Appendix 4.10
Noise Data

LOCAL REGULATIONS AND STANDARDS

Chapter 24 NOISE REGULATIONS

Article 24.01 GENERAL PROVISIONS

24.01.010 Declaration of policy.

It is declared to be the policy of the city, in the exercise of its police power, to prohibit unnecessary, excessive and annoying sound levels from all sources. In accordance with this policy, Davis is designated a quiet city. At certain levels, sounds are detrimental to the health and welfare of the citizenry and, in the public interest, shall be systematically proscribed. It is the purpose of this chapter to prescribe standards for and to provide an effective and readily available remedy for violations of this chapter. The provisions of this chapter and the remedies contained herein shall be cumulative and are not intended to replace any otherwise available remedies for public, private or mixed nuisance, nor any other civil or criminal remedies otherwise available. (Ord. 1700 § 1; Ord. 1955, 1998; Ord. 2221, 2005)

24.01.020 Definitions.

As used in this chapter, unless the context otherwise clearly indicates, the words and phrases used in this chapter are defined as follows:

City manager means the city manager for the City of Davis, California, or his or her representative or designee.

Director of public works means public works director for the City of Davis, California, or his or her representative or designee.

Emergency means efforts necessary to preserve or restore property to a safe condition following a public calamity, or to protect persons or property from an imminent exposure to danger, or work by private or public utilities when restoring utility services.

Holiday means any day established as such by federal, state or local government.

Landscape maintenance equipment means any equipment or device used, designed or operated to maintain landscaped areas, including edger's, hedgers, lawn mowers, powered blowers, weed eaters/string trimmers, chain saws for landscape and tree maintenance, and similar devices.

Noise means unwanted sound.

Noise level means the maximum continuous sound level or repetitive peak level produced by a sound source or group of sources as measured with a Type S2A or better sound level meter using the "A" switch weighing scale and the meter response function set to "SLOW."

Person means a person, firm, association, co-partnership, joint venture, corporation, or entity, public or private in nature, including any city, county, district or other public agency.

Police chief means the chief of police for the City of Davis, California, or his or her representative or designee.

Powered blower means any equipment or device used, designed or operated to vacuum or produce a current of air to push, propel or blow cuttings leaves, refuse, or debris.

Power tools means any motorized piece of equipment or device, such as air gun, air compressor, chain saw, chipper, circular saw, drill, stump grinder, or similar.

Precision sound meter means a device for measuring sound level in decibel units within the performance specifications in the American National Standards Institute Standards S1.4, Specification of Sound Level Meters.

Property plane means a vertical plane including the property line which determines the property boundaries in space. When the term "property line" is used in this chapter, it refers to the property plane. For implementation of noise regulations, the property plane used for conducting noise measures is the property plane of the noise

source.

School means the Davis Joint Unified School District and any other public or private school licensed as a school by the State of California.

Sound amplifying equipment means any machine or device for the acoustical or electronic amplification of the human voice, music or any other sound, or by which the human voice, music or any other sound is amplified. Sound amplifying equipment, as used in this chapter, shall not include vehicle radios, CDs and/or tape players when used and heard only by the occupants of the vehicles in which the vehicle radio, CD, and/or tape players installed. Sound amplifying equipment, as used in this chapter, shall not include warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used for traffic safety purposes.

Sound level expressed in decibels (dB), means a logarithmic indication of the ratio between the acoustic energy present at a given location and the lowest amount of acoustic energy audible to sensitive human ears and weighted by frequency to account for characteristics of human hearing, as given in the American National Standards Institute Standard S1.1, Acoustic Terminology, Paragraph 2.9, or successor references. All references to dB in this chapter utilize the A-level weighing scale, abbreviated dBA, measured as set forth in this section.

Sound truck means any motor vehicle, or any other vehicle regardless of motor power, whether in motion or stationary, having mounted thereon, or attached thereto, any sound amplifying equipment with the intent to amplify sound outside the vehicle.

Type S2A or better sound level meter means a device for measuring sound level in decibel units within the performance specifications in the American National Standards Institute S1.4, Specification for Sound Level Meters. (Ord. 1700 § 1; Ord. 1854 § 1; Ord. 1955, 1998; Ord. 2221, 2005)

24.01.030 Violations—Infractions—Miscellaneous.

(a) Any person violating or permitting violation of any of the provisions of this chapter is guilty of an infraction for each of the first two violations within a period of one year, and upon conviction thereof, shall be punished by a fine not to exceed the fine prescribed in accordance with the provisions of Section 36900 (b) of the California Government Code, or successor legislation. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Any repetition or continuation of any violation, reasonably capable of immediate correction after receipt of written or verbal notice shall constitute a separate offense and shall be punished as such.

(b) Any person violating or permitting violation of any of the provisions of this chapter for the third time within a one-year period is guilty of an misdemeanor, and shall be punished by a fine or, by imprisonment in the county jail, or by both such fine and imprisonment not to exceed the maximum fine and/or imprisonment established in Section 36901 of the California Government Code, or successor legislation.

(c) Upon the third confirmed violation of this chapter within a twenty-four hour period of time beginning on the first notice of violation issued, the police department may take action as necessary to abate the noise violation, including, but not limited to, instructing the host to “close the party,” physically arresting the host or taking the amplifying equipment as evidence. (Ord. 1700 § 1; Ord. 1854 § 2; Ord. 1955, 1998; Ord. 2221, 2005)

24.01.040 Violations—Additional remedies—Injunctions.

As an additional remedy, the violation of any provision of this chapter shall be deemed and is declared to a be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction. (Ord. 1700 § 1; Ord. 1854 § 3; Ord. 1955, 1998; Ord. 2221, 2005)

Article 24.02 GENERAL RESTRICTIONS

24.02.010 Animals and fowl.

(a) No person shall keep or maintain in any residential neighborhood, or permit the keeping of, upon any premises owned, occupied or controlled by such person, any animal or fowl otherwise permitted to be kept which, by any sound, cry or behavior shall cause annoyance or discomfort. The vocalization of a dog, or comparable sounds by other animals or fowl, for more than three out of five minutes, on a sustained basis during a ten minute measurement period, in excess of the allowable decibel limit, between the hours of 9:00 p.m. and 7:00 a.m. the following day, or for more than five out of ten minutes, on a sustained basis during a fifteen minute measurement period, in excess of the allowable decibel limit, between the hours of 7:00 a.m. and 9:00 p.m., or for fifteen minutes of sustained vocalizations, which sounds are audible within the property plane on property other than that owned, occupied, or controlled by such person, or inside any dwelling unit on the same property, but not owned, occupied or controlled by such person, shall constitute a prima facie violation of the provisions of this section.

(b) If the owner, or person in custody of the animal or fowl that violates this section is not available, the written notice of violation and/or the citation may be given to someone else at the residence, or posted in a conspicuous location on the premises. (Ord. 1700 § 1; Ord. 1854 § 4; Ord. 1955, 1998; Ord. 2221, 2005)

24.02.020 Noise limits.

(a) No person shall produce, suffer or allow to be produced on any public or private property, sounds at a level in excess of those enumerated in Table 1, when measured at its property plane or, if on any street or highway measured at the property plane of the nearest property.

(b) No person shall produce, suffer or allow to be produced on any multifamily residential property, sounds at a level in excess of those enumerated in Table 1, when measured inside any dwelling unit on the same property or twenty feet from the outside of the dwelling unit in which the noise source or sources may be located.

(c) Notwithstanding any other provision of this section, no person shall produce, suffer or allow to be produced any sound on any private or public property, which is audible to a person within any dwelling unit of a residential planned development or residentially zoned property, except within any dwelling unit which the sound source or sources are located to which is occupied or controlled by the person controlling such source; unless the permission, either written or verbal, of the occupants of all affected dwelling units has been obtained.

During the hours of 9:00 a.m. through 10:00 p.m., Sunday through Thursday, and 9:00 a.m. and 12:30 a.m. the following day, Friday and Saturday, such permission shall be presumed to be granted by occupants of all affected dwelling units; provided that any affected person may withdraw such consent at any time. Such withdrawal of consent may be accomplished by either verbal or written request to the person causing, or allowing, such sound to be made, or by making such request to the city police department who shall then notify the person causing, or allowing, such sound to be made.

The provisions of this subsection shall not apply to any sound generated upon a common use portion of any multiple-family dwelling between the hours of 9:00 a.m. through 10:00 p.m., Sunday through Thursday, and 9:00 a.m. through 12:30 a.m. the following day, Friday and Saturday, except to the extent that such sound is audible within any dwelling unit not located upon the same property.

Table No. 1

Land Use	Time Period	Maximum Noise Level (dBA)
Residential	9 p.m.—7 a.m.	50
	7 a.m.—9 p.m.	55
Commercial/industrial/core commercial	10 p.m.—7 a.m.	55

