



Chino Lovett Industrial

NOISE AND VIBRATION ANALYSIS

CITY OF CHINO

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LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBa	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Chino Lovett Industrial
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Chino Lovett Industrial development (“Project”). The Project site is located at 13610 Yorba Avenue in the City of Chino. The Project consists of one warehouse building totaling 298,839 square feet. This noise study has been prepared to satisfy applicable City of Chino noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	<i>Less Than Significant</i>	-
Operational Noise	9	<i>Less Than Significant</i>	-
Project Construction Noise	10	<i>Less Than Significant</i>	-
Nighttime Concrete Pour		<i>Less Than Significant</i>	-
Construction Vibration		<i>Less Than Significant</i>	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Chino Lovett Industrial (“Project”). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Project is located on the northwest corner of Schaefer Avenue and Yorba Avenue in the City of Chino, as shown on Exhibit 1-A. The nearest noise sensitive residential homes are generally located west of the project site across Ramona Avenue.

1.2 PROJECT DESCRIPTION

A preliminary site plan for the proposed Project is shown on Exhibit 1-B. The Project is currently proposed to consist of the development of one warehouse building totaling 298,839 square feet. It should be noted that the square footage of the original Project has been updated. For the purposes of the off-site traffic noise analysis, the Project has been evaluated assuming 42,710 square feet of general light industrial use and 242,020 square feet of warehousing use (15% and 85% of the overall square footage, respectively, for a total of 284,730 square feet).

The on-site Project-related noise sources are expected to include: loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements. This noise analysis is intended to describe the noise level impacts associated with the expected typical operational activities at the Project site.

EXHIBIT 1-A: LOCATION MAP

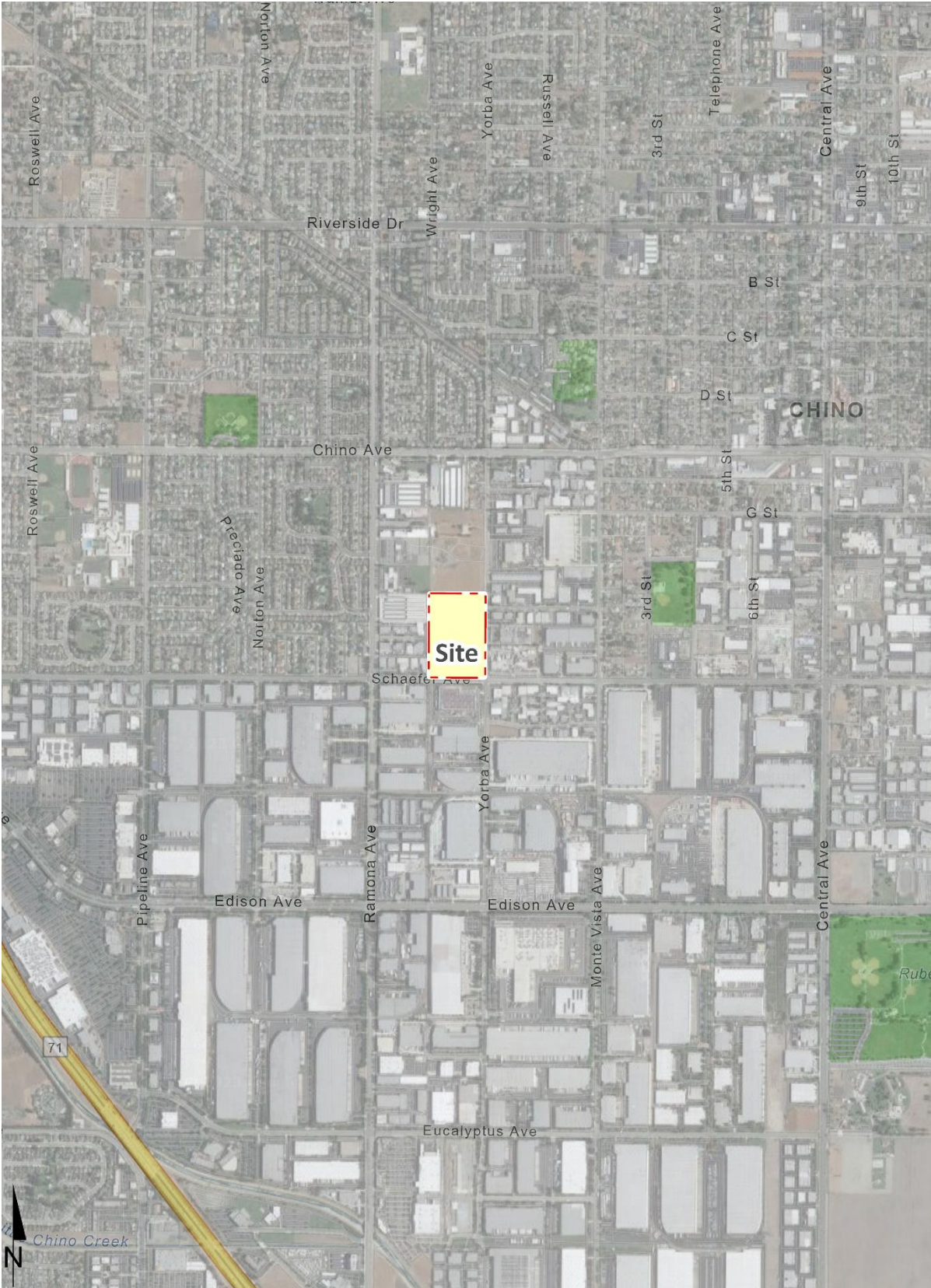
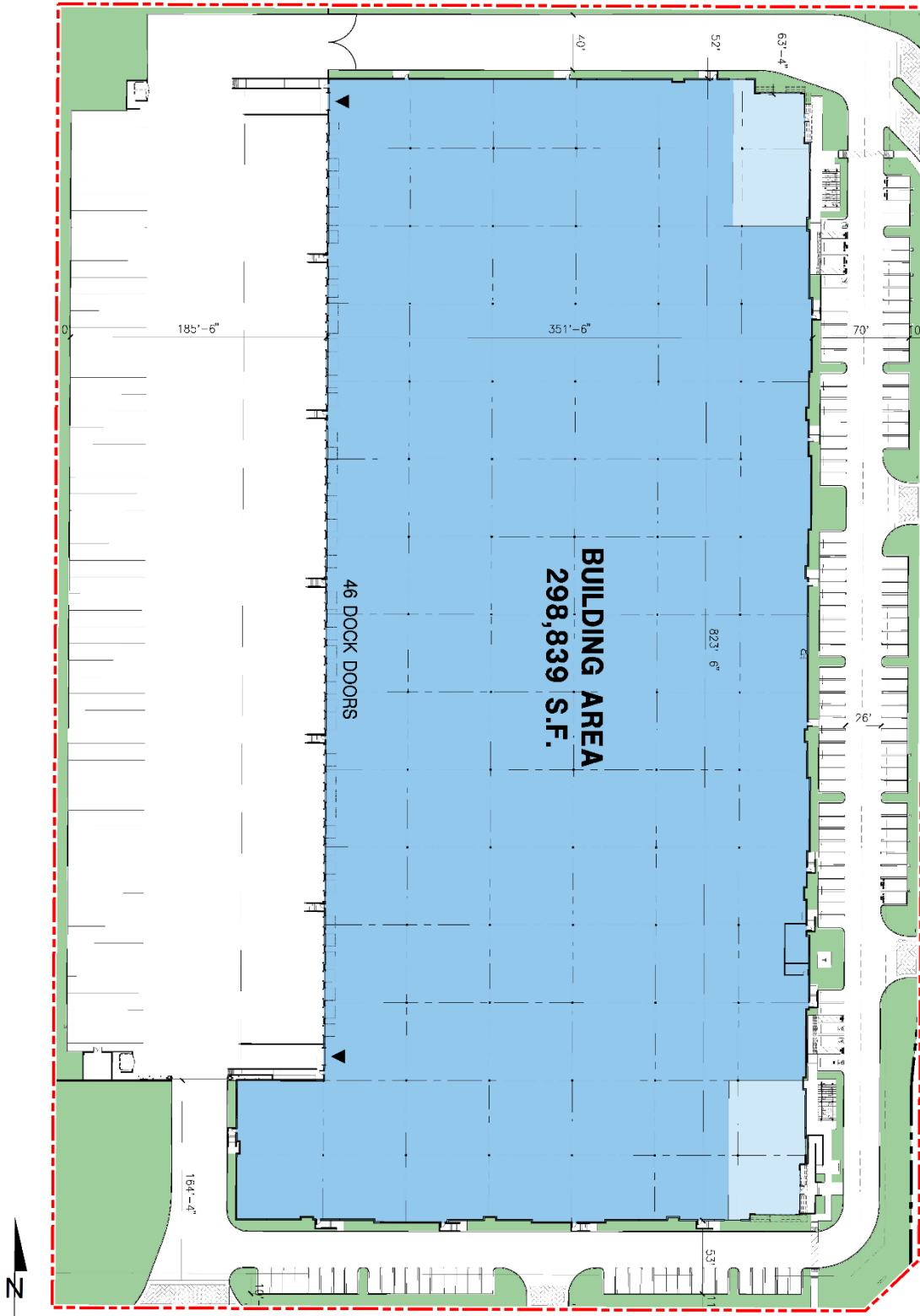


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	SPEECH INTERFERENCE
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	LOUD	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	MODERATE	SLEEP DISTURBANCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40	FAINT	NO EFFECT
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.*

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the “average” noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Chino relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually

sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

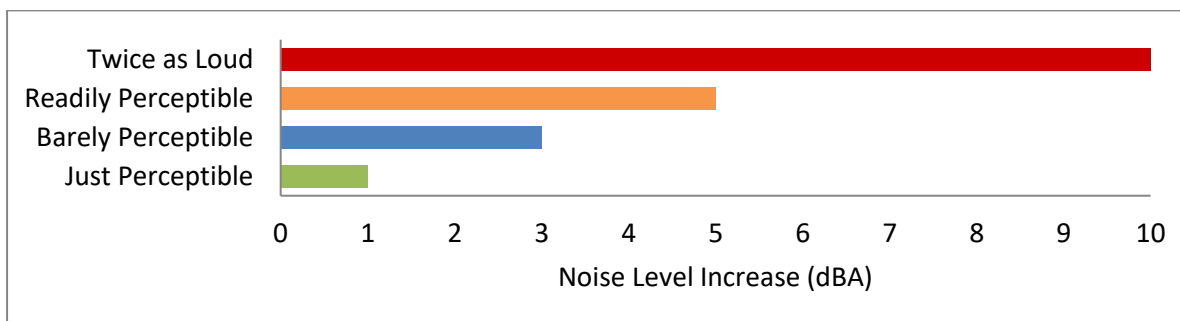
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



