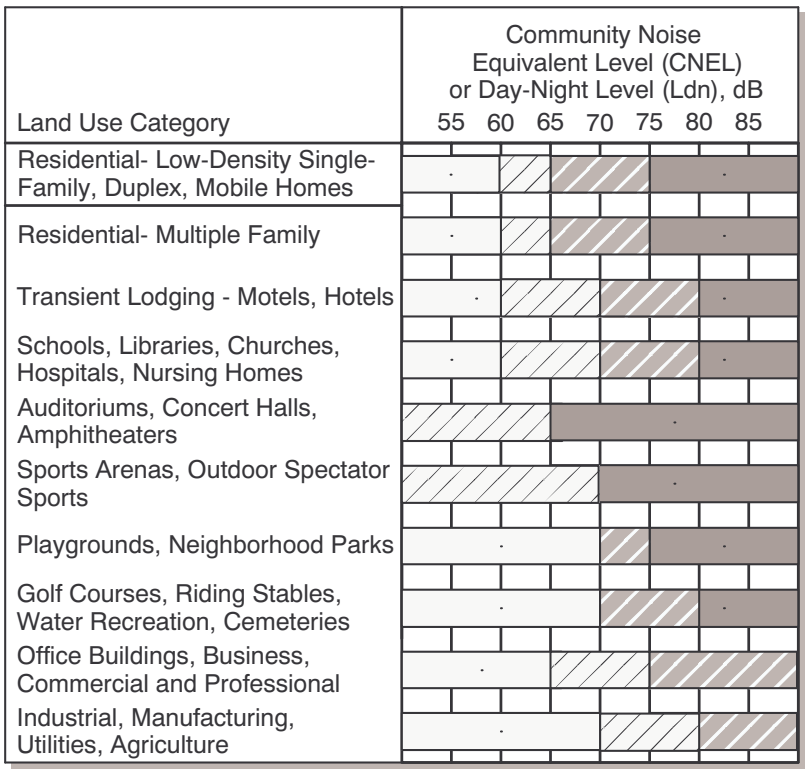
Because of Manhattan Beach's built-out character and well-established land use patterns, the City has limited latitude to plan using noise/land use compatibility criteria at a broad scale. Land use decisions instead are made at a project-specific level, such as reviewing proposals for new commercial businesses adjacent to residences. Specifically, in Downtown, in the North End and El Porto, along Oak Street, and in other neighborhoods directly

behind Sepulveda Boulevard frontages, the City routinely considers the type and arrangement of commercial use proposed and how such might affect surrounding residences. For example, bar and restaurant operations that extend into the late night may significantly impact adjacent residences, and mitigation measures are required to protect residences from excessive noise.

The noise/land use compatibility guidelines in Figure N-2, based on cumulative noise criteria for outdoor noise, are used to review development proposals and to identify and mitigation measures necessary to avoid or minimize impacts – including traffic noise impacts – that a new use may have on established uses.

Land use policy set forth in the Land Use Element provides for established land use patterns to continue. Thus, any change in noise levels over time will be attributable to increased traffic volumes due to regional growth, expanded operations at Los Angeles International Airport, and activity on industrial and commercial properties in surrounding communities. The projected future noise environment graphic shown in Figure N-3 accounts for future traffic volumes. The noise/land use compatibility matrix recognizes the densely character of the City and the presence of mixed-use districts.

Figure N-2
Noise/Land Use Compatibility Matrix



Nature of the noise environment where the CNEL or Ldn level is:

Below 55 dB
Relatively quiet suburban or urban areas, no arterial streets within 1 block, no freeways within 1/4 mile.

55-65 dB
Most somewhat noisy urban areas, near but not directly adjacent to high volumes of traffic.

65-75 dB
Very noisy urban areas near arterials, freeways or airports.