	7 a.m.—10 p.m.	60
High noise traffic corridor	Anytime	65

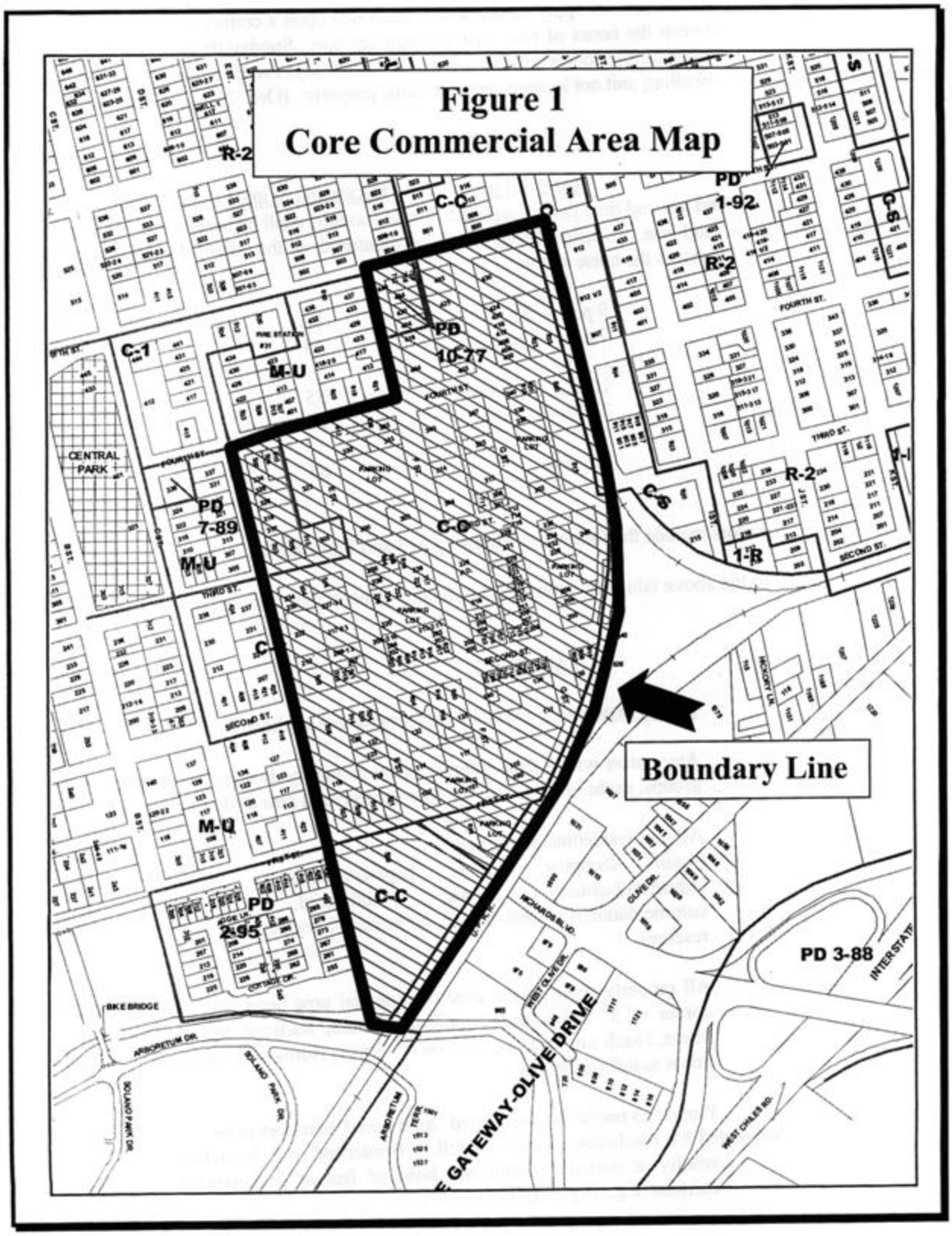
Determination of which land use and time period applies to a noise source, shall be based upon the affected (complainant's) property's land use. Decibel levels shall be measured at the affected (complainant's) property plane at the point closest to the noise source.

The high noise traffic corridors include the following: Highway 113 and Interstate 80.

The land uses as shown in the above table are defined using the city general plan and Table No. 2, as shown below:

Table No. 2

Noise Zone	**Definition (using general plan terms where applicable)**
Residential	Any parcel with a single-family or multifamily dwelling, including living groups, excluding those in the core commercial area as defined below
Commercial/industrial	All nonresidential properties (retail shopping, office, highway/service commercial, light industrial/business park, industrial, public/semipublic, commercial/ agricultural buffer, commercial recreation, agriculture, urban reserve)
Core commercial	All property types in the core commercial area beginning at southwest corner of 5th Street and the railroad tracks; railroad tracks south to D Street, north on D Street, east on 4th Street, north on F Street, east on 5th Street to railroad tracks
High noise traffic corridor	Properties bordering designated "high noise" corridors to be designated by resolution of city council. "Bordering" will be defined as falling wholly or partially within one hundred feet of designated "high noise" corridor (e.g., Highway 113)



(Ord. 1700 § 1; Ord. 1854 § 5; Ord. 1955, 1998; Ord. 2017, 2000; Ord. 2221, 2005)

24.02.030 Maximum noise limit.

No person shall produce, suffer or allow to be produced in any location a noise level of more than twenty dBA above the limit, but not greater than eighty dBA, on Table No. 1 measured at the property plane. This section constitutes an absolute noise limitation applicable notwithstanding any other provision of this chapter, or any exception, exemption

or waiver provided therefrom, except that the provisions of this section shall not apply to those activities referred to in Section 24.02.040(a) through (d) or to emergencies. (Ord. 1700 § 1; Ord. 1854 § 6; Ord. 1955, 1998; Ord. 2221, 2005)

24.02.040 Special provisions.

(a) Power tools. The operation of power tools for noncommercial purposes shall be exempt from the provisions of Sections 24.02.020(a), (b), (c) and 24.02.030, between the hours of 8:00 a.m. and 8:00 p.m.; provided, that such operations shall be subject to the provisions of Section 24.05.010. For purposes of this section, a noncommercial use shall be a use for which a business license is not required pursuant to Chapter 19.

(b) Construction and landscape maintenance equipment. Notwithstanding any other provision of this chapter, between the hours of 7:00 a.m. and 7:00 p.m. on Mondays through Fridays, and between the hours of 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays, construction, alteration, repair or maintenance activities which are authorized by valid city permit or business license, or carried out by employees of contractors of the city shall be allowed if they meet at least one of the following noise limitations:

(1) No individual piece of equipment shall produce a noise level exceeding eighty-three dBA at a distance of twenty-five feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to twenty feet from the equipment as possible.

(2) The noise level at any point outside of the property plane of the project shall not exceed eighty-six dBA.

(3) The provisions of subdivisions (1) and (2) of this subsection shall not be applicable to impact tools and equipment; provided, that such impact tools and equipment shall have intake and exhaust mufflers recommended by manufacturers thereof and approved by the director of public works as best accomplishing maximum noise attenuation, and that pavement breakers and jackhammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the director of public works as best accomplishing maximum noise attenuation. In the absence of manufacturer's recommendations, the director of public works may prescribe such means of accomplishing maximum noise attenuation as he or she may determine to be in the public interest.

Construction projects located more than two hundred feet from existing homes may request a special use permit to begin work at 6:00 a.m. on weekdays from June 15th until September 1st. No percussion type tools (such as ramsets or jackhammers) can be used before 7:00 a.m. The permit shall be revoked if any noise complaint is received by the police department.

(4) No individual powered blower shall produce a noise level exceeding seventy dBA measured at a distance of fifty feet.

(5) No powered blower shall be operated within one hundred feet radius of another powered blower simultaneously.

(6) On single-family residential property, the seventy dBA at fifty feet restriction shall not apply if operated for less than ten minutes per occurrence.

(c) **Air conditioners and similar equipment.** Air conditioners, pool pumps and similar equipment are exempt from this chapter, provided they are in good working order.

(d) **Work required for the public health and safety.** Work performed by city, city franchises, persons under contract with the city for repairs or maintenance of roads, water wells, water service lines, trees and landscape, as well as street sweeping, garbage removal, and similar activities are exempt from this chapter.

(e) **Safety devices.** Aural warning devices which are required by law to protect the health, safety and welfare of the community shall be exempt from the provisions of this chapter.

(f) **Emergencies**. Emergencies are exempt from this chapter. (Ord. 1700 § 1; Ord. 1854 §§ 7—10; Ord. 1955, 1998; Ord. 2017, 2000; Ord. 2037, 2000; Ord. 2221, 2005)

Article 24.03 MOTOR VEHICLES

24.03.010 Vehicle repairs.

It is unlawful for any person within any residentially zoned or residentially planned development zoned area of the city to repair, rebuild or test any motor vehicle in such a manner that exceeds the limits set for residential zones in Table No. 1 measured at the property plane. (Ord. 1700 § 1; Ord. 1854 § 11; Ord. 1955, 1998; Ord. 2221, 2005)

Article 24.04 AMPLIFIED SOUND

24.04.010 Purpose.

The council enacts this legislation for the sole purpose of securing and promoting the public health, comfort, safety and welfare for its citizenry. While recognizing that the use of sound amplifying equipment may be entitled to certain protection by the constitutional rights of freedom of speech and assembly, the city council finds that in order to protect the public safety and the correlative rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise, reasonable regulation of the time, place and manner of the use of amplifying equipment is necessary. In no event shall approval or authorization required herein be withheld by reason of the constitutionally protected content of any material proposed to be broadcast through amplifying equipment. (Ord. 1700 § 1 ; Ord. 1854 § 13; Ord. 1955, 1998; Ord. 2221, 2005)

24.04.020 Registration—Required.

It is unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use or operate within the city a loudspeaker or sound amplifying equipment in a fixed or movable position or mounted upon any sound truck for the purposes of giving instructions, directions, talks, addresses, lectures or transmitting music, to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place, or other outdoor public property without first filing a registration statement and obtaining approval thereof as set forth in this article. The provisions of this section shall also apply to the use of sound amplifying equipment upon public or private property when used in connection with outdoor or indoor public or private events, whether or not admission is charged or food or beverages are sold, when such activity is to be attended by more than one hundred persons and the noise emanating from the event will be audible at the property plane, or in the case of a street dance or concert on the nearest residential property. Outdoor sponsored athletic events and graduations held on school property and indoor events held in any assembly hall, school building, or other private or public building with an occupancy rate of more than one hundred people are exempt from the requirements of this section. (Ord. 1700 § 1; Ord. 1955, 1998; Ord. 2221, 2005)

24.04.030 Registration—Optional.

Any person desiring to utilize sound amplifying equipment, and not otherwise required to file a registration statement pursuant to Section 24.04.040, may make such application and shall be subject to the provisions of this article. (Ord. 1700 § 1; Ord. 1955, 1998; Ord. 2221, 2005)

24.04.040 Registration—Application and issuance.

(a) **Issuing authority.** The issuing authority shall be the police chief.

(b) **Approving authority.** The approving authority shall be the police chief.

(c) **Application**. Every user of sound amplifying equipment subject to the provisions of this article shall file a registration statement with the police chief at least sixteen days and no more than one hundred twenty days prior to the date on which the sound amplifying equipment is intended to be used. Applications for events covered by the first amendment of the United States Constitution are exempt from the time requirements of this section if it can shown that circumstances required a shorter filing period and that the event will not constitute an unsafe

condition. The statement shall contain the following information:

(1) The name, address and telephone number of both the owner and the user of the sound amplifying equipment;

(2) The license number, if a sound truck is to be used;

(3) A general description of the sound amplifying equipment which is to be used;

(4) Whether sound amplifying equipment will be used for commercial or noncommercial purpose;

(5) The dates and times upon and within which and the streets or property over or upon which the equipment is proposed to be operated;

(6) The name or names of one or more persons who will be present during the conduct of any activities for which registration is sought and who will have authority to reduce the volume of any sound amplifying equipment during the course of the activities if required pursuant to this chapter and, otherwise, to insure compliance with the provisions of this chapter;

(7) A statement by the applicant that he or she is willing and able to comply with the provisions of this chapter and the conditions of the registration statement;

(8) A sketch of the area or facilities within which the activities are to be conducted, with approximate dimensions and illustration of the location and orientation of all sound amplifying equipment.