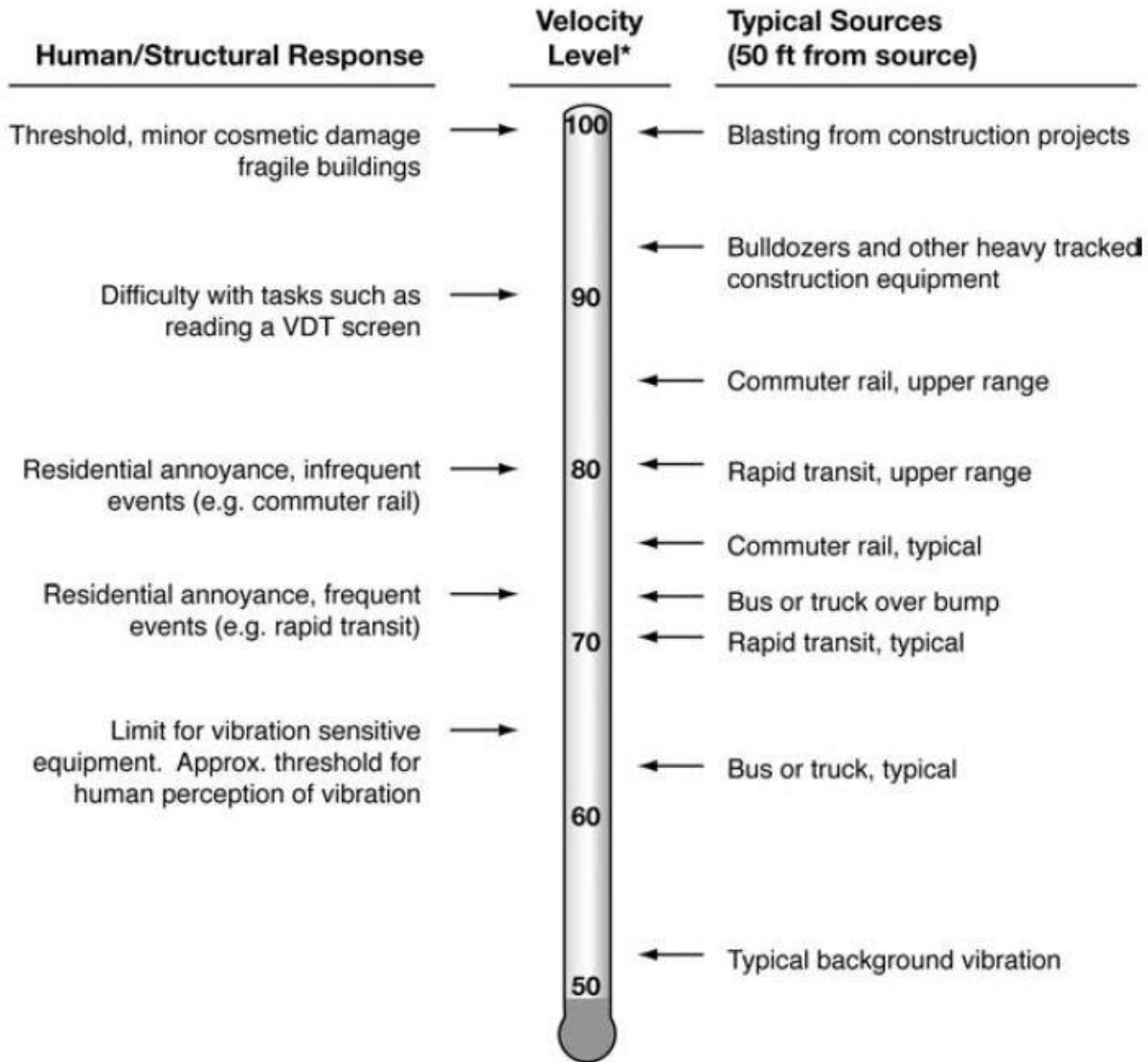
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* RMS Vibration Velocity Level in VdB relative to 10⁻⁶ inches/second

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (9) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF CHINO GENERAL PLAN NOISE ELEMENT

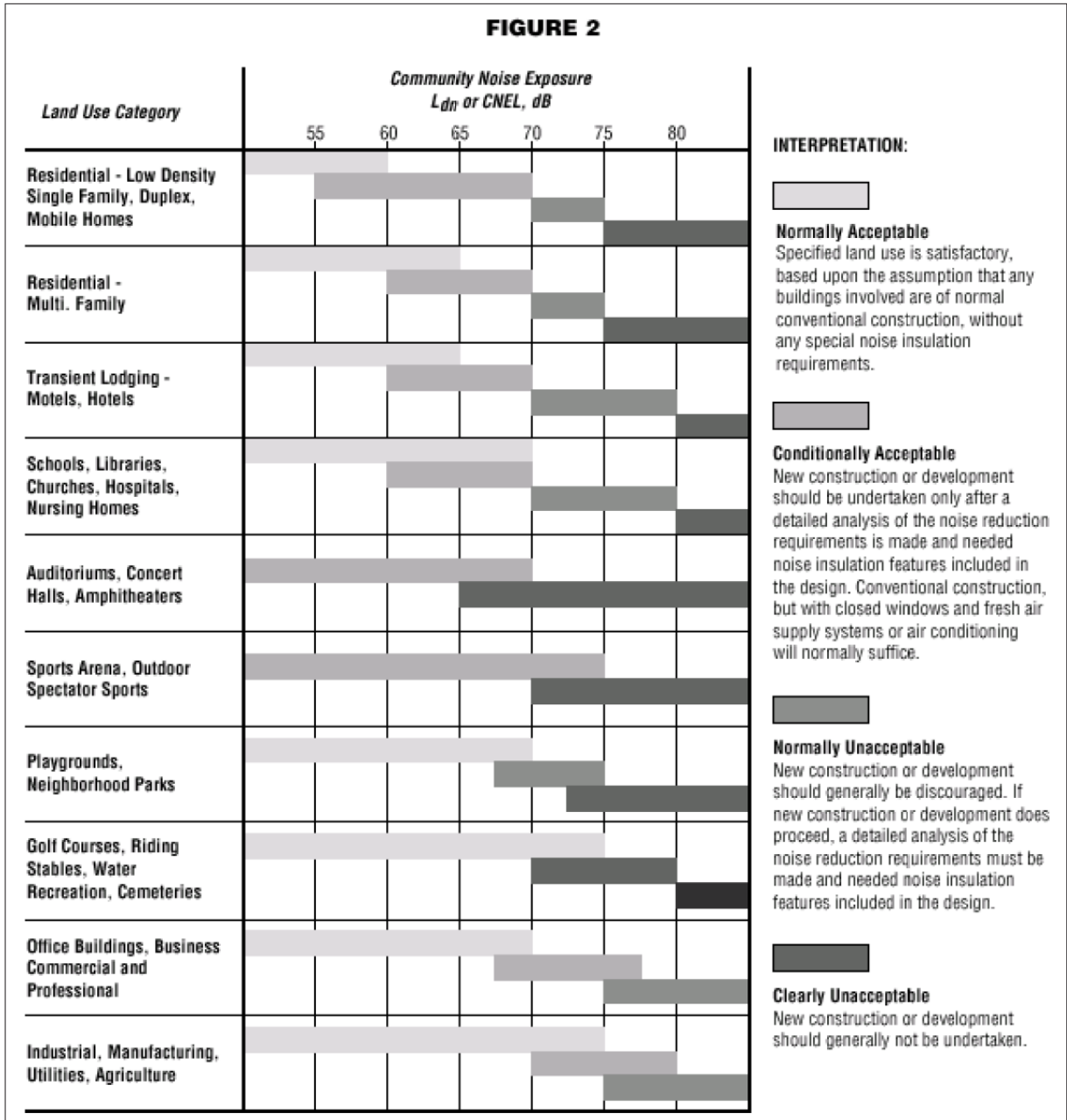
The City of Chino has adopted a Noise Element of the General Plan (10) to minimize problems from intrusive sound and to ensure that development does not expose people to unacceptable noise levels. The Noise Element specifies the maximum exterior and interior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies noise polices designed to protect, create, and maintain an environment free from noise that may jeopardize the health or welfare of sensitive receivers, or degrade quality of life. To protect Chino residents from unacceptable noise levels, the Noise Element contains the following three objectives:

- N-1.1. *Ensure appropriate exterior and interior noise levels for existing and new land uses.*
- N-1.2. *Reduce noise impacts from transportation.*
- N-1.3. *Control sources of construction noise.*

The noise policies specified in the City of Chino Noise Element provide the guidelines necessary to satisfy these objectives. To ensure the appropriate exterior and interior noise levels for existing and new land uses (N-1.1), Table N-3 of the City of Chino General Plan Noise Element, identifies a maximum allowable exterior noise level of 65 dBA CNEL and an interior noise level limit of 45 dBA CNEL for new residential developments impacted by transportation noise sources such as arterial roads, freeways, airports, railroads, and warehousing uses.

The City of Chino General Plan Noise Element does not identify criteria to assess the impacts associated with exterior off-site transportation-related noise impacts at non-noise-sensitive uses. Therefore, the Office of Planning and Research (OPR) land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines, Appendix D: Noise Element Guidelines* criteria is used to assess potential impacts at the adjacent non-noise sensitive land uses. As shown on Exhibit 3-A, the *normally acceptable* exterior noise level for non-noise-sensitive land use, such as industrial use, is 70 dBA CNEL. Noise levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the Land Use/Noise Compatibility Criteria. (9)

EXHIBIT 3-A: LAND USE/NOISE COMPATIBILITY CRITERIA



3.3 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Project, operational noise that may include loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements are typically evaluated against standards established under a City's Municipal Code. The City of Chino Noise Ordinance included in the Municipal Code (Chapter 9.40) establishes the maximum permissible noise level that may intrude into a neighbor's property. The Noise Ordinance (Section 9.40.040) establishes the exterior noise level criteria for residential properties affected by stationary noise sources. While the Municipal Code identifies noise zones for commercial (Zone II), manufacturing and industrial properties (Zone III), it only establishes exterior noise standards for residential property (Section 9.40.030).