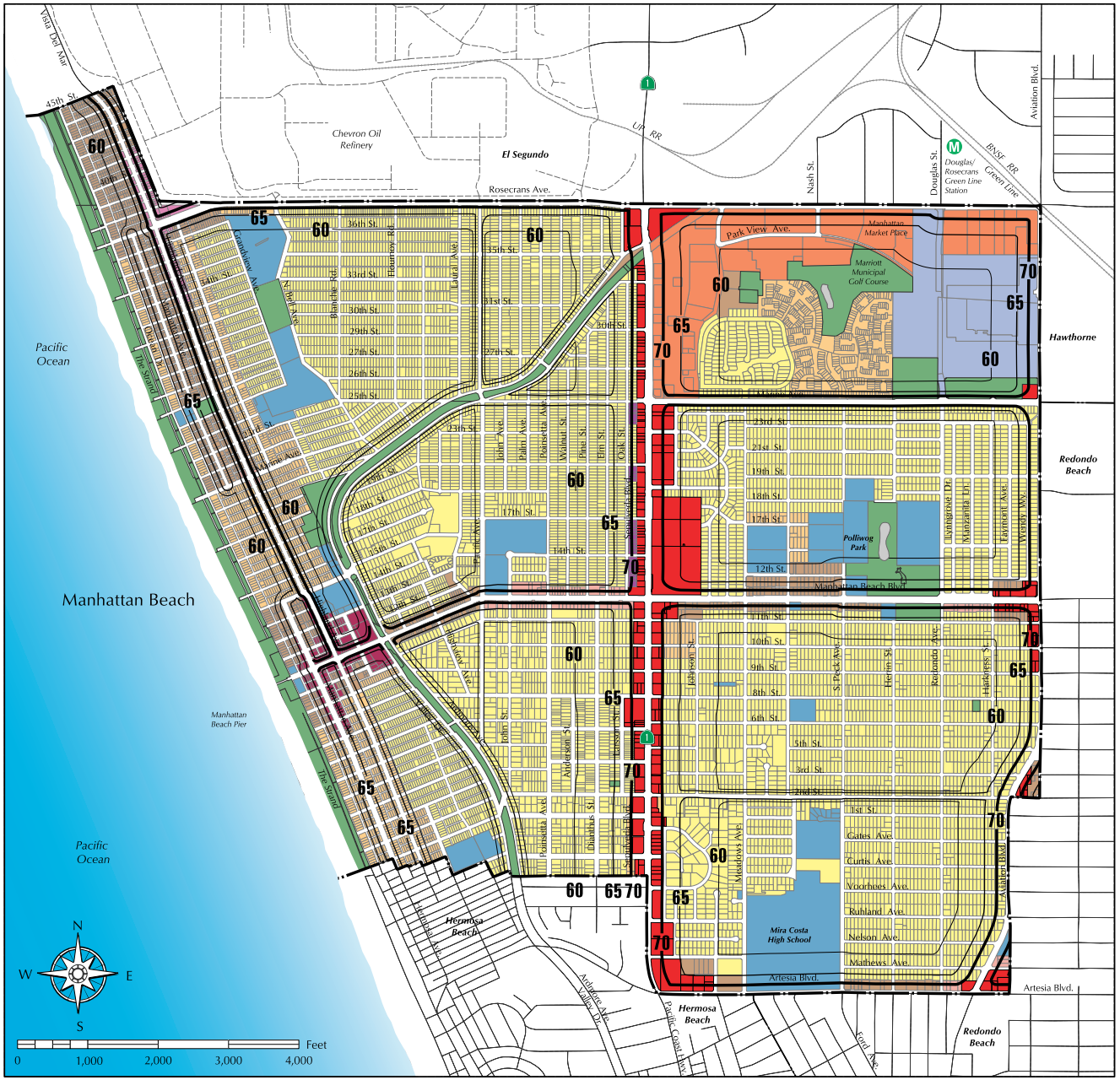
75+ dB
Extremely noisy urban areas adjacent to freeways or under airport traffic patterns. Hearing damage with constant exposure outdoors.

Normally Acceptable
Specified land use is satisfactory, based on the assumption that any buildings 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 noise reduction requirements is made and needed noise insulation features included in 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 noise reduction requirements must be made and needed noise insulation features included in design.

Clearly Unacceptable
New construction or development should generally not be undertaken.



Source: 1986 Manhattan Beach General Plan.

MANHATTAN BEACH GENERAL PLAN

Figure N-3

Future Noise Levels

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Goals and Policies

To control unnecessary, excessive, and annoying noise in Manhattan Beach, the City's policy is to maintain and preserve the quiet atmosphere of the City, to implement programs aimed at retaining ambient noise levels throughout the City, and to mitigate noise conflicts.

Goal N-1: Provide for measures to reduce noise impacts from transportation noise sources.