(d) **Processing application**. The police chief shall approve the registration statement and return it to the applicant unless the chief finds:

(1) The conditions of any motor vehicle movement are such that, in his or her opinion, the use of the equipment would constitute an unreasonable interference with traffic safety; or

(2) The conditions of pedestrian movement are such that the use of the equipment would constitute a detriment to traffic safety; or

(3) The registration statement submitted by the applicant reveals that the applicant would violate the provisions of this article; or

(4) The applicant is unwilling or unable to comply with the provisions of this chapter or any conditions imposed upon any registration statement issued; or

(5) There had already been a permitted event at the intended location, or within a two hundred-yard radius of the intended location and the prior permitted event was located on residentially zoned property or on a street, alley, public parking lot or neighborhood park within three months prior to the intended event. Community parks are exempt from this subsection (5); or

(6) The applicant or location has had previous violations within the past calendar year, and in the judgment of the police chief, issuance would be contrary to the intent of Section 24.04.010.

(e) **Determination**. In determining whether the use of the equipment would constitute an unreasonable interference with or detriment to traffic safety, the police chief shall consider, but shall not necessarily be limited to:

(1) The volumes, patterns and speed of vehicular and pedestrian traffic in the proposed are of use;

(2) The relationship of the proposed use of equipment and potential impacts upon traffic patterns;

(3) Availability of sufficient room for the operation of the equipment without significantly interfering with the traffic patterns;

(4) Proximity to schools, playgrounds and similar facilities where use of such equipment might attract children into traffic patterns;

(5) Proximity to busy intersections or other potentially hazardous conditions where use of such equipment might constitute a hazard by reason of its tendency to distract drivers of vehicles or pedestrians.

(f) **Issuance or denial.**

(1) If the registration statement is approved, the police chief shall return an approved copy of the registration statement to the applicant which shall constitute permission for the use of the sound amplifying equipment as requested.

(2) If the registration statement is disapproved, the police chief shall return a disapproved copy forthwith to the applicant with a written statement on the reason for disapproval.

(3) Any registration statement filed shall be either approved or disapproved within five days of the filing thereof. (Ord. 1700 § 1; Ord. 1854 §§ 14—16; Ord. 1955, 1998; Ord. 2221, 2005)

24.04.050 Appeals.

(a) Any person affected or aggrieved by approval or disapproval of a registration statement may appeal by filing a written notice with the city clerk within five days of notification of approval or disapproval of the application, or within five days of notification of approval to neighbors as provided in Section 24.04.070(c)(2), whichever is later. It is assumed that persons residing within two hundred yards of the event will be affected.

(b) The appeal shall be heard by the city manager not later than seven calendar days after the date of filing an appeal.

(c) The city manager's determination of the appeal shall be based solely on the grounds set forth in Section 24.04.040(d). The city manager shall make his or her determination to uphold or deny the appeal within three business days of the date of the hearing on the appeal. The decision of the city manager shall be final.

(d) No registration statement approved shall be valid while an appeal is pending.

(e) The time periods set forth in this section may be extended by mutual consent of the city and the applicant. (Ord. 1700 § 1 ; Ord. 1854 § 17; Ord. 1955, 1998; Ord. 2221, 2005)

24.04.060 Fees and expiration.

Prior to the application for issuance of a registration statement, a fee consistent with the city's master fee schedule shall be paid to the city. The dates and times for which activity is authorized shall be shown on the face of the registration statement. In the event use is authorized during certain periods of time, without specification of fixed time, the time limits within which the registration statement is effective shall be shown on the face of the registration statement, as well as the expiration date. Registration statements may be renewed in the same manner as initial application are made. (Ord. 1700 § 1; Ord. 1854 § 18; Ord. 1955, 1998; Ord. 2221, 2005)

24.04.070 Regulations—Registration statements.

(a) Upon approval of a registration statement pursuant to Section 24.04.040, any activity conducted on public or private property pursuant to such registration statement and in connection with an outdoor or indoor public or private concert, dance, party, or any similar event, shall be exempt from the provisions of Section 24.02.020, but shall remain subject to the provisions of Section 24.02.030 and, furthermore, shall be subject to the standards set forth in subsection (c) of this section.

(b) Upon approval of a registration statement for any activity conducted within a dwelling unit located within a multiple-family structure, including condominiums, such activity shall be exempt from the provisions of Section 24.02.020(c), but shall remain subject to all other provisions of this chapter including the provisions of subsection (c) of this section.

(c) Any activity for which a registration statement is approved pursuant to this article shall be subject to the following conditions:

(1) The exemptions provided in subsections (a) and (b) of this section shall remain in effect until 12:00 midnight in residential zones and 12:30 a.m. in other zones, on Saturday, and Sunday mornings and any night preceding a holiday, or until ten p.m. on any other night. After that time the exemptions shall expire

and any and all activities conducted shall be subject to all otherwise applicable provisions of this chapter.

(2) The applicant shall provide written notice of the event to the residents within two hundred yards of the property plane of the property on which the activity is to be held and in multiple dwellings, to all residences located on the same parcel at least fourteen days prior to the date of the event. The notice shall include the date of distribution of the notification, the name of the permit holder, the address and the telephone number of the host property, the date and hours during which the event is permitted to take place, and the statement "approval of the permit for this proposed event may be appealed to the Davis police department within five days of the receipt of this notice."

(3) Speakers for sound amplification equipment shall be directed, to the extent feasible, toward open or unoccupied space and away from residentially occupied property.

(4) Approval of a registration statement may be conditioned upon such other terms as may be necessary to insure compliance with the provisions of this chapter.

(d) Sound amplifying equipment shall not be utilized for more than four total hours within any twenty-four-hour period.

(e) The only sounds permitted on the sound amplification system shall be either music or human speech, or both. (Ord. 1700 § 1; Ord. 1854 §§ 19—21; Ord. 1955, 1998; Ord. 2221, 2005)

Article 24.05 GENERAL NOISE REGULATIONS

24.05.010 General prohibition.

(a) Notwithstanding any other provisions of this chapter, and in addition thereto, it is unlawful for any person to willfully make or continue, or cause to be made or continued, any noise which unreasonably disturbs the peace and quiet of any neighborhood.

(b) For purposes of this article a complaint of unreasonable noise is deemed a prima facie violation if there is one complaint, and independent corroboration by a police department employee of the unreasonable nature of the noise, based on the criteria in subsection (c) of this section, or three distinct complaints from two affected premises affected by the same sound source, with the exception of events covered under Section 24.04.070(a).

(c) The factors below shall be considered when determining whether a violation of the provisions of this section exists shall include, but shall not be limited to the following:

(1) Loudness (intensity) of the sound;

(2) Pitch (frequency) of the sound, e.g. very low bass or high screech;

(3) Duration of the sound;

(4) Time of day;

(5) Necessity of noise, e.g., garbage collecting;

(6) Background noise. (Ord. 1700 § 1 ; Ord. 1854 § 22; Ord. 1858 § 1; Ord. 1955, 1998; Ord. 2221, 2005)

Article 24.06 VARIANCES AND EXCEPTIONS

24.06.010 Exception permits.

If the applicant can show to the city manager that a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements of this chapter would be technologically impractical or unreasonable, a permit to allow exceptions from the provisions contained in all or a portion of this chapter may be issued, with appropriate conditions to minimize the public detriment caused by such exceptions. Any such permit shall be as short duration as possible, and shall be conditioned by a schedule for compliance and details of methods therefore in appropriate cases. Any person aggrieved with the decision of the city manager may appeal to the city council by filing a written notice of appeal with the city clerk within ten days of the decision of the city manager.

(Ord. 1700 § 1; Ord. 1854 § 23; Ord. 1955, 1998; Ord. 2221, 2005)

Article 24.07 REGULATIONS NOT EXCLUSIVE

24.07.010 Interrelationship of provisions.

It is the purpose of this chapter to provide maximum noise level limitations for otherwise lawful activities. Nothing contained in this chapter shall be deemed to authorize any otherwise prohibited activity nor to supersede otherwise existing noise limitations. In the event of a conflict between the standards contained in this chapter and any other provisions of law, the more restrictive shall govern. (Ord. 1700 § 1; Ord. 1955, 1998; Ord. 2221, 2005)

View the mobile version.

Chapter 21. Noise

BACKGROUND

The major noise sources in the Planning Area are: roadway noise from traffic on Interstate 80, Highway 113 and arterial streets; railroad noise from the Union Pacific and California Northern Railroad; airport noise from the UC Davis Airport; and stationary sources such as industrial and agricultural operations next to sensitive uses. Existing noise contours
and sensitive receptors in the City are shown in Figure 36. Appendix E gives background on environmental noise.

Roadway Noise

Existing residential areas which are subjected to the highest levels of unmitigated roadway noise are residences in close proximity of Interstate 80 and along many arterial roadways. For the Gateway/Olive Drive Specific Plan EIR, noise levels resulting primarily from Interstate 80 were measured at 73 DNL at a point 400 feet from the freeway.[1]

Existing traffic noise conditions in the planning area have been modeled using the FHWA Highway Traffic Noise Prediction Model (Report No. FHWA-RD-77-108). The model predicts sound levels for free-flowing traffic based upon noise emission factors for automobiles, medium trucks, and heavy trucks. The model takes into account the volume and speed of traffic, the roadway configuration, the distance to receivers, and the acoustical characteristics of a site.

In July, 1992, the Public Works Department prepared a "Noise Wall Investigations Report." This study concluded that along many of the arterial streets studied, noise levels were in the "conditionally acceptable" range of compatibility. The report recommended that the City implement a noise wall program to reduce noise levels and that the financial and aesthetic implications of noise walls should be evaluated on a case-by-case basis before a decision to install noise walls is made.

[1] Gateway/Olive Drive Specific Plan Draft EIR, page 4-44.