For residential properties (Noise Zone 1), the exterior noise level shall not exceed 55 dBA L_{eq} during daytime hours (7:00 a.m. to 10:00 p.m.) and shall not exceed 50 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.). (11) These standards shall apply for a cumulative period of 30 minutes in any hour, as well as the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time. Further, Section 9.40.040[E] indicates that if the existing ambient noise level already exceeds any of the exterior noise level limit categories, then the standard shall be adjusted to reflect the ambient conditions. The City of Chino Municipal Code operational noise level standards are shown on Table 3-1 and included in Appendix 3.1.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

City	Land Use	Time Period	Exterior Noise Level Standards ¹				
			L_{50} (30 mins)	L_{25} (15 mins)	L_8 (5 mins)	L_2 (1 min)	L_{max} (Anytime)
Chino ²	Residential	Daytime	55	60	65	70	75
		Nighttime	50	55	60	65	70

¹ The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{50} is the noise level exceeded 50% of the time.

² Source: City of Chino Municipal Code, Section 9.40.040 (Appendix 3.1).

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

The percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project operational activities, the L_{50} or average L_{eq} noise level metrics best describe the loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements. In addition, the L_{eq} noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, due to the mathematical relationship between the median (L_{50}) and the mean (L_{eq}), the L_{eq} will always be larger than or equal to the L_{50} . The more variable the noise becomes, the larger the L_{eq}

becomes in comparison to the L_{50} . Therefore, this noise study conservatively relies on the average L_{eq} sound level limits to describe the Project operational noise levels.

3.4 CONSTRUCTION NOISE STANDARDS

The City of Chino has set restrictions to control noise impacts associated with construction activities throughout the City. Section 9.40.060[D] of the City's Noise Ordinance indicates that noise sources associated with construction, repair, remodeling, or grading of any real property, are exempt from the provisions of the noise ordinance, provided the construction activities take place between the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday, with no construction allowed on Sundays and Federal holidays (Section 15.44.030), and provided the noise levels exceeding 65 dBA when measured on residential property do not endanger the public health, welfare and safety. The city can authorize construction activities to occur outside of the hours specified above. The numerical noise standard of 65 dBA (with higher noise level allowances for short bursts of louder noise) established in the City of Chino Municipal Code, Section 9.40.06[D] *Special Provisions*, is used in this analysis to determine the significance of construction noise on noise-sensitive receivers.

The reference construction noise limit of 65 dBA L_{eq} provides an acceptable numerical threshold for determining the relative significance of Project construction noise levels at nearby residential receivers. Note that pursuant to the City of Chino Municipal Code, Section 9.40.060[D], the noise limit of 65 dBA is the noise standard for a cumulative period of more than thirty minutes in any hour (L_{50}). In addition, the Municipal Code allows for short bursts or periods of increased construction-related noise as follows:

- 70 dBA for a cumulative period of no more than fifteen minutes in any hour (L_{25});
- 75 dBA for a cumulative period of no more than five minutes in any hour (L_8);
- 80 dBA for a cumulative period of more than one minute in any hour (L_2);
- Noise levels greater than 85 dBA experienced at a sensitive receiver for any period (L_{max}).

For the purposes of this analysis, the 65 dBA L_{eq} threshold is used to represent a single numerical average threshold to assess the potential construction noise level impacts at nearby sensitive receivers. While the L_{50} describes the median noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour during construction activities. Mobile construction equipment will operate throughout the Project site and will not remain stationary, and therefore, the stationary-source noise level limits of Section 9.40.040 of the City of Chino Municipal Code are not applied to Project construction noise levels. Moreover, since the City of Chino specifically identifies a 65 dBA exterior noise level limit for construction noise, the previously identified Municipal Code stationary-source noise level limits described in Section 3.3 for operational noise are not used in the evaluation of potential construction noise impacts.

According to the FTA *Transit Noise and Vibration Impact Assessment Manual*, local noise ordinances are typically not very useful in evaluating construction noise impacts. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project.

Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. (7 p. 172) Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use with a nighttime exterior construction noise level of 70 dBA L_{eq} (8 p. 179). However, consistent with the City of Chino Municipal Code, Section 9.40.060[D], a more conservative construction noise level threshold of 65 dBA L_{eq} is used in this analysis to assess the potential Project related construction impacts.

3.5 CONSTRUCTION VIBRATION STANDARDS

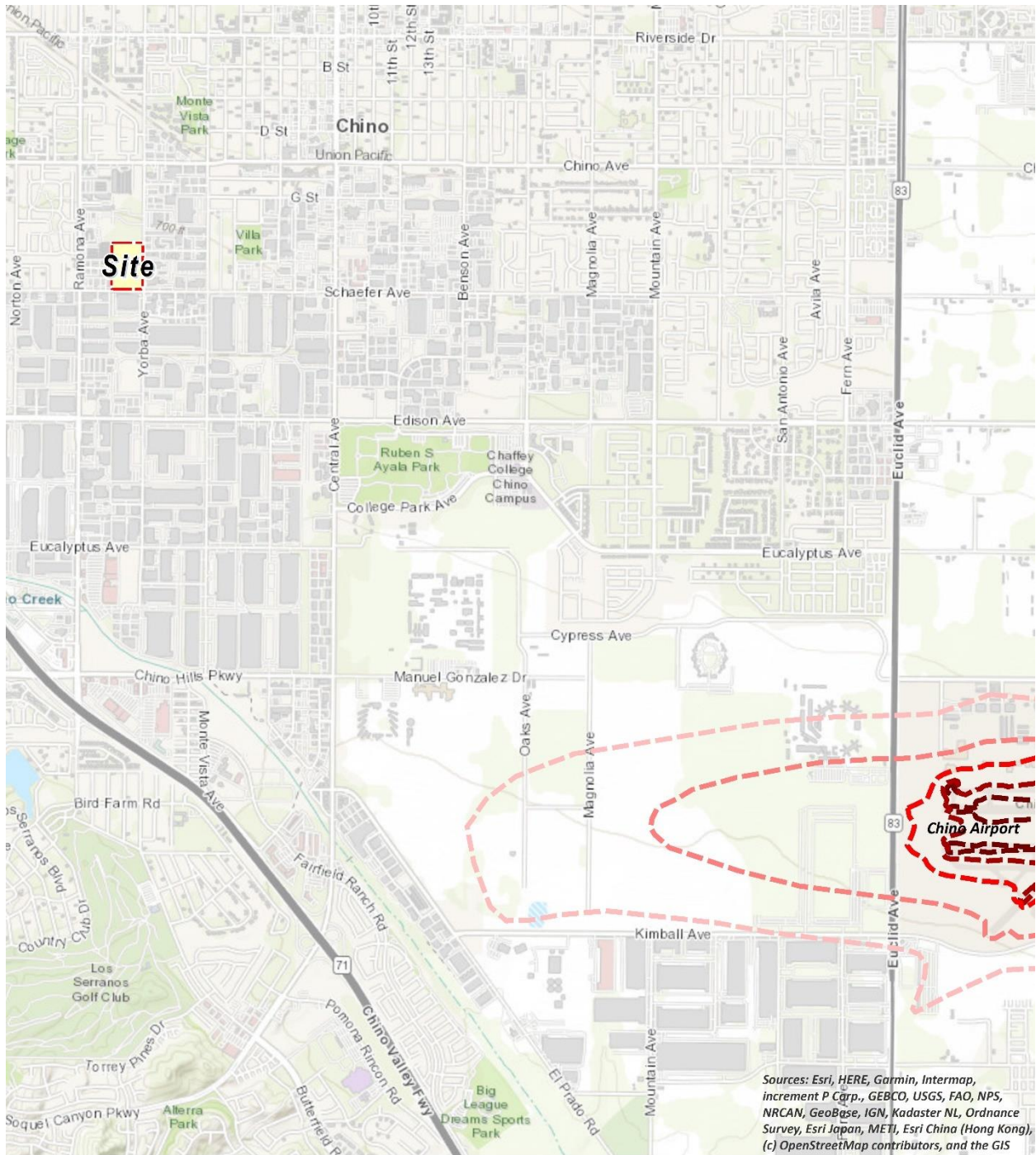
The City of Chino Noise Ordinance Section 9.40.060[D] states that vibration created by construction activities are exempt from provisions of the Ordinance, if any construction-source vibration does not endanger the public health, welfare, and safety. Therefore, to determine if the vibration levels due to construction will endanger the public health, welfare, and safety of nearby sensitive receiver locations, the operational vibration level standard of 0.05 inches per second (RMS) is used per Section 9.40.110 of the City of Chino Municipal Code.

3.6 CHINO AIRPORT LAND USE COMPATIBILITY

The Project site is located over 3 miles northwest of Chino Airport. The *Chino Airport Master Plan*, (12) prepared by the County of San Bernardino, identifies noise compatibility policies based on the *Chino Airport Comprehensive Land Use Plan* (ACLUP). (13) The ACLUP establishes threshold for aircraft noise exposure for new developments. The *Chino Airport Master Plan* shows the noise contour boundaries for Year 2009, 2015, and 2030 conditions. Based on Year 2030 conditions, the Project site is located well outside the 55 dBA CNEL noise level contour boundaries, as shown on Exhibit 3-B.

Figure II-3 of the ALUCP indicates that exterior noise levels of up to 75 dBA CNEL at industrial uses, such as the Project, are considered *normally acceptable*. According to the ALUCP the Project industrial use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Therefore, since the Project land use is considered *normally acceptable*, and no exterior or interior noise mitigation is required, and the impacts due to aircraft noise will be *less than significant*. No further analysis is required or included in this noise study for the Chino Airport-related noise levels.