Policy Discussion

In Manhattan Beach, major transportation-related noise sources include Sepulveda Boulevard, and arterials and collectors such as Rosecrans Avenue, Aviation Boulevard, Artesia Boulevard, Marine Avenue, Manhattan Beach Boulevard, Manhattan Avenue, Highland Avenue, and Valley/Ardmore. Vehicular traffic along collector streets that traverse residential neighborhoods, such as Valley Drive/Ardmore Avenue, Highland Avenue, and Manhattan Avenue, also impacts residents living along these routes.

Policy N-1.1: Use proven methods of reducing the transmission of traffic noise onto adjacent noise-sensitive land uses (e.g., residences, schools, medical facilities).

Policy N-1.2: Ensure the inclusion of noise mitigation measures in the design of new roadway projects in Manhattan Beach.

Policy N-1.3: Reduce transportation noise through proper design and coordination of vehicle routing.

Policy Discussion

The Infrastructure Element establishes truck routes in the City where truck traffic is only permitted along regional and major arterial streets. Neighborhood traffic management tools are also to help reduce cut-through traffic in residential neighborhoods, thereby reducing undesirable traffic noise.

The Infrastructure Element identifies the Roadway Classifications, including designated truck routes.

Policy N-1.4: Ensure the effective enforcement of City, State, and Federal noise levels by all appropriate City divisions.

Policy N-1.5: Work with appropriate agencies to mitigate impacts from existing and proposed aviation operations.

Policy N-1.6: Work with surrounding jurisdictions and other agencies to mitigate noise impacts.

Policy Discussion

Intensification of development or land use changes that occur in neighboring jurisdictions may potentially degrade the ambient environment if transportation-related noise is increased.

Goal N-2: Incorporate noise considerations into land use planning decisions.

Policy Discussion

As a built-out community, land use patterns in Manhattan Beach are well-established; little opportunity exists to relocate noise-sensitive uses to areas of lower ambient noise levels. However, land use planning and development decisions in the future must take into consideration noise impacts. Other tools, such as neighborhood traffic management tools, may also be applied to redirect traffic and associated noise impacts from sensitive land uses.

Policy N-2.1: Establish acceptable limits of noise for various land uses throughout the community.

Policy N-2.2: Ensure acceptable noise levels near residences, schools, medical facilities, and other noise-sensitive areas.

Policy Discussion

The City adopted a Neighborhood Traffic Management Program that includes a menu of tools for mitigating neighborhood traffic intrusion issues, which will also serve to reduce transportation noise impacts in noise-sensitive areas.

See the Circulation Plan of the Infrastructure Element for discussion on Neighborhood Traffic Management Program.

Policy N-2.3: Establish standards for all types of noise not already governed by local ordinances or preempted by State or Federal law.

Policy N-2.4: Encourage acoustical design in new construction.

Policy N-2.5:	Require that the potential for noise be considered when approving new development to reduce the possibility of adverse effects related to noise generated by new development, as well as impacts from surrounding noise generators on the new development.
Policy N-2.6:	Work with businesses in surrounding jurisdictions to manage noise impacts on City residents and businesses.

Goal N-3: Minimize the impact of non-transportation noise sources.

Policy Discussion

The City adopted the Noise Ordinance (Ordinance No. 1957) that establishes exterior noise standards by land use and the maximum duration of time that the noise standards may be exceeded without being considered a nuisance punishable by law. The Noise Ordinance regulates a variety of noise generators, focusing primarily on non-transportation sources.

Policy N-3.1:	Monitor and update the Noise Ordinance to mitigate noise conflicts.
Policy N-3.2:	Enforce the Noise Ordinance.
Policy N-3.3:	Minimize impacts associated with single-event noise activities.
Policy N-3.4:	Recognize in the Noise Ordinance that nighttime noise levels create a greater sensitivity than do daytime noise levels.
Policy N-3.5:	Encourage jurisdictions, including cities, and other agencies to require compliance with the City of Manhattan Beach Noise Ordinance where activities affect Manhattan Beach residents and businesses.

Policy Discussion

Commercial establishments and heavy industrial operations such as the power plant in El Segundo generate noise that impacts our residents and businesses.

Policy N-3.6: Monitor and minimize noise impacts associated with construction activities on residential neighborhoods.

Policy Discussion

As a highly desirable community in which to live, Manhattan Beach experiences constant demolition and construction activities in residential neighborhoods. With the compact development pattern in this community, construction activities are often concentrated and pose more significant impacts on the neighborhoods than would be in communities where developments are more spread out.