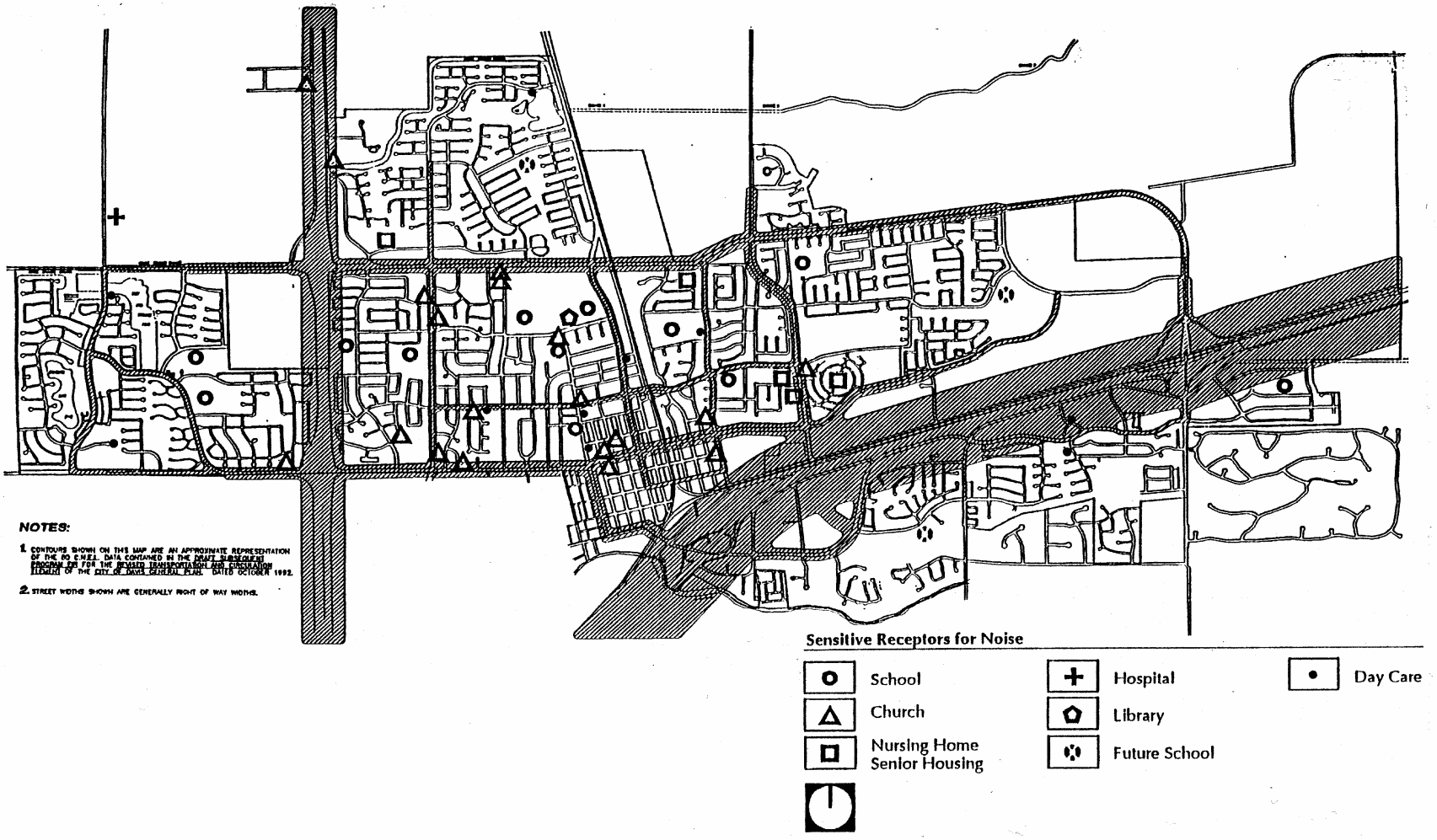


Figure 36: Existing Noise Contours and Sensitive Receptors

Source: Robert Bein, William Frost & Associates and City of Davis Public Works Department

Railroad Noise

Railroad trains passing through Davis on the Union Pacific and California Northern railroad tracks create relatively high noise levels close to the tracks. These noises are intermittent, since trains pass by only occasionally.

For the Gateway/Olive Drive Specific Plan EIR, noise levels resulting primarily from train traffic along the Union Pacific route were measured at about 82 DNL at a distance 30 feet from the centerline of the tracks, which corresponds to about 70 DNL 200 feet from the tracks. Twenty-four individual train pass-bys were measured during a 24-hour period. Maximum noise levels from individual whistle blasts and engines ranged from 85 dB to over 112 dB.[2]

Aircraft Noise

The UC Davis Airport is used almost exclusively for flight training and for infrequent, short duration operations. No impact to sensitive residential areas has been found.

The Sacramento Metropolitan Airport currently does not significantly impact Davis with aircraft noise. The City of Davis must monitor future airport plans to become aware of any proposed changes to the flight paths.

Stationary Noise Sources

The Hunt-Wesson processing plant is a stationary source that affects adjacent property. Noise from the cannery has come under scrutiny as a result of several proposals over the years to develop adjacent property for residential uses. A recent noise study conducted by Brown-Buntin Associates indicates that CNEL values in the range of 57 to 59 dB occur along the northern and northeastern property line of the cannery. Information regarding noise levels from the Hunt-Wesson plant is currently disputed by various analysts. Further evaluation and assessment is being undertaken as part of the Covell Center environmental review process. The city has also made findings regarding the Hunt-Wesson plant under AB 1190, which are described in Chapter 15.

FUTURE NOISE LEVELS

Traffic noise will continue to be the predominant source of noise in Davis. Traffic noise levels that will occur under build out of the General Plan have been predicted using projected traffic volumes and the noise modeling methodology described above. Figure 37 depicts projected traffic noise contours in the planning area.

[2] *Ibid.*

GOALS, POLICIES AND ACTIONS

GOAL NOISE 1. Maintain community noise levels that meet health guidelines and allow for a high quality of life.

Policy NOISE 1.1 Minimize vehicular and stationary noise sources, and noise emanating from temporary activities.

Standards

a. The City shall strive to achieve the "normally acceptable" exterior noise levels shown in Table 19 and the target interior noise levels in Table 20 in future development areas and in currently developed areas.

b. New development shall generally be allowed only in areas where exterior and interior noise levels consistent with Table 19 and Table 20 can be achieved.

c. New development and changes in use shall generally be allowed only if they will not adversely impact attainment within the community of the exterior and interior noise standards shown in Table 19 and Table 20. Cumulative and project specific impacts by new development on existing residential land uses shall be mitigated consistent with the standards in Table 19 and Table 20.

d. Required noise mitigation measures for new and existing housing shall be provided with the first stage and prior to completion of new developments or the completion of capacity-enhancing roadway changes wherever noise levels currently exceed or are projected within 5 years to exceed the normally acceptable exterior noise levels in Table 19.

Actions

e. Explore options, such as distributing educational materials, to encourage Davis residents and businesses to use alternatives to gas powered garden tools to reduce noise and air pollution, reduce costs, and be courteous of neighbors.

f. Continue to enforce the noise-control ordinance.

g. Revise the City's Noise Ordinance (Chapter 16B, "Noise Regulations" of the City of Davis Municipal Code) to reflect construction criteria that can be met by typical construction activities.

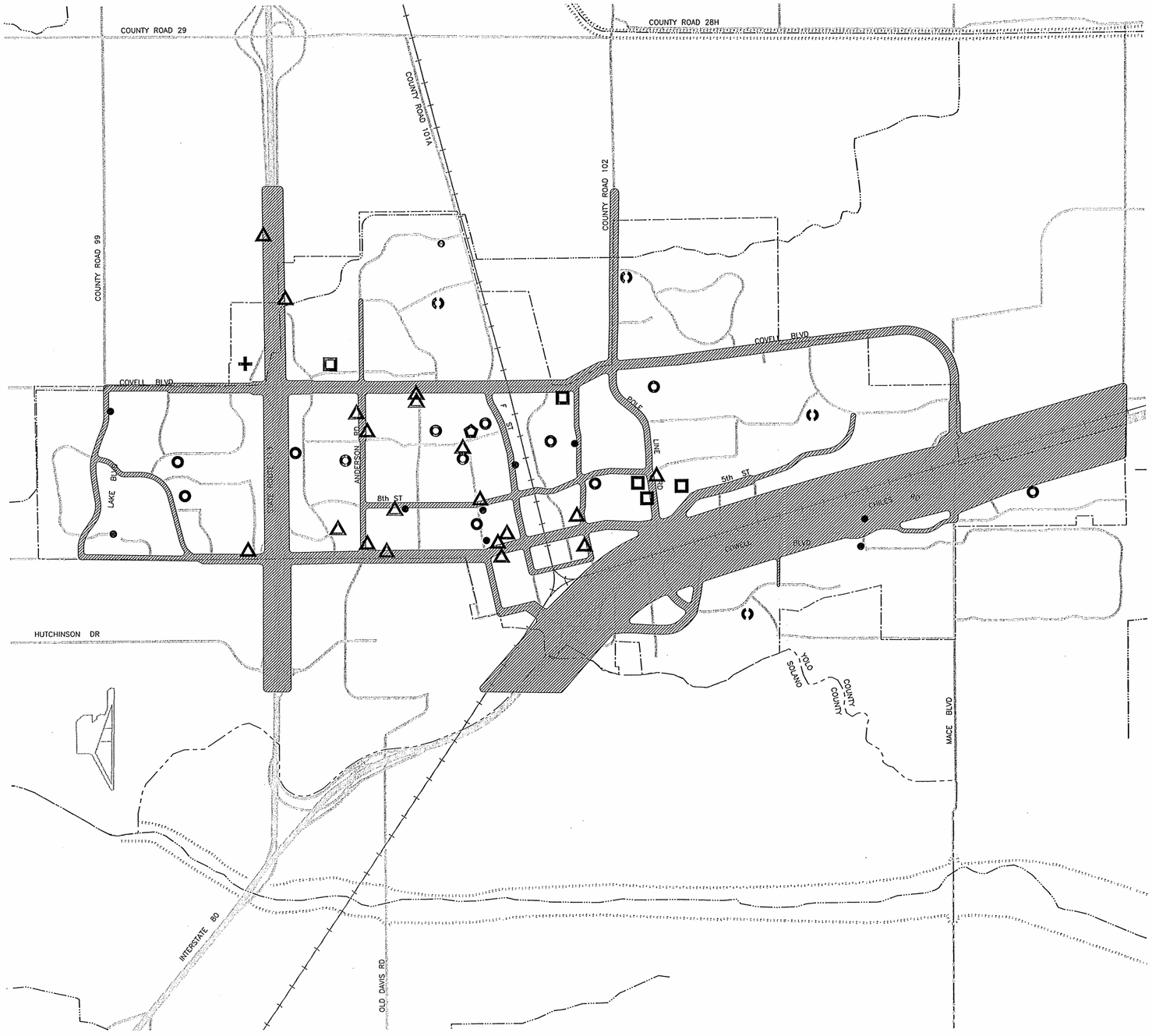


Figure 37
2010 Noise Contours

- School
- Church
- Nursing Home/Senior Housing
- Hospital
- Library
- Future School
- Day Care

NOTES

1. Contours shown on this map are an approximate representation of the 60 C.N.E.L. data contained in Appendix D of the Droft Program EIR for the City of Davis General Plan Update, January 2000.