EXHIBIT 3-B: CHINO AIRPORT NOISE CONTOURS



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS



LEGEND:
Unmitigated Noise Level Contour Boundaries

- 55 dBA CNEL
- 60 dBA CNEL
- 65 dBA CNEL
- 70 dBA CNEL
- 75 dBA CNEL

Sources: Chino Airport Master Plan, Exhibit B4 and the Riverside County Airport Land Use Compatibility Plan, Map CH-3.

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders a noise impact significant*. (14) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will typically be judged.

4.1.1 NOISE-SENSITIVE RECEIVERS

The Federal Interagency Committee on Noise (FICON) (15) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders a noise impact significant*, based on a 2008 California Court of Appeal ruling on *Gray v. County of Madera*. (14) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels

range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance at noise sensitive receiver locations are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (16 p. 2_48).

4.1.2 NON-NOISE-SENSITIVE RECEIVERS

Office of Planning and Research (OPR) land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines, Appendix D: Noise Element Guidelines* is used to assess potential impacts at adjacent non-sensitive land uses. As shown previously on Exhibit 3-A, the *normally acceptable* exterior noise level for non-noise-sensitive land use, such as office commercial and industrial use, is 70 dBA CNEL.

To determine if Project-related traffic noise level increases are potentially significant at off-site non-noise-sensitive land uses, a *barely perceptible* 3 dBA criteria is used. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use/noise compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the *normally acceptable* 70 dBA CNEL exterior noise level criteria.

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of the Project are evaluated based on the thresholds of significance outlined in the City of Chino Municipal Code Sections 9.40.060[D] and 9.40.110. These guidelines identify a vibration standard of 0.05 inches per second (in/sec) RMS, which is used in this noise study to assess potential impacts due to Project construction vibration levels.

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The closest airport which would require additional noise analysis under CEQA guideline C is Chino Airport. As previously indicated in Section 3.6, the Project site is located over 3 miles northwest

of Chino Airport and well outside the 55 dBA CNEL airport noise level contour boundaries. Therefore, airport noise impacts are considered *less than significant*, and no further noise analysis is required under CEQA Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site	Noise-Sensitive ¹	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive ²	If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational ³	Noise-Sensitive ¹	Exterior Noise Level Standards ³	55 dBA L _{eq}	50 dBA L _{eq}
		if ambient is < 60 dBA L _{eq}	≥ 5 dBA L _{eq} Project increase	
		if ambient is 60 - 65 dBA L _{eq}	≥ 3 dBA L _{eq} Project increase	
		if ambient is > 65 dBA L _{eq}	≥ 1.5 dBA L _{eq} Project increase	
Construction	Noise-Sensitive ¹	Noise Level Threshold	65 dBA L _{eq} ⁴	50 dBA L _{eq} ³
		Vibration Level Threshold ⁵	0.05 in/sec RMS	n/a

¹ FICON, 1992.

² Based on the land use compatibility criteria found in the Office of Planning and Research General Plan Guidelines, Figure 2.

³ City of Chino Municipal Code, Section 9.40.040 (Appendix 3.1).

⁴ City of Chino Municipal Code, Section 9.40.060[D].

⁵ City of Chino Municipal Code, Sections 9.40.060[D] and 9.40.110.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "n/a" = construction activities are not planned during the nighttime hours; "RMS" = Root-mean-square velocity.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at five locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Friday, March 23, 2023. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources.* (2) Further, FTA guidance states, *that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.* (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the energy average hourly sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Description	Energy Average Noise Level (dBA L_{eq}) ²	
		Daytime	Nighttime
L1	Located west of the site near the residence at 13626 Ramona Ave.	68.9	66.2
L2	Located northwest of the site near Buena Vista Continuation High School	66.2	63.5
L3	Located north of the project site near the residence at 13386 Yorba Ave.	66.1	62.2
L4	Located east of the project site near the residence at 13605 Monte Vista Ave.	68.2	63.6
L5	Located east of the project site near the residence at 13651 Monte Vista Ave.	69.8	68.0

¹ See Exhibit 5-A for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the equivalent noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the land use/noise compatibility (see Exhibit 3-A), all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (18) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (19) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 20 off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Chino General Plan Circulation Element, and the vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on the *Chino Lovett Industrial Traffic Analysis*, prepared by Urban Crossroads, Inc. for the following traffic scenarios (21).

- Existing (E)
- Existing plus Project (E+P)
- Opening Year Cumulative (OYC) (2026) without Project Conditions
- Opening Year Cumulative (OYC) (2026) with Project Conditions
- Horizon Year (2045) without Project Conditions
- Horizon Year (2045) with Project Conditions

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts at the boundary of the right-of-way of the receiving adjacent land use, without and with project ADT traffic volumes from the Project traffic analysis. The off-site traffic noise analysis evaluates a net total of 626 two-way trips per day (actual vehicles) that

includes 158 truck trips reflecting the development of 284,730 square feet of industrial use. The March 26, 2024, *Chino Lovett Industrial Traffic Analysis*, prepared by Urban Crossroads, Inc indicates that the Proposed development now represents one warehouse building totaling 298,839 square feet, and this change will increase the Project trip generation. The updated project trip generation is estimated at 656 two-way trips per day (actual vehicles) that includes 166 truck trips. The change in Project trip generation represents 30 daily vehicle trips that include 8 truck trips. This nominal increase in the Project trip generation will not meaningfully change the off-site traffic noise analysis reflecting the development of 284,730 square feet of industrial use presented below.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use ¹	Classification ²	Distance from Centerline to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Ramona Av.	n/o Chino Av.	Sensitive	Primary	49'	45
2	Ramona Av.	n/o Schaefer Av.	Sensitive	Primary	49'	45
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	Primary	49'	45
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	Major	60'	45
5	Yorba Av.	n/o Chino Av.	Sensitive	Residential Collector	30'	35
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	Industrial Collector	30'	35
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	Industrial Collector	30'	40
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	Industrial Collector	30'	40
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	Secondary	44'	45
10	Chino Av.	w/o Ramona Av.	Sensitive	Secondary	44'	40
11	Chino Av.	w/o Yorba Av.	Sensitive	Secondary	44'	40
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	Secondary	44'	40
13	Schaefer Av.	w/o Norton Av.	Sensitive	Primary	49'	45
14	Schaefer Av.	w/o Ramona Av.	Sensitive	Primary	49'	45
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	Primary	49'	45
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	Primary	49'	45
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	Primary	49'	45
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	Major	60'	40
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	Major	60'	45
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	Major	60'	45

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to adjacent residential land uses.

² City of Chino General Plan Circulation Element functional roadway classifications.

³ Distance to receiving land use is based upon the right-of-way distances.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes ¹					
			Existing		Opening Year (2026)		Horizon Year (2045)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Ramona Av.	n/o Chino Av.	12,474	12,529	14,065	14,120	15,325	15,380
2	Ramona Av.	n/o Schaefer Av.	11,434	11,452	12,842	12,860	15,843	15,860
3	Ramona Av.	s/o Schaefer Av.	11,515	11,562	12,680	12,727	13,948	13,995
4	Ramona Av.	s/o Edison Av.	10,938	11,016	12,019	12,098	13,221	13,299
5	Yorba Av.	n/o Chino Av.	5,636	5,660	6,057	6,081	6,663	6,686
6	Yorba Av.	n/o Schaefer Av.	4,179	4,273	5,567	5,660	6,123	6,217
7	Yorba Av.	s/o Schaefer Av.	3,962	4,228	4,782	5,049	5,260	5,527
8	Yorba Av.	s/o Edison Av.	2,945	3,039	3,300	3,394	3,399	3,493
9	Monte Vista Av.	s/o Schaefer Av.	7,438	7,462	7,905	7,929	8,696	8,720
10	Chino Av.	w/o Ramona Av.	14,830	14,877	16,216	16,263	17,837	17,884
11	Chino Av.	w/o Yorba Av.	13,687	13,734	14,856	14,903	16,278	16,325
12	Chino Av.	e/o Yorba Av.	11,758	11,781	12,586	12,609	16,297	16,320
13	Schaefer Av.	w/o Norton Av.	17,371	17,449	18,992	19,071	20,509	20,587
14	Schaefer Av.	w/o Ramona Av.	16,701	16,779	18,282	18,360	21,643	21,721
15	Schaefer Av.	w/o Yorba Av.	17,658	17,900	19,189	19,431	21,108	21,350
16	Schaefer Av.	e/o Yorba Av.	18,006	18,093	19,345	19,431	21,279	21,365
17	Schaefer Av.	e/o Monte Vista Av.	19,381	19,443	20,791	20,854	22,870	22,933
18	Edison Av.	w/o Ramona Av.	21,116	21,210	22,712	22,806	24,984	25,078
19	Edison Av.	w/o Yorba Av.	17,290	17,416	18,603	18,728	38,285	38,410
20	Edison Av.	e/o Yorba Av.	16,320	16,367	17,469	17,516	36,265	36,312

¹ Chino Lovett Industrial Traffic Study Scoping Agreement, Urban Crossroads, Inc.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Chino Lovett Industrial Traffic Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-7 show the vehicle mixes used for the with Project traffic scenarios.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits ¹			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	76.48%	13.63%	9.89%	100.00%
Medium Trucks	87.59%	1.62%	10.79%	100.00%
Heavy Trucks	71.71%	6.07%	22.22%	100.00%

¹ Based on the April 4, 2023, 24-hour directional vehicle classification count collected on Edison Avenue west of Ramona Avenue (Chino Lovett Industrial Traffic Study Scoping Agreement, Urban Crossroads, Inc.)

"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow ¹			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	89.95%	2.63%	7.42%	100.00%

¹ Based on the April 4, 2023, 24-hour directional vehicle classification count collected on Edison Avenue west of Ramona Avenue (Chino Lovett Industrial Traffic Study Scoping Agreement, Urban Crossroads, Inc.)