Davis General Plan

100 acres
25

0 1000 3000 5000'

Table 19
STANDARDS FOR EXTERIOR NOISE EXPOSURE

USE	COMMUNITY NOISE EXPOSURE L_{dn} or CNEL, dBA			
	Normally Acceptable	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Residential	Under 60	60-70*	70-75	Above 75
Transient Lodging - Motels, Hotels	Under 60	60-75	75-80	Above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	Under 60	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	Under 50	50-70	NA	Above 70
Sports Arenas, Outdoor Spectator Sports	NA	Under 75	NA	Above 75
Playgrounds, Neighborhood Parks	Under 70	NA	70-75	Above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Under 70	NA	70-80	Above 80
Office Buildings, Business Commercial and Professional	Under 65	65-75	Above 75	NA
Industrial, Manufacturing, Utilities, Agriculture	Under 65	70-80	Above 80	NA

NORMALLY ACCEPTABLE: Specified land use is satisfactory assuming all buildings involved are of conventional construction, without special noise insulation requirements.

CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is conducted, and needed noise attenuation features are included in the construction or development.

NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be conducted and needed noise attenuation features shall be included in the construction or development.

CLEARLY UNACCEPTABLE: New construction or development shall not be undertaken.

NA: Not applicable.

* The City Council shall have discretion within the "conditionally acceptable" range for residential use to allow noise levels in outdoor spaces to go up to 65 dBA if cost effective or aesthetically acceptable measures are not available to reduce noise levels in outdoor use spaces to the "normally acceptable" levels. Outdoor spaces which are designed for visual use only (for example, streetside landscaping in an apartment project), rather than outdoor use space, may be considered acceptable up to 70 dBA.

Table 20
STANDARDS FOR INTERIOR NOISE LEVELS

USE	NOISE LEVEL (dBA)
Residences, schools through grade 12, hospitals and churches	45
Offices	55

h. Require an acoustic study for all proposed projects that would have noise exposure that may exceed City Noise Ordinance standards for construction activities or impacts after development that would be greater than normally acceptable as indicated by Figure 37 of the General Plan update."

i. Consider lowering speed limits or installing traffic calming measures adjacent to all residences, schools, hospitals, and libraries that experience noise levels that exceed acceptable noise levels.

j. Develop procedures to address citizen noise complaints and provide remedies that encourage the use of alternative noise mitigation measures over conventional sound walls.

k. The City should conduct an acoustic study of the City and revise noise standards and ordinances to reflect the urbanized setting of the City.

l. Periodically review noise levels along arterials and minor arterials and report to the City Council alternative solutions for achieving acceptable noise levels.

m. The project proponent shall employ noise-reducing construction practices. The following measures shall be incorporated into contract specifications to reduce the impact of construction noise.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.

- As directed by the City, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around

stationary construction noise sources.

Policy NOISE 1.2 Discourage the use of sounds walls whenever alternative mitigation measures are feasible, while also facilitating the construction of sound walls where desired by the neighborhood and there is no other way to reduce noise to acceptable exterior levels shown in Table 19.

See the separate General Plan policy interpretation document titled "Major Arterial Landscaping, Noise Attenuation Design and Greenstreets".

Standards

a. Where sound walls are built, they should include dense landscaping along them to mitigate their visual impact, as illustrated in Figure 38.

b. Where sound walls are built, they should provide adequate openings and visibility from surrounding areas to increase safety and access, as illustrated in Figure 38. Openings should be designed so as to maintain necessary noise attenuation.

c. Review sound walls and other noise mitigations through the design review process.

Actions

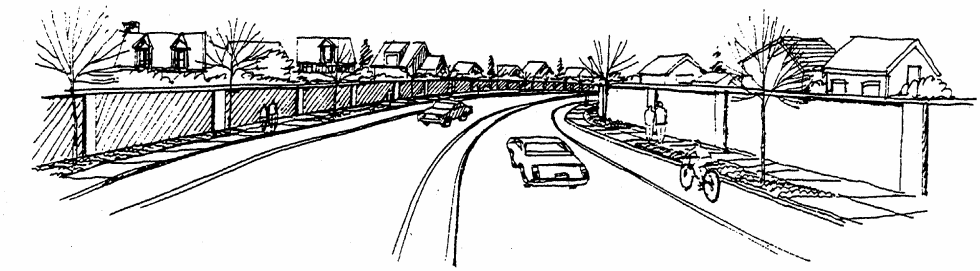
d. Develop procedures to finance and facilitate construction of sound walls and other noise mitigation measures where the City Council determines they are needed along corridors.

Policy NOISE 1.3 Develop and implement procedures for the accurate measurement and prediction of noise levels in Davis.

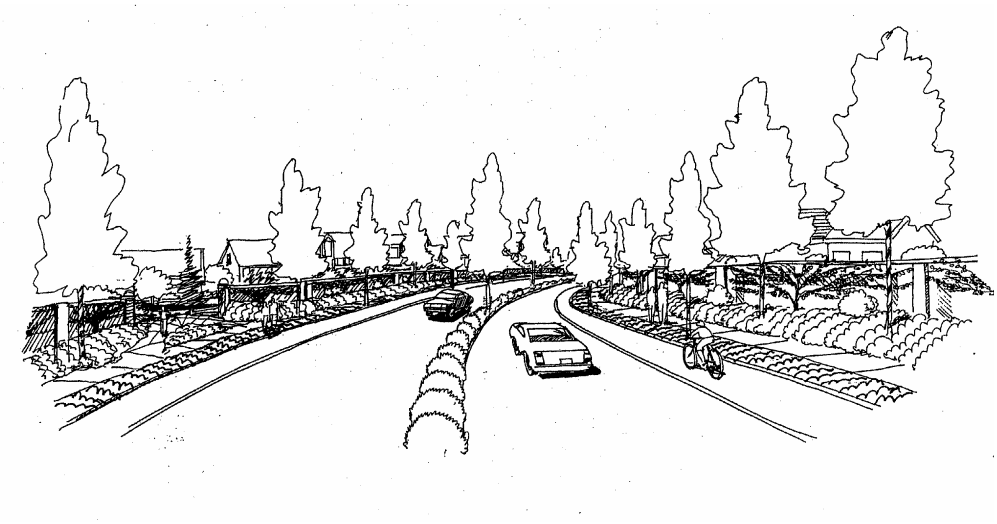
Actions

a. Directly measure noise levels along all arterials and minor arterials, rather than simply estimating them with computer models.

b. Adopt guidelines and criteria for ongoing monitoring of noise levels as traffic increases.



Minimal Landscaping and Inadequate Openings for Access



Dense Landscaping and Adequate Openings for Access

Figure 38: Sound Wall Design Concepts

Policy NOISE 1.4 Take a proactive role in State law-making regarding noise regulation.

Actions

a. Support implementation of state legislation that requires reduction of noise from motorcycles, automobiles, trucks and aircraft.

b. Advocate in favor of changes in State traffic law so that noise can be used as a criterion for setting speed limits.

GOAL NOISE 2. Provide for indoor noise environments that are conducive to living and working.

Policy NOISE 2.1 Take all technically feasible steps to ensure that interior noise levels can be maintained at the levels shown in Table 20.

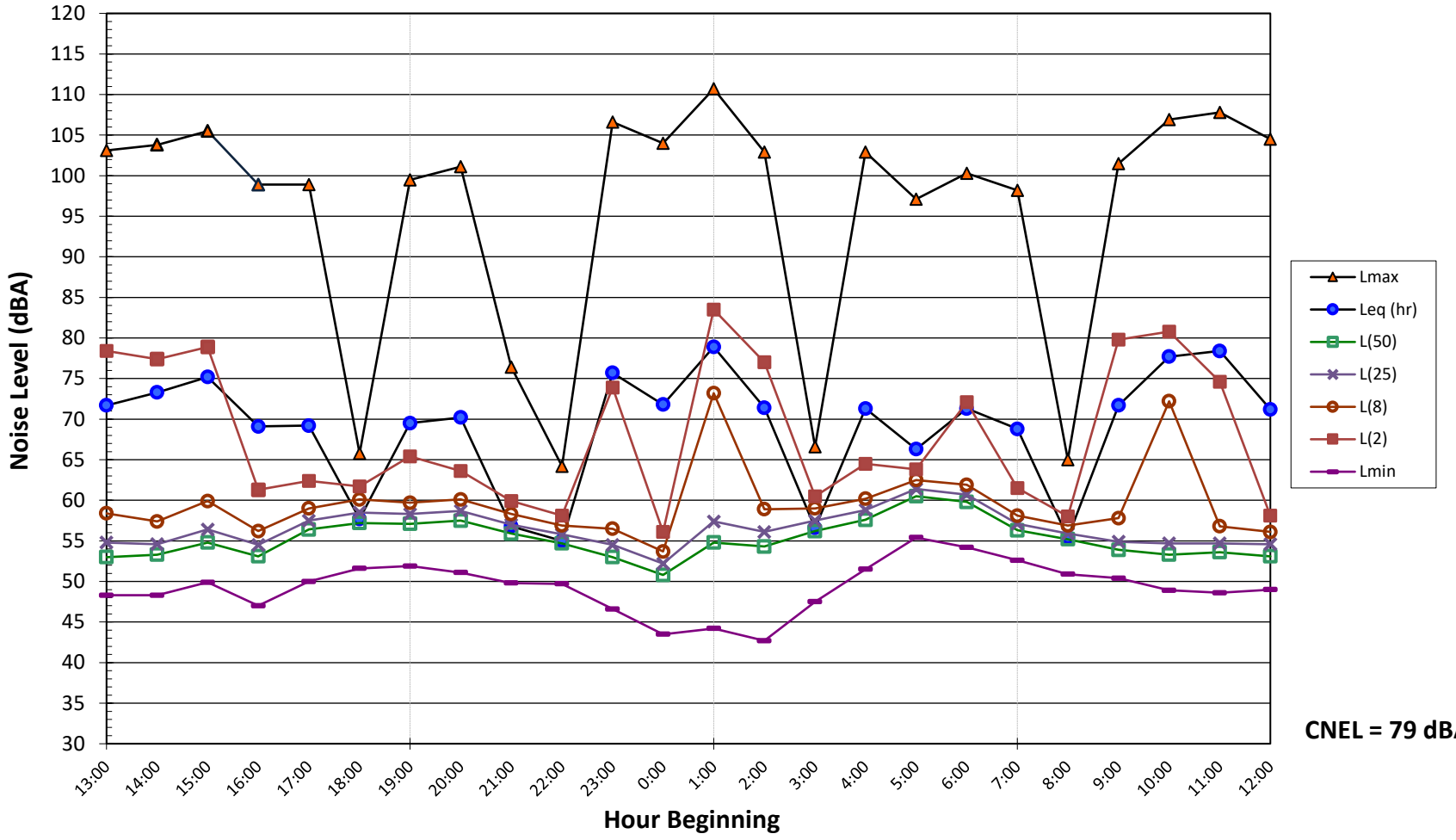
Standards

a. New residential development or construction shall include noise attenuation measures necessary to achieve acceptable interior noise levels shown in Table 20.