Due to the added Project truck trips, the increase in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

TABLE 6-5: EXISTING WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			Total ²
			Autos	Medium Trucks	Heavy Trucks	
1	Ramona Av.	n/o Chino Av.	89.93%	2.64%	7.42%	100.00%
2	Ramona Av.	n/o Schaefer Av.	89.90%	2.65%	7.45%	100.00%
3	Ramona Av.	s/o Schaefer Av.	89.99%	2.62%	7.39%	100.00%
4	Ramona Av.	s/o Edison Av.	89.74%	2.72%	7.54%	100.00%
5	Yorba Av.	n/o Chino Av.	89.99%	2.62%	7.39%	100.00%
6	Yorba Av.	n/o Schaefer Av.	90.17%	2.58%	7.25%	100.00%
7	Yorba Av.	s/o Schaefer Av.	88.16%	3.37%	8.48%	100.00%
8	Yorba Av.	s/o Edison Av.	88.70%	3.13%	8.17%	100.00%
9	Monte Vista Av.	s/o Schaefer Av.	89.67%	2.74%	7.59%	100.00%
10	Chino Av.	w/o Ramona Av.	89.98%	2.62%	7.39%	100.00%
11	Chino Av.	w/o Yorba Av.	89.99%	2.62%	7.39%	100.00%
12	Chino Av.	e/o Yorba Av.	89.97%	2.63%	7.40%	100.00%
13	Schaefer Av.	w/o Norton Av.	89.95%	2.64%	7.41%	100.00%
14	Schaefer Av.	w/o Ramona Av.	89.95%	2.64%	7.41%	100.00%
15	Schaefer Av.	w/o Yorba Av.	89.91%	2.66%	7.43%	100.00%
16	Schaefer Av.	e/o Yorba Av.	89.78%	2.70%	7.52%	100.00%
17	Schaefer Av.	e/o Monte Vista Av.	89.90%	2.65%	7.44%	100.00%
18	Edison Av.	w/o Ramona Av.	89.88%	2.66%	7.45%	100.00%
19	Edison Av.	w/o Yorba Av.	89.71%	2.73%	7.56%	100.00%
20	Edison Av.	e/o Yorba Av.	89.98%	2.63%	7.39%	100.00%

¹ Chino Lovett Industrial Traffic Study Scoping Agreement, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: OYC 2026 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			Total ²
			Autos	Medium Trucks	Heavy Trucks	
1	Ramona Av.	n/o Chino Av.	89.93%	2.64%	7.42%	100.00%
2	Ramona Av.	n/o Schaefer Av.	89.90%	2.65%	7.44%	100.00%
3	Ramona Av.	s/o Schaefer Av.	89.99%	2.62%	7.39%	100.00%
4	Ramona Av.	s/o Edison Av.	89.75%	2.71%	7.53%	100.00%
5	Yorba Av.	n/o Chino Av.	89.99%	2.62%	7.39%	100.00%
6	Yorba Av.	n/o Schaefer Av.	90.12%	2.59%	7.29%	100.00%
7	Yorba Av.	s/o Schaefer Av.	88.45%	3.25%	8.31%	100.00%
8	Yorba Av.	s/o Edison Av.	88.83%	3.08%	8.09%	100.00%
9	Monte Vista Av.	s/o Schaefer Av.	89.68%	2.74%	7.58%	100.00%
10	Chino Av.	w/o Ramona Av.	89.98%	2.63%	7.39%	100.00%
11	Chino Av.	w/o Yorba Av.	89.98%	2.62%	7.39%	100.00%
12	Chino Av.	e/o Yorba Av.	89.97%	2.63%	7.40%	100.00%
13	Schaefer Av.	w/o Norton Av.	89.95%	2.64%	7.41%	100.00%
14	Schaefer Av.	w/o Ramona Av.	89.95%	2.64%	7.41%	100.00%
15	Schaefer Av.	w/o Yorba Av.	89.91%	2.66%	7.43%	100.00%
16	Schaefer Av.	e/o Yorba Av.	89.79%	2.70%	7.51%	100.00%
17	Schaefer Av.	e/o Monte Vista Av.	89.91%	2.65%	7.44%	100.00%
18	Edison Av.	w/o Ramona Av.	89.89%	2.66%	7.45%	100.00%
19	Edison Av.	w/o Yorba Av.	89.72%	2.72%	7.55%	100.00%
20	Edison Av.	e/o Yorba Av.	89.98%	2.63%	7.40%	100.00%

¹ Chino Lovett Industrial Traffic Study Scoping Agreement, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: HY 2045 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project ¹			Total ²
			Autos	Medium Trucks	Heavy Trucks	
1	Ramona Av.	n/o Chino Av.	89.94%	2.64%	7.42%	100.00%
2	Ramona Av.	n/o Schaefer Av.	89.91%	2.65%	7.44%	100.00%
3	Ramona Av.	s/o Schaefer Av.	89.98%	2.62%	7.39%	100.00%
4	Ramona Av.	s/o Edison Av.	89.77%	2.71%	7.52%	100.00%
5	Yorba Av.	n/o Chino Av.	89.99%	2.62%	7.39%	100.00%
6	Yorba Av.	n/o Schaefer Av.	90.10%	2.59%	7.30%	100.00%
7	Yorba Av.	s/o Schaefer Av.	88.58%	3.19%	8.23%	100.00%
8	Yorba Av.	s/o Edison Av.	88.87%	3.06%	8.07%	100.00%
9	Monte Vista Av.	s/o Schaefer Av.	89.71%	2.73%	7.57%	100.00%
10	Chino Av.	w/o Ramona Av.	89.98%	2.63%	7.40%	100.00%
11	Chino Av.	w/o Yorba Av.	89.98%	2.63%	7.39%	100.00%
12	Chino Av.	e/o Yorba Av.	89.97%	2.63%	7.41%	100.00%
13	Schaefer Av.	w/o Norton Av.	89.95%	2.64%	7.41%	100.00%
14	Schaefer Av.	w/o Ramona Av.	89.95%	2.64%	7.41%	100.00%
15	Schaefer Av.	w/o Yorba Av.	89.92%	2.66%	7.43%	100.00%
16	Schaefer Av.	e/o Yorba Av.	89.81%	2.69%	7.50%	100.00%
17	Schaefer Av.	e/o Monte Vista Av.	89.91%	2.65%	7.44%	100.00%
18	Edison Av.	w/o Ramona Av.	89.89%	2.66%	7.45%	100.00%
19	Edison Av.	w/o Yorba Av.	89.84%	2.68%	7.48%	100.00%
20	Edison Av.	e/o Yorba Av.	89.96%	2.63%	7.41%	100.00%

¹ Chino Lovett Industrial Traffic Study Scoping Agreement, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

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7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on *the Chino Lovett Industrial Traffic Analysis* prepared by Urban Crossroads, Inc. (21) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-6 present a summary of the exterior traffic noise levels for each traffic condition. Appendix 7.1 includes the traffic noise level contours worksheets for each traffic condition.

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Av.	n/o Chino Av.	Sensitive	74.2	93	201	433
2	Ramona Av.	n/o Schaefer Av.	Sensitive	73.8	88	190	409
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	73.9	89	191	411
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.1	96	207	446
5	Yorba Av.	n/o Chino Av.	Sensitive	71.2	36	77	166
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	69.9	RW	63	136
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	70.6	33	71	153
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.3	RW	58	126
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.2	62	133	287
10	Chino Av.	w/o Ramona Av.	Sensitive	74.3	86	184	397
11	Chino Av.	w/o Yorba Av.	Sensitive	74.0	81	175	377
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	73.3	73	158	340
13	Schaefer Av.	w/o Norton Av.	Sensitive	75.6	116	251	541
14	Schaefer Av.	w/o Ramona Av.	Sensitive	75.5	113	244	527
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	75.7	118	254	546
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	75.8	119	257	554
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.1	125	270	581
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.0	130	280	604
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	75.1	131	281	606
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	74.8	126	271	583

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Av.	n/o Chino Av.	Sensitive	74.2	94	202	435
2	Ramona Av.	n/o Schaefer Av.	Sensitive	73.8	88	191	410
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	73.9	89	191	411
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.2	98	210	453
5	Yorba Av.	n/o Chino Av.	Sensitive	71.2	36	77	167
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	69.9	RW	63	137
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	71.4	37	80	173
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.8	RW	63	136
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.3	63	135	292
10	Chino Av.	w/o Ramona Av.	Sensitive	74.3	86	184	397
11	Chino Av.	w/o Yorba Av.	Sensitive	74.0	81	175	377
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	73.3	73	158	340
13	Schaefer Av.	w/o Norton Av.	Sensitive	75.7	117	252	542
14	Schaefer Av.	w/o Ramona Av.	Sensitive	75.5	114	245	528
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	75.8	119	256	552
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	75.9	121	260	560
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.1	126	271	584
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.1	131	282	608
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	75.2	133	286	616
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	74.8	126	271	583

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: OYC 2026 WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Av.	n/o Chino Av.	Sensitive	74.7	101	218	470
2	Ramona Av.	n/o Schaefer Av.	Sensitive	74.3	95	205	442
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	74.3	94	203	438
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.5	102	221	475
5	Yorba Av.	n/o Chino Av.	Sensitive	71.5	38	81	175
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	71.1	36	77	165
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	71.4	37	81	173
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.8	RW	63	135
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.5	64	139	299
10	Chino Av.	w/o Ramona Av.	Sensitive	74.7	91	196	422
11	Chino Av.	w/o Yorba Av.	Sensitive	74.3	86	185	398
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	73.6	77	165	356
13	Schaefer Av.	w/o Norton Av.	Sensitive	76.0	124	266	574
14	Schaefer Av.	w/o Ramona Av.	Sensitive	75.9	120	260	559
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	76.1	124	268	578
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	76.1	125	270	581
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.4	131	283	609
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.4	137	294	634
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	75.4	137	295	636
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	75.1	131	283	610

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: OYC 2026 WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Av.	n/o Chino Av.	Sensitive	74.7	101	219	471
2	Ramona Av.	n/o Schaefer Av.	Sensitive	74.3	96	206	443
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	74.3	94	203	438
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.6	104	224	482
5	Yorba Av.	n/o Chino Av.	Sensitive	71.5	38	81	175
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	71.1	36	77	165
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	72.1	41	89	192
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	70.3	31	67	145
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.6	65	141	304
10	Chino Av.	w/o Ramona Av.	Sensitive	74.7	91	196	422
11	Chino Av.	w/o Yorba Av.	Sensitive	74.3	86	185	398
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	73.6	77	165	356
13	Schaefer Av.	w/o Norton Av.	Sensitive	76.0	124	267	575
14	Schaefer Av.	w/o Ramona Av.	Sensitive	75.9	121	260	561
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	76.1	126	271	583
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	76.2	126	272	587
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.4	132	284	612
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.4	137	296	638
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	75.5	139	300	646
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	75.1	131	283	610

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: HY 2045 WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Av.	n/o Chino Av.	Sensitive	75.1	107	231	497
2	Ramona Av.	n/o Schaefer Av.	Sensitive	75.2	110	236	508
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	74.7	101	217	467
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.9	109	235	507
5	Yorba Av.	n/o Chino Av.	Sensitive	71.9	40	86	186
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	71.5	38	82	176
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	71.8	40	86	185
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.9	30	64	138
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.9	69	148	319
10	Chino Av.	w/o Ramona Av.	Sensitive	75.1	97	209	449
11	Chino Av.	w/o Yorba Av.	Sensitive	74.7	91	196	423
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	74.7	91	196	423
13	Schaefer Av.	w/o Norton Av.	Sensitive	76.4	130	280	604
14	Schaefer Av.	w/o Ramona Av.	Sensitive	76.6	135	290	626
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	76.5	133	286	615
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	76.5	133	287	619
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.8	140	301	649
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.8	146	314	676
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	78.5	222	478	1029
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	78.3	214	461	993

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: HY 2045 WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Ramona Av.	n/o Chino Av.	Sensitive	75.1	107	231	499
2	Ramona Av.	n/o Schaefer Av.	Sensitive	75.3	110	237	510
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	74.7	101	217	467
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	74.0	110	238	513
5	Yorba Av.	n/o Chino Av.	Sensitive	71.9	40	86	186
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	71.5	38	82	176
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	72.5	44	94	203
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	70.4	32	69	148
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	73.0	70	150	323
10	Chino Av.	w/o Ramona Av.	Sensitive	75.1	97	209	449
11	Chino Av.	w/o Yorba Av.	Sensitive	74.7	91	196	423
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	74.7	91	196	423
13	Schaefer Av.	w/o Norton Av.	Sensitive	76.4	130	281	605
14	Schaefer Av.	w/o Ramona Av.	Sensitive	76.6	135	291	627
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	76.5	134	288	621
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	76.6	135	290	625
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.9	140	302	652
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.8	146	315	679
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	78.6	223	481	1037
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	78.3	214	461	993

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the existing traffic scenarios identified in the Traffic Analysis prepared by Urban Crossroads, Inc. However, the analysis of existing off-site traffic noise levels plus traffic noise generated by the proposed Project scenario will not actually occur since the Project would not be fully constructed and operational until Year 2026 conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 69.3 to 76.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions ranging from 69.8 to 76.1 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level increases range from 0.0 to 0.8 dBA CNEL on the study area roadway segments.

7.3 OYC 2026 TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Opening Year Cumulative (OYC) without Project conditions CNEL noise levels. The OYC without Project exterior noise levels range from 69.8 to 76.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows that the OYC with Project conditions will range from 70.3 to 76.4 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases range from 0.0 to 0.7 dBA CNEL.

7.4 HY 2045 TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the HY 2045 without Project conditions CNEL noise levels. The HY 2045 without Project exterior noise levels range from 69.9 to 78.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows that the HY 2045 with Project conditions will range from 70.4 to 78.6 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases range from 0.0 to 0.7 dBA CNEL.

TABLE 7-7: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Incremental Noise Level Increase Threshold ³	
				No Project	With Project	Project Increment	Limit	Exceeded?
1	Ramona Av.	n/o Chino Av.	Sensitive	74.2	74.2	0.0	1.5	No
2	Ramona Av.	n/o Schaefer Av.	Sensitive	73.8	73.8	0.0	1.5	No
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	73.9	73.9	0.0	3.0	No
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.1	73.2	0.1	3.0	No
5	Yorba Av.	n/o Chino Av.	Sensitive	71.2	71.2	0.0	1.5	No
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	69.9	69.9	0.0	5.0	No
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	70.6	71.4	0.8	3.0	No
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.3	69.8	0.5	5.0	No
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.2	72.3	0.1	3.0	No
10	Chino Av.	w/o Ramona Av.	Sensitive	74.3	74.3	0.0	1.5	No
11	Chino Av.	w/o Yorba Av.	Sensitive	74.0	74.0	0.0	1.5	No
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	73.3	73.3	0.0	3.0	No
13	Schaefer Av.	w/o Norton Av.	Sensitive	75.6	75.7	0.1	1.5	No
14	Schaefer Av.	w/o Ramona Av.	Sensitive	75.5	75.5	0.0	1.5	No
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	75.7	75.8	0.1	3.0	No
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	75.8	75.9	0.1	3.0	No
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.1	76.1	0.0	1.5	No
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.0	75.1	0.1	3.0	No
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	75.1	75.2	0.1	3.0	No
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	74.8	74.8	0.0	3.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-8: OYC 2026 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Incremental Noise Level Increase Threshold ³	
				No Project	With Project	Project Increment	Limit	Exceeded?
1	Ramona Av.	n/o Chino Av.	Sensitive	74.7	74.7	0.0	1.5	No
2	Ramona Av.	n/o Schaefer Av.	Sensitive	74.3	74.3	0.0	1.5	No
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	74.3	74.3	0.0	3.0	No
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.5	73.6	0.1	3.0	No
5	Yorba Av.	n/o Chino Av.	Sensitive	71.5	71.5	0.0	1.5	No
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	71.1	71.1	0.0	3.0	No
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	71.4	72.1	0.7	3.0	No
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.8	70.3	0.5	5.0	No
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.5	72.6	0.1	3.0	No
10	Chino Av.	w/o Ramona Av.	Sensitive	74.7	74.7	0.0	1.5	No
11	Chino Av.	w/o Yorba Av.	Sensitive	74.3	74.3	0.0	1.5	No
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	73.6	73.6	0.0	3.0	No
13	Schaefer Av.	w/o Norton Av.	Sensitive	76.0	76.0	0.0	1.5	No
14	Schaefer Av.	w/o Ramona Av.	Sensitive	75.9	75.9	0.0	1.5	No
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	76.1	76.1	0.0	3.0	No
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	76.1	76.2	0.1	3.0	No
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.4	76.4	0.0	1.5	No
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.4	75.4	0.0	3.0	No
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	75.4	75.5	0.1	3.0	No
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	75.1	75.1	0.0	3.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-9: HY 2045 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Incremental Noise Level Increase Threshold ³	
				No Project	With Project	Project Increment	Limit	Exceeded?
1	Ramona Av.	n/o Chino Av.	Sensitive	75.1	75.1	0.0	1.5	No
2	Ramona Av.	n/o Schaefer Av.	Sensitive	75.2	75.3	0.1	1.5	No
3	Ramona Av.	s/o Schaefer Av.	Non-Sensitive	74.7	74.7	0.0	3.0	No
4	Ramona Av.	s/o Edison Av.	Non-Sensitive	73.9	74.0	0.1	3.0	No
5	Yorba Av.	n/o Chino Av.	Sensitive	71.9	71.9	0.0	1.5	No
6	Yorba Av.	n/o Schaefer Av.	Non-Sensitive	71.5	71.5	0.0	3.0	No
7	Yorba Av.	s/o Schaefer Av.	Non-Sensitive	71.8	72.5	0.7	3.0	No
8	Yorba Av.	s/o Edison Av.	Non-Sensitive	69.9	70.4	0.5	5.0	No
9	Monte Vista Av.	s/o Schaefer Av.	Non-Sensitive	72.9	73.0	0.1	3.0	No
10	Chino Av.	w/o Ramona Av.	Sensitive	75.1	75.1	0.0	1.5	No
11	Chino Av.	w/o Yorba Av.	Sensitive	74.7	74.7	0.0	1.5	No
12	Chino Av.	e/o Yorba Av.	Non-Sensitive	74.7	74.7	0.0	3.0	No
13	Schaefer Av.	w/o Norton Av.	Sensitive	76.4	76.4	0.0	1.5	No
14	Schaefer Av.	w/o Ramona Av.	Sensitive	76.6	76.6	0.0	1.5	No
15	Schaefer Av.	w/o Yorba Av.	Non-Sensitive	76.5	76.5	0.0	3.0	No
16	Schaefer Av.	e/o Yorba Av.	Non-Sensitive	76.5	76.6	0.1	3.0	No
17	Schaefer Av.	e/o Monte Vista Av.	Sensitive	76.8	76.9	0.1	1.5	No
18	Edison Av.	w/o Ramona Av.	Non-Sensitive	75.8	75.8	0.0	3.0	No
19	Edison Av.	w/o Yorba Av.	Non-Sensitive	78.5	78.6	0.1	3.0	No
20	Edison Av.	e/o Yorba Av.	Non-Sensitive	78.3	78.3	0.0	3.0	No

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

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8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, outpatient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

- R1: Location R1 represents the existing residence at 13636 Ramona Ave, approximately 718 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R1 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents Buena Vista Continuation High School at 13509 Ramona Ave, approximately 236 feet west of the Project site. Receiver R2 is placed at the nearest building facade facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing residence at 13386 Yorba Ave, approximately 1,039 feet north of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing residence at 13567 Monte Vista Ave, approximately 1,376 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.
- R5: Location R5 represents the existing residence at 13649 Monte Vista Ave, approximately 1,373 feet east of the Project site. Since there are no private outdoor living areas

(backyards) facing the Project site, receiver R5 is placed at the building façade. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



LEGEND:

- N
- Site Boundary
- Receiver Locations
- Distance from receiver to Project site boundary (in feet)

9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed Project. Exhibit 9-A identifies the noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed building, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements all operating at the same time. These sources of noise activity will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in “slow” mode to record noise levels in “A” weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