b. Existing areas that will be subjected to noise levels greater than the acceptable noise levels shown in Table 20 as a result of increased traffic on existing city streets (including streets remaining in existing configurations and streets being widened) shall be mitigated to the acceptable levels in Table 20. If traffic increases are caused by specific projects, then the City shall be the lead agency in implementing cumulative noise mitigation projects. Project applicants shall pay their fair share for any mitigation.

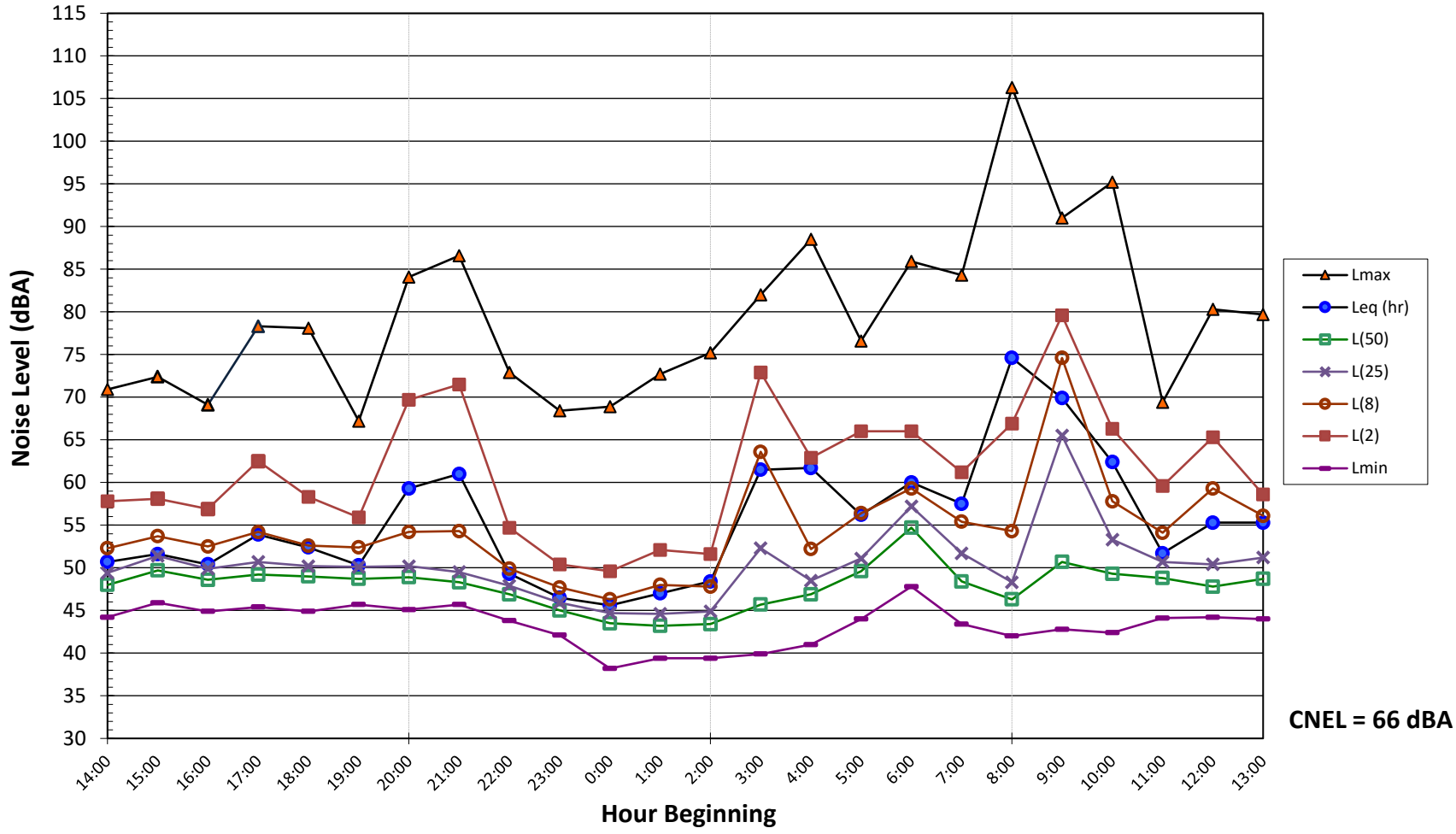
AMBIENT NOISE MONITORING RESULTS

Noise Levels at LT-1
Union Pacific Arboretum Drive Crossing, Davis, CA
Tuesday, June 22 through Wednesday, June 23, 2021



CNEL = 79 dBA

Noise Levels at LT-2
CFNR 6th Street Dead End, Davis, CA
Tuesday, June 22 through Wednesday, June 23, 2021



CNEL = 66 dBA

TRAFFIC NOISE INCREASE CALCULATIONS

Traffic Noise Calculator: FHWA 77-108 **Project Title: OPTI -01.0 Existing**

	Output						Inputs													
	dBA at 50 feet			Distance to CNEL Contour																
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever
1	59.2	61.3	62.3	9	27	86	First Street	D Street to E Street	13,535	25	0.0%	97.4%	2.4%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
2	60.9	62.9	64.0	13	40	125	Richards Boulevard	First Street to Olive Drive	20,492	25	0.0%	97.6%	2.3%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
3	54.4	56.5	57.5	3	9	28	Third Street	B Street to C Street	4,769	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
4	61.1	63.2	64.2	13	42	131	Russell Boulevard	A Street to B Street	19,828	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	4	Hard	50
5	57.1	59.2	60.2	5	17	52	Eighth Street	G Street to H Street	9,242	25	0.0%	98.0%	2.0%	0.1%	73.0%	20.2%	6.8%	2	Hard	50
6	51.4	53.4	54.5	1	4	14	A Street	Third Street to Russell Boulevard	2,560	25	0.0%	98.8%	1.0%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
7	59.5	61.6	62.6	9	29	91	B Street	Third Street to Fourth Street	13,778	25	0.0%	96.9%	2.9%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
8	50.3	52.3	53.4	1	3	11	C Street	Third Street to Fourth Street	1,839	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
9	50.9	53.0	54.0	1	4	13	D Street	Third Street to Fourth Street	2,127	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
10	54.4	56.5	57.5	3	9	28	E Street	First Street to Second Street	4,328	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
11	54.8	56.9	58.0	3	10	31	F Street	First Street to Second Street	5,345	25	0.0%	98.2%	1.6%	0.2%	73.0%	20.2%	6.8%	2	Hard	50

Traffic Noise Calculator: FHWA 77-108 **Project Title: OPTI -01.0 Existing Plus Project**

	Output						Inputs													
	dBA at 50 feet			Distance to CNEL Contour																
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever
1	59.3	61.4	62.4	9	27	87	First Street	D Street to E Street	13,730	25	0.0%	97.4%	2.4%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
2	61.3	63.4	64.4	14	44	138	Richards Boulevard	First Street to Olive Drive	22,600	25	0.0%	97.6%	2.3%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
3	54.7	56.8	57.8	3	10	30	Third Street	B Street to C Street	5,150	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
4	61.3	63.4	64.4	14	44	139	Russell Boulevard	A Street to B Street	21,010	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	4	Hard	50
5	57.2	59.3	60.4	5	17	54	Eighth Street	G Street to H Street	9,590	25	0.0%	98.0%	2.0%	0.1%	73.0%	20.2%	6.8%	2	Hard	50
6	51.4	53.4	54.5	1	4	14	A Street	Third Street to Russell Boulevard	2,560	25	0.0%	98.8%	1.0%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
7	59.5	61.6	62.7	9	29	92	B Street	Third Street to Fourth Street	13,910	25	0.0%	96.9%	2.9%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
8	50.4	52.5	53.6	1	4	11	C Street	Third Street to Fourth Street	1,920	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
9	52.5	54.6	55.7	2	6	18	D Street	Third Street to Fourth Street	3,110	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
10	55.3	57.4	58.4	3	11	35	E Street	First Street to Second Street	5,320	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
11	55.6	57.7	58.7	4	12	37	F Street	First Street to Second Street	6,400	25	0.0%	98.2%	1.6%	0.2%	73.0%	20.2%	6.8%	2	Hard	50

Traffic Noise Calculator: FHWA 77-108 **Project Title: OPTI -01.0 Cumulative No Project**

	Output						Inputs													
	dBA at 50 feet			Distance to CNEL Contour																
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever
1	59.5	61.6	62.6	9	29	91	First Street	D Street to E Street	14,470	25	0.0%	97.4%	2.4%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
2	62.4	64.4	65.5	18	56	177	Richards Boulevard	First Street to Olive Drive	28,980	25	0.0%	97.6%	2.3%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
3	57.3	59.4	60.4	5	17	55	Third Street	B Street to C Street	9,290	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
4	62.8	64.9	66.0	20	62	197	Russell Boulevard	A Street to B Street	29,760	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	4	Hard	50
5	58.0	60.1	61.1	6	20	65	Eighth Street	G Street to H Street	11,410	25	0.0%	98.0%	2.0%	0.1%	73.0%	20.2%	6.8%	2	Hard	50
6	52.7	54.8	55.8	2	6	19	A Street	Third Street to Russell Boulevard	3,460	25	0.0%	98.8%	1.0%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
7	60.3	62.3	63.4	11	34	109	B Street	Third Street to Fourth Street	16,420	25	0.0%	96.9%	2.9%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
8	53.5	55.5	56.6	2	7	23	C Street	Third Street to Fourth Street	3,840	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
9	52.0	54.0	55.1	2	5	16	D Street	Third Street to Fourth Street	2,720	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
10	57.4	59.5	60.5	6	18	56	E Street	First Street to Second Street	8,630	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
11	56.2	58.2	59.3	4	13	42	F Street	First Street to Second Street	7,230	25	0.0%	98.2%	1.6%	0.2%	73.0%	20.2%	6.8%	2	Hard	50

Traffic Noise Calculator: FHWA 77-108 **Project Title: OPTI -01.0 Cumulative Plus Project**

	Output						Inputs													
	dBA at 50 feet			Distance to CNEL Contour																
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever
1	59.8	61.8	62.9	10	31	97	First Street	D Street to E Street	15,340	25	0.0%	97.4%	2.4%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
2	62.2	64.2	65.3	17	53	169	Richards Boulevard	First Street to Olive Drive	27,680	25	0.0%	97.6%	2.3%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
3	56.9	58.9	60.0	5	16	50	Third Street	B Street to C Street	8,450	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
4	62.6	64.6	65.7	19	59	185	Russell Boulevard	A Street to B Street	27,910	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	4	Hard	50
5	57.7	59.8	60.9	6	19	61	Eighth Street	G Street to H Street	10,750	25	0.0%	98.0%	2.0%	0.1%	73.0%	20.2%	6.8%	2	Hard	50
6	52.1	54.2	55.2	2	5	17	A Street	Third Street to Russell Boulevard	3,030	25	0.0%	98.8%	1.0%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
7	60.2	62.3	63.3	11	34	107	B Street	Third Street to Fourth Street	16,120	25	0.0%	96.9%	2.9%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
8	50.9	53.0	54.0	1	4	13	C Street	Third Street to Fourth Street	2,150	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
9	53.2	55.2	56.3	2	7	21	D Street	Third Street to Fourth Street	3,590	25	0.0%	98.1%	1.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
10	56.9	59.0	60.1	5	16	51	E Street	First Street to Second Street	7,800	25	0.0%	97.1%	2.7%	0.2%	73.0%	20.2%	6.8%	2	Hard	50
11	55.7	57.7	58.8	4	12	38	F Street	First Street to Second Street	6,460	25	0.0%	98.2%	1.6%	0.2%	73.0%	20.2%	6.8%	2	Hard	50

CNEL at 50 feet

Roadway	Segment	Existing	E+P	Cumul NP	Cumul +P	Project Increase	Cumul Increase	Cumul Increase due to Project
First Street	D Street to E Street	62.3	62.4	62.6	62.9	0.1	0.5	0.3
Richards Boulevard	First Street to Olive Drive	64.0	64.4	65.5	65.3	0.4	1.3	-0.2
Third Street	B Street to C Street	57.5	57.8	60.4	60.0	0.3	2.5	-0.4
Russell Boulevard	A Street to B Street	64.2	64.4	66.0	65.7	0.3	1.5	-0.3
Eighth Street	G Street to H Street	60.2	60.4	61.1	60.9	0.2	0.7	-0.3
A Street	Third Street to Russell Boulevard	54.5	54.5	55.8	55.2	0.0	0.7	-0.6
B Street	Third Street to Fourth Street	62.6	62.7	63.4	63.3	0.0	0.7	-0.1
C Street	Third Street to Fourth Street	53.4	53.6	56.6	54.0	0.2	0.7	-2.5
D Street	Third Street to Fourth Street	54.0	55.7	55.1	56.3	1.6	2.3	1.2
E Street	First Street to Second Street	57.5	58.4	60.5	60.1	0.9	2.6	-0.4
F Street	First Street to Second Street	58.0	58.7	59.3	58.8	0.8	0.8	-0.5

RAIL NOISE MODELING

UP MARTINEZ SUB - EXISTING

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: UP Martinez Sub - Existing

RESULTS

Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
All Sources	65	58	59
Source 1	54	50	47
Source 2	46	42	39
Source 3	61	53	55
Source 4	62	54	56
Source 5	49	41	43
Source 6	42	33	35
Source 7	52	33	46
Source 8	44	25	38

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS

Parameter	Source 1		Source 2		Source 3		Source 4		Source 5	
Source Num.	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	Freight Locomotive	9	Freight Cars	10	Commuter Diesel Locomotive	2
Distance (source to receiver)	distance (ft)	180	distance (ft)	180	distance (ft)	180	distance (ft)	180	distance (ft)	180
Daytime Hours	speed (mph)	35	speed (mph)	35	speed (mph)	30	speed (mph)	30	speed (mph)	35
(7 AM - 10 PM)	trains/hour	1.13	trains/hour	1.13	trains/hour	0.47	trains/hour	0.47	trains/hour	0.067
	locos/train	1	cars/train	5	locos/train	3	length of cars (ft) / train	5000	locos/train	2
Nighttime Hours	speed (mph)	35	speed (mph)	35	speed (mph)	30	speed (mph)	30	speed (mph)	35
(10 PM - 7 AM)	trains/hour	0.56	trains/hour	0.56	trains/hour	0.67	trains/hour	0.67	trains/hour	0.111
	locos/train	1	cars/train	5	locos/train	3	length of cars (ft) / train	5000	locos/train	2
Wheel Flats?		0.00%	% of cars w/ wheel flats	0.00%		0.00%	% of cars w/ wheel flats	0.00%		0.00%
Jointed Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Embedded Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Aerial Structure?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Barrier Present?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST

Source	Number
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	98
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	4
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	33
Future Train Speed (mph)	33
Number of Existing Trains in one Direction	19.5
Number of Future Trains in one Direction	19.5
Existing Number of Day Trains (7 am to 10 p.m.)	12.5
Future Number of Day Trains (7 am to 10 p.m.)	12.5
Existing Number of Night Trains (10 p.m. to 7 am)	7
Future Number of Night Trains (10 p.m. to 7 am)	7
Existing Average Number of Cars	37
Future Average Number of Cars	37
Existing Average Number of Locomotives	2
Future Average Number of Locomotives	2

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

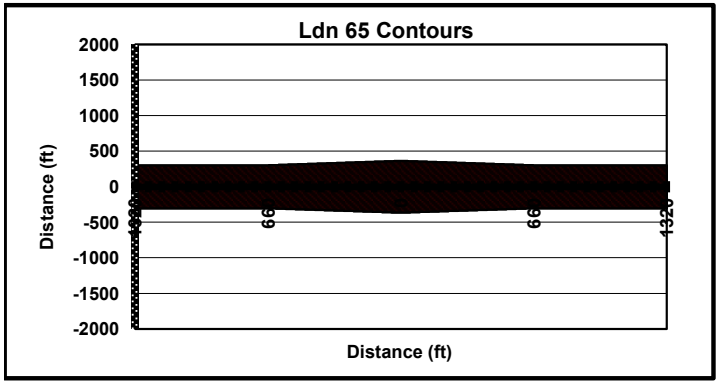
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

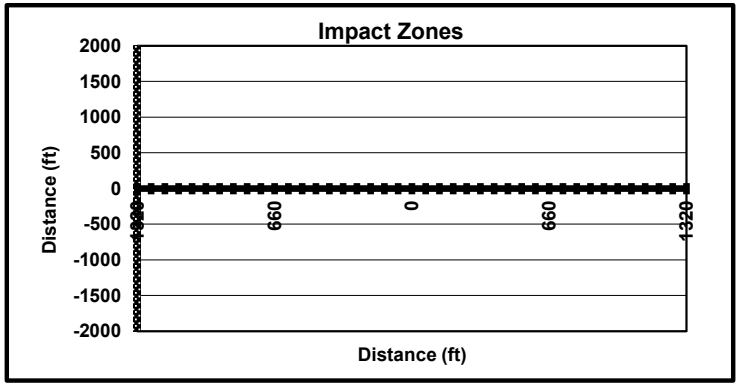
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	364
Future 65 Ldn Contour at X-ing	364
Existing 65 Ldn Contour at 1/2 zone length	302
Future 65 Ldn Contour at 1/2 zone length	302
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	0
Severe Impact Distance at X-ing	0
Impact Distance at 1/2 zone length	0
Severe Impact Distance at 1/2 zone length	0
Zone Length	1320
1/2 Zone Length	660





UP MARTINEZ SUB - FUTURE

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: UP Martinez Sub - Future

RESULTS

Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
All Sources	65	59	59
Source 1	54	50	47
Source 2	46	42	39
Source 3	60	54	54
Source 4	63	57	57
Source 5	48	39	42
Source 6	40	32	34
Source 7	50	31	45
Source 8	43	24	37

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS

Parameter	Source 1		Source 2		Source 3		Source 4		Source 5	
Source Num.	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	Freight Locomotive	9	Freight Cars	10	Commuter Diesel Locomotive	2
Distance (source to receiver)	distance (ft)	225	distance (ft)	225	distance (ft)	225	distance (ft)	225	distance (ft)	225
Daytime Hours	speed (mph)	35	speed (mph)	35	speed (mph)	30	speed (mph)	30	speed (mph)	35
(7 AM - 10 PM)	trains/hour	1.53	trains/hour	1.53	trains/hour	0.73	trains/hour	1.11	trains/hour	0.067
	locos/train	1	cars/train	5	locos/train	3	length of cars (ft) / train	5000	locos/train	2
Nighttime Hours	speed (mph)	35	speed (mph)	35	speed (mph)	30	speed (mph)	30	speed (mph)	35
(10 PM - 7 AM)	trains/hour	0.78	trains/hour	0.78	trains/hour	0.73	trains/hour	1.11	trains/hour	0.111
	locos/train	1	cars/train	5	locos/train	3	length of cars (ft) / train	5000	locos/train	2
Wheel Flats?		0.00%	% of cars w/ wheel flats	0.00%		0.00%	% of cars w/ wheel flats	0.00%		0.00%
Jointed Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Embedded Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Aerial Structure?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Barrier Present?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST