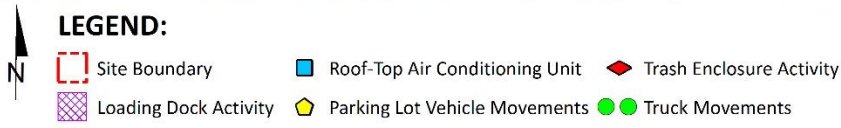
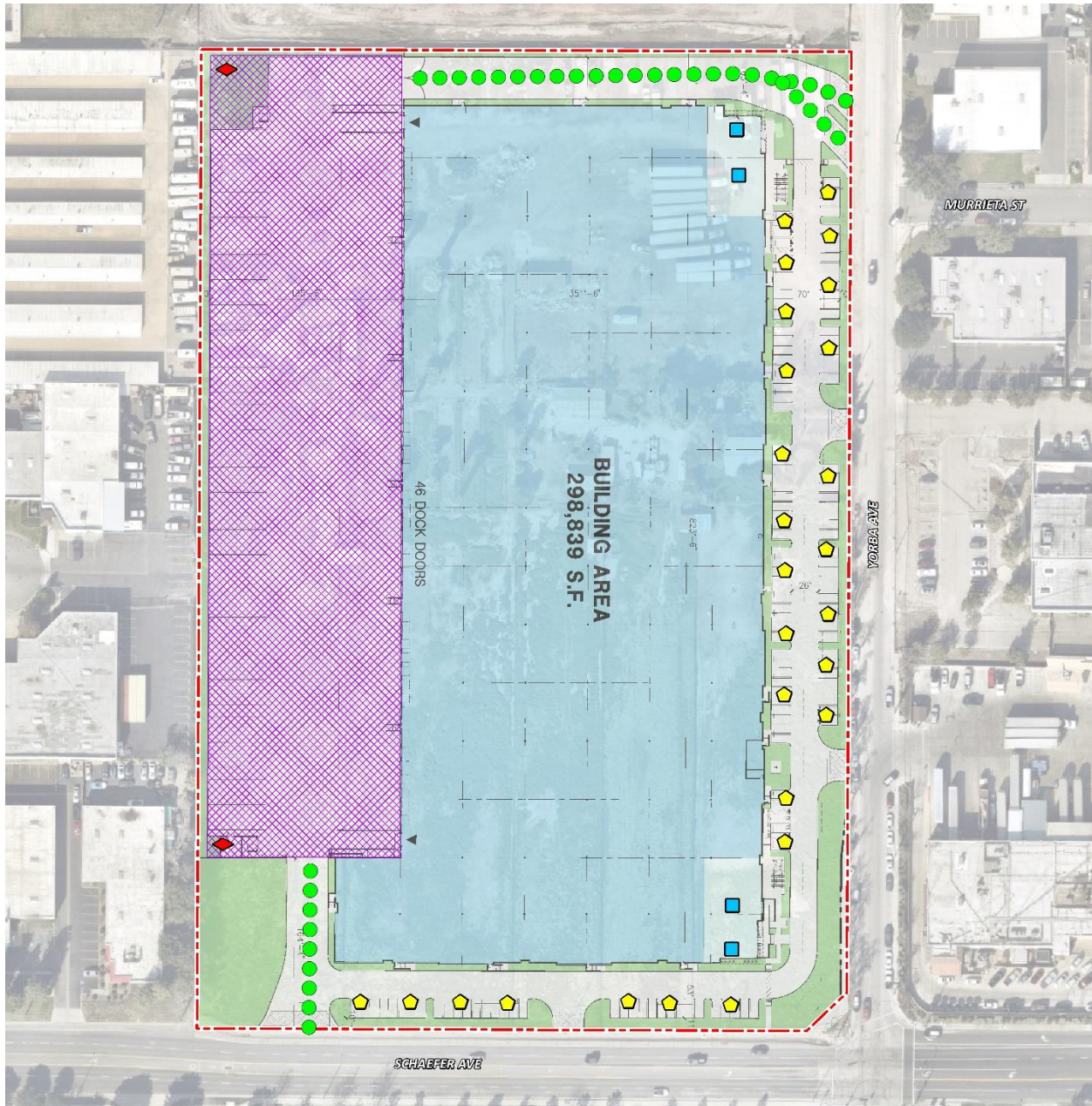


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source ¹	Noise Source Height (Feet)	Min./Hour ²		Reference Noise Level (dBA L _{eq}) @ 50 Feet	Sound Power Level (dBA) ³
		Day	Night		
Loading Dock Activity	8'	60	60	62.8	103.4
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	60	30	57.3	89.0
Parking Lot Vehicle Movements	5'	60	60	52.6	81.1
Truck Movements	8'	60	60	59.8	93.2

¹ As measured by Urban Crossroads, Inc.

² Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

9.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 62.8 dBA L_{eq}. The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck. Loading dock activity is estimated during all the daytime, evening, and nighttime hours.

9.2.3 ROOF-TOP AIR CONDITIONING UNITS

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise level is 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for an average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project building.

9.2.4 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building.

9.2.5 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity, a long-term 29-hour reference noise level measurement was collected in the center of activity within the staff parking lot of an Amazon warehouse distribution center. At 50 feet from the center of activity, the parking lot produced a reference noise level of 52.6 dBA L_{eq} . Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due to cars pulling in and out of parking spaces in combination with car doors opening and closing.

9.2.6 TRUCK MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represent multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for trucks entering and exiting the Project driveways and maneuvering in and out of the outdoor loading dock activity area.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and

other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 37.9 to 48.3 dBA L_{eq} .

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Loading Dock Activity	43.0	47.4	38.4	36.6	36.6
Roof-Top Air Conditioning Units	24.8	28.9	27.1	27.7	27.8
Trash Enclosure Activity	31.1	38.6	25.4	20.3	9.1
Parking Lot Vehicle Movements	21.7	18.2	28.4	28.5	29.0
Truck Movements	32.8	36.9	31.0	27.4	24.0
Total (All Noise Sources)	43.7	48.3	39.9	38.1	37.9

¹ See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Table 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 37.8 to 48.0 dBA L_{eq} .

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Loading Dock Activity	43.0	47.4	38.4	36.6	36.6
Roof-Top Air Conditioning Units	22.4	26.5	24.7	25.3	25.4
Trash Enclosure Activity	27.1	34.7	21.4	16.3	5.1
Parking Lot Vehicle Movements	21.7	18.2	28.4	28.5	29.0
Truck Movements	32.8	36.9	31.0	27.4	24.0
Total (All Noise Sources)	43.6	48.0	39.7	37.9	37.8

¹ See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

The differences between the daytime and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 9-1 and Appendix 9.1.

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Chino exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-4 shows the operational noise levels associated with the Project will not exceed the City of Chino daytime and nighttime exterior noise level standards. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Noise Level Standards Exceeded? ⁴	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	43.7	43.6	55	50	No	No
R2	48.3	48.0	55	50	No	No
R3	39.9	39.7	55	50	No	No
R4	38.1	37.9	55	50	No	No
R5	37.9	37.8	55	50	No	No

¹ See Exhibit 8-A for the receiver locations.

² Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.

³ Exterior noise level standards, as shown on Table 4-1.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by the Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \dots 10^{SPLn/10}]$$

Where “SPL1,” “SPL2,” etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-5 and 9-6, respectively. As indicated on Table 9-5, the Project is not expected to generate a measurable daytime operational noise level increase at the nearest receiver locations. Table 9-6 shows that the Project will generate a nighttime operational noise level increase ranging from 0.0 to 0.1 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will not exceed the operational noise level increase significance criteria presented in Table 4-1, and, therefore, the increases at the sensitive receiver locations will be *less than significant*.

TABLE 9-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	43.7	L1	68.9	68.9	0.0	1.5	No
R2	48.3	L2	66.2	66.3	0.1	1.5	No
R3	39.9	L3	66.1	66.1	0.0	1.5	No
R4	38.1	L4	68.2	68.2	0.0	1.5	No
R5	37.9	L5	69.8	69.8	0.0	1.5	No

¹ See Exhibit 8-A for the receiver locations.

² Total Project daytime operational noise levels as shown on Table 9-2.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-1.

TABLE 9-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	43.6	L1	66.2	66.2	0.0	1.5	No
R2	48.0	L2	63.5	63.6	0.1	3.0	No
R3	39.7	L3	62.2	62.2	0.0	3.0	No
R4	37.9	L4	63.6	63.6	0.0	3.0	No
R5	37.8	L5	68.0	68.0	0.0	1.5	No

¹ See Exhibit 8-A for the receiver locations.

² Total Project nighttime operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-1.

10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 8-A shows the construction noise source activity in relation to the nearby sensitive receiver locations previously described in Section 8. Section 9.40.060[D] of the City's Noise Ordinance indicates that noise sources associated with construction, repair, remodeling, or grading of any real property, are exempt from the provisions of the noise ordinance, provided the construction activities take place between the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday, with no construction allowed on Sundays and Federal holidays (Section 15.44.030), and provided the noise levels exceeding 65 dBA when measured on residential property do not endanger the public health, welfare and safety. While the FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable construction noise threshold for noise sensitive residential land use, a more conservative construction noise level threshold of 65 dBA L_{eq} consistent with the City of Chino Municipal Code, Section 9.40.060[D], is used in this analysis to assess the potential Project related construction impacts.

10.1 CONSTRUCTION NOISE LEVELS

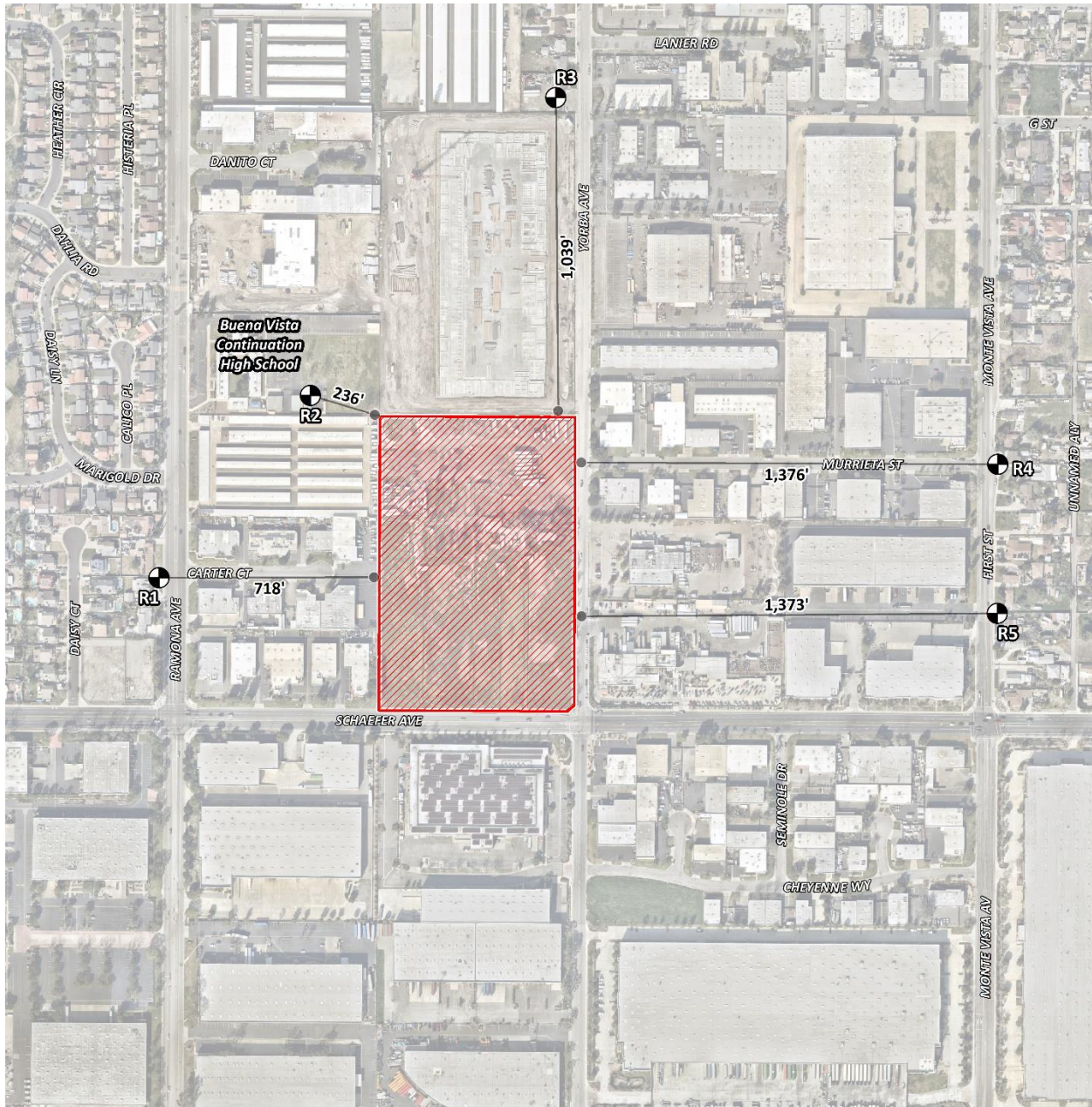
The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (21) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 10-2, the construction noise levels are expected to range from 49.4 to 63.5 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-1: PCONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{eq}) ¹	Combined Noise Level (dBA L_{eq}) ²	Combined Sound Power Level (PWL) ³
Site Preparation	Crawler Tractors	78	80	112
	Hauling Trucks	72		
	Rubber Tired Dozers	75		
Grading	Graders	81	83	115
	Excavators	77		
	Compactors	76		
Building Construction	Cranes	73	81	113
	Tractors	80		
	Welders	70		
Paving	Pavers	74	83	115
	Paving Equipment	82		
	Rollers	73		
Architectural Coating	Cranes	73	77	109
	Air Compressors	74		
	Generator Sets	70		

¹ FHWA Roadway Construction Noise Model (RCNM).

² Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calibrated using the CadnaA noise model at the reference distance to the noise source.

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	57.0	60.0	58.0	60.0	54.0	60.0
R2	60.5	63.5	61.5	63.5	57.5	63.5
R3	53.7	56.7	54.7	56.7	50.7	56.7
R4	52.4	55.4	53.4	55.4	49.4	55.4
R5	52.5	55.5	53.5	55.5	49.5	55.5

¹ Construction noise source and receiver locations are shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.4 PROJECT SITE CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, the City of Chino construction-related daytime noise level threshold of 65 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the daytime 65 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 10-3: PROJECT SITE CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	60.0	65	No
R2	63.5	65	No
R3	56.7	65	No
R4	55.4	65	No
R5	55.5	65	No

¹ Construction noise source and receiver locations are shown on Exhibit 10-A.

² Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 10-2.

³ Construction noise level thresholds as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building pad and truck court area as shown on

Exhibit 8-B. Since the nighttime concrete pours will take place outside the hours permitted by Section 9.40.060[D] of the City's Noise Ordinance the Project Applicant will be required to obtain authorization for nighttime work from the City of Chino. Any nighttime construction noise activities are evaluated against the nighttime exterior residential noise level threshold of 50 dBA L_{eq} for noise sensitive residential land use (see Table 3-1).

10.5.1 NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pouring activities, sample reference noise level measurements were taken during a nighttime concrete pour at a construction site. Urban Crossroads, Inc. collected short-term nighttime concrete pour reference noise level measurements during the noise-sensitive nighttime hours between 1:00 a.m. to 2:00 a.m. at 27334 San Bernardino Avenue in the City of Redlands. The reference noise levels describe the expected concrete pour noise sources that may include concrete mixer truck movements and pouring activities, concrete paving equipment, rear mounted concrete mixer truck backup alarms, engine idling, air brakes, generators, and workers communicating/whistling.

To describe the nighttime concrete pour noise levels associated with the construction of the Project, this analysis relies on reference sound pressure level of 67.7 dBA L_{eq} at 50 feet representing a sound power level of 100.3 dBA L_w . While the Project noise levels will depend on the actual duration of activities and specific equipment fleet in use at the time of construction, the reference sound power level of 100.3 dBA L_w is used to describe the expected Project nighttime concrete pour noise activities.

10.5.2 NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 10-4, the noise levels associated with the nighttime concrete pour activities are estimated to range from 43.6 to 51.8 dBA L_{eq} . The analysis shows that the unmitigated nighttime concrete pour activities will exceed the City of Chino 50 dBA L_{eq} nighttime residential noise level threshold at receiver location R2. However, receiver location R2 represents the Buena Vista Continuation High School and is not expected to include any receivers during the noise sensitive nighttime hours from 10:00 p.m. to 7:00 a.m. The other receiver locations R1, and R3, R4 and R5 will not exceed the City of Chino 50 dBA L_{eq} nighttime residential noise level threshold during potential nighttime concrete pour activities. Therefore, the noise impacts due to Project construction nighttime concrete pour noise activity are considered *less than significant* at all receiver locations with prior authorization for nighttime work from the City of Chino. Appendix 10.2 includes the CadnaA nighttime concrete pour noise model inputs.

EXHIBIT 10-B: NIGHTTIME CONCRETE POUR NOISE SOURCE AND RECEIVER LOCATIONS



LEGEND:

  Site Boundary  Nighttime Concrete Pour Activity Area  Receiver Locations

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver Location ¹	Concrete Pour Construction Noise Levels (dBA Leq)		
	Exterior Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	44.7	50	No
R2	47.6	50	No
R3	42.0	50	No
R4	40.9	50	No
R5	41.1	50	No

¹ Construction noise source and receiver locations are shown on Exhibit 10-A.

² Nighttime Concrete Pour noise model inputs are included in Appendix 10.2.

³ City of Chino Municipal Code, Section 9.40.040 (Appendix 3.1) nighttime residential exterior noise standard.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.6 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory Roller	0.210

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 10-6 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 236 to 1,376 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.000 to 0.002 in/sec RMS and will remain below the City of Chino threshold of 0.05 in/sec RMS at all receiver locations.

TABLE 10-6: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver ¹	Distance to Const. Activity (Feet)	Receiver Levels (in/sec) RMS ²					Threshold (in/sec) RMS ⁴	Threshold Exceeded? ⁵
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration		
R1	718'	0.000	0.000	0.000	0.000	0.000	0.05	No
R2	236'	0.000	0.001	0.002	0.002	0.002	0.05	No
R3	1,039'	0.000	0.000	0.000	0.000	0.000	0.05	No
R4	1,376'	0.000	0.000	0.000	0.000	0.000	0.05	No
R5	1,373'	0.000	0.000	0.000	0.000	0.000	0.05	No

¹ Receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 10-4. Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, April 2020.

³ Source: City of Chino Municipal Code Section 9.40.110

⁴ Does the vibration level exceed the maximum acceptable vibration threshold?

Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
3. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
4. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
5. **U.S. Department of Transportation Federal Highway Administration.** *Highway Noise Barrier Design Handbook.* 2001.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
9. **Office of Planning and Research.** *State of California General Plan Guidelines.* 2019.
10. **City of Chino.** *General Plan Noise Element.* July 2010.
11. —. *Municipal Code, Chapter 9.40 - Noise, and Section 20.09.050 Airport Overlay District.*
12. **County of San Bernardino.** *Chino Airport Master Plan, Appendix B Environmental Overview.* 2010.
13. **San Bernardino County Airport Land Use Commission.** *Chino Airport Comprehensive Land Use Plan.* November 1991.
14. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
15. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
16. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
17. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
18. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
19. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
21. **Urban Crossroads, Inc.** *Chino Lovett Industrial Traffic Analysis.* July 2023.

22. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Chino Lovett Industrial Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of San Diego • March, 2018
Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:
CITY OF CHINO MUNICIPAL CODE

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Chapter 9.40 - NOISE*

Sections:

9.40.010 - Definitions.

The following words, phrases and terms as used in this chapter shall have the meanings as indicated here:

"Agricultural property" means a parcel of real property which is undeveloped for any use other than agricultural purposes.

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"A-weighted sound level" means the total sound level meter with a reference pressure of twenty micro-pascals using the A-weighted network (scale) at slow response. The unit of measurement shall be defined as dBA.

"Commercial property" means a parcel of real property which is developed and used as either in or part or in whole for commercial purposes.

"Cumulative period" means an additive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" means a unit which denotes the ratio between two quantities which are proportional to power: the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Director of community development" means the director of community development of the city of Chino or his/her duly authorized deputy.

"Dwelling unit" means a single unit providing complete independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

"Emergency machinery, vehicle, work or alarm" means any machinery, vehicle, work or alarm used, employed, performed or operated in an effort to protect, provide or restore safety conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

"Fixed noise source" means a stationary device which creates sounds while fixed or motionless including but not limited to residential, agricultural, industrial and commercial machinery and equipment, pumps, fans, compressors, air conditioners and refrigeration equipment.

"Grading" means any excavating or filling of earth material or any combination thereof conducted at