Source	Number
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	98
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	4
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	33
Future Train Speed (mph)	33
Number of Existing Trains in one Direction	27.5
Number of Future Trains in one Direction	27.5
Existing Number of Day Trains (7 am to 10 p.m.)	17.5
Future Number of Day Trains (7 am to 10 p.m.)	17.5
Existing Number of Night Trains (10 p.m. to 7 am)	10
Future Number of Night Trains (10 p.m. to 7 am)	10
Existing Average Number of Cars	42
Future Average Number of Cars	42
Existing Average Number of Locomotives	2
Future Average Number of Locomotives	2

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

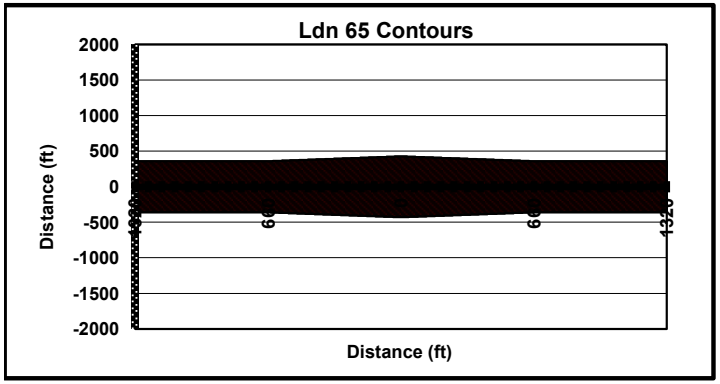
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

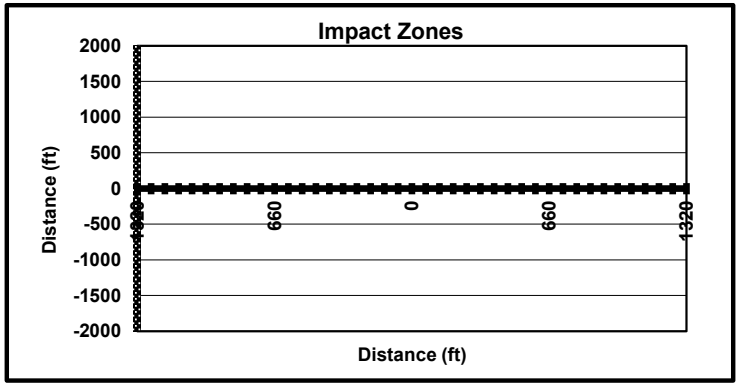
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	427
Future 65 Ldn Contour at X-ing	427
Existing 65 Ldn Contour at 1/2 zone length	358
Future 65 Ldn Contour at 1/2 zone length	358
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	0
Severe Impact Distance at X-ing	0
Impact Distance at 1/2 zone length	0
Severe Impact Distance at 1/2 zone length	0
Zone Length	1320
1/2 Zone Length	660





CNFR - EXISTING

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	101
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	4
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	25
Future Train Speed (mph)	25
Number of Existing Trains in one Direction	2
Number of Future Trains in one Direction	2
Existing Number of Day Trains (7 am to 10 p.m.)	2
Future Number of Day Trains (7 am to 10 p.m.)	2
Existing Number of Night Trains (10 p.m. to 7 am)	0
Future Number of Night Trains (10 p.m. to 7 am)	0
Existing Average Number of Cars	10
Future Average Number of Cars	10
Existing Average Number of Locomotives	1
Future Average Number of Locomotives	1

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

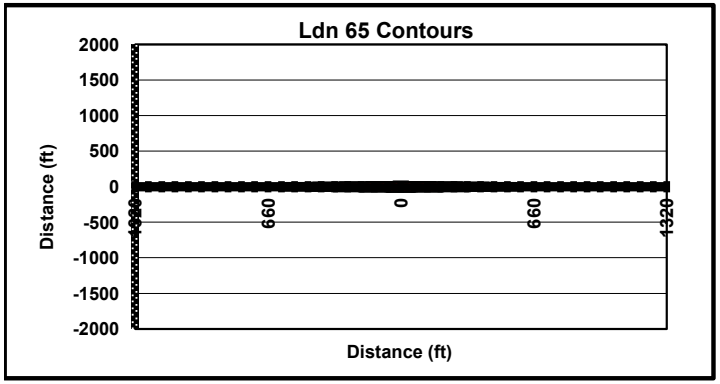
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

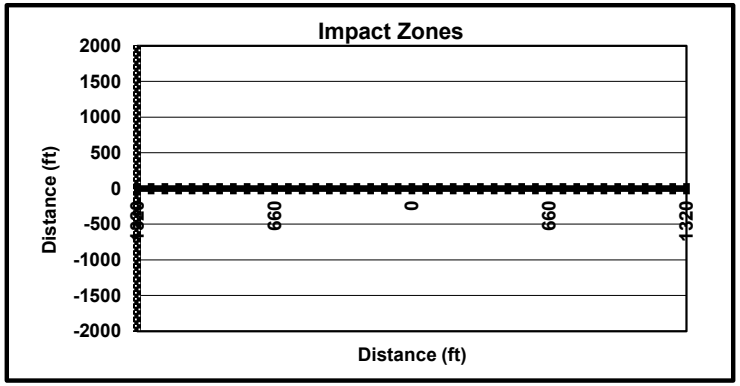
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	69
Future 65 Ldn Contour at X-ing	69
Existing 65 Ldn Contour at 1/2 zone length	47
Future 65 Ldn Contour at 1/2 zone length	47
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	0
Severe Impact Distance at X-ing	0
Impact Distance at 1/2 zone length	0
Severe Impact Distance at 1/2 zone length	0
Zone Length	1320
1/2 Zone Length	660





Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: CNFR Rail Line - Existing

RESULTS

Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
All Sources	65	67	51
Source 1	64	66	51
Source 2	59	61	35
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS

Parameter	Source 1		Source 2		Source 3		Source 4		Source 5	
Source Num.	Freight Locomotive	9	Freight Cars	10						
Distance (source to receiver)	distance (ft)	8	distance (ft)	8						
Daytime Hours	speed (mph)	25	speed (mph)	25						
(7 AM - 10 PM)	trains/hour	0.27	trains/hour	0.27						
	locos/train	1	length of cars (ft) / train	500						
Nighttime Hours	speed (mph)	25	speed (mph)	25						
(10 PM - 7 AM)	trains/hour	0	trains/hour	0						
	locos/train	0	length of cars (ft) / train	0						
Wheel Flats?		0.00%	% of cars w/ wheel flats	0.00%						
Jointed Track?	Y/N	n	Y/N	n						
Embedded Track?	Y/N	n	Y/N	n						
Aerial Structure?	Y/N	n	Y/N	n						
Barrier Present?	Y/N	n	Y/N	n						
Intervening Rows of of Buildings	number of rows	0	number of rows	0						

SOURCE REFERENCE LIST

Source	Number
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

CNFR - FUTURE

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	101
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	4
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	25
Future Train Speed (mph)	25
Number of Existing Trains in one Direction	2
Number of Future Trains in one Direction	2
Existing Number of Day Trains (7 am to 10 p.m.)	2
Future Number of Day Trains (7 am to 10 p.m.)	2
Existing Number of Night Trains (10 p.m. to 7 am)	0
Future Number of Night Trains (10 p.m. to 7 am)	0
Existing Average Number of Cars	10
Future Average Number of Cars	10
Existing Average Number of Locomotives	1
Future Average Number of Locomotives	1

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

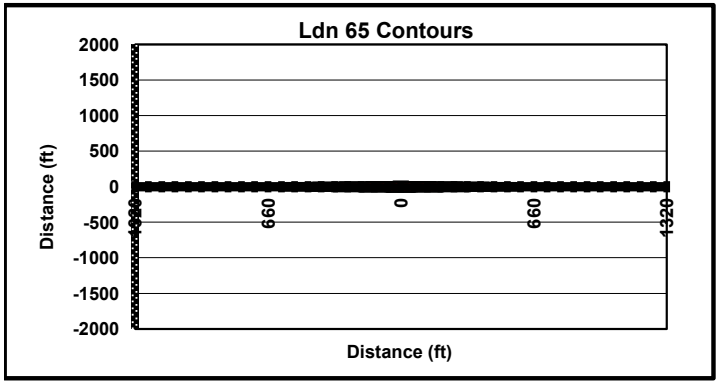
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

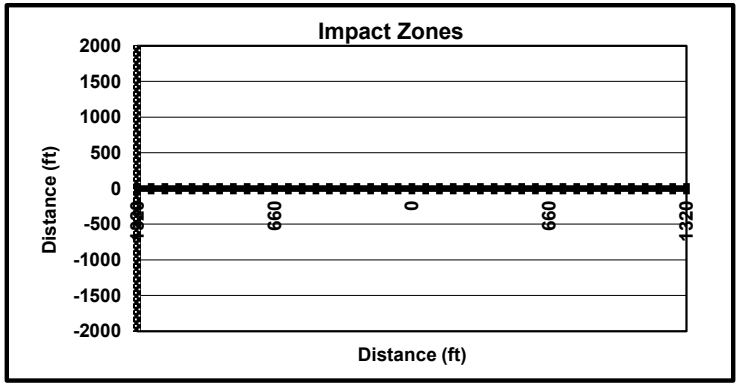
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	69
Future 65 Ldn Contour at X-ing	69
Existing 65 Ldn Contour at 1/2 zone length	47
Future 65 Ldn Contour at 1/2 zone length	47
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	0
Severe Impact Distance at X-ing	0
Impact Distance at 1/2 zone length	0
Severe Impact Distance at 1/2 zone length	0
Zone Length	1320
1/2 Zone Length	660





Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: CNFR Rail Line - Future

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	67	51
Source 1	64	66	51
Source 2	59	61	35
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS									
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**	
Source Num.	Freight Locomotive	9	Freight Cars	10						
Distance (source to receiver)	distance (ft)	8	distance (ft)	8						
Daytime Hours	speed (mph)	25	speed (mph)	25						
(7 AM - 10 PM)	trains/hour	0.27	trains/hour	0.27						
	locos/train	1	length of cars (ft) / train	500						
Nighttime Hours	speed (mph)	25	speed (mph)	25						
(10 PM - 7 AM)	trains/hour	0	trains/hour	0						
	locos/train	0	length of cars (ft) / train	0						
Wheel Flats?		0.00%	% of cars w/ wheel flats	0.00%						
Jointed Track?	Y/N	n	Y/N	n						
Embedded Track?	Y/N	n	Y/N	n						
Aerial Structure?	Y/N	n	Y/N	n						
Barrier Present?	Y/N	n	Y/N	n						
Intervening Rows of of Buildings	number of rows	0	number of rows	0						

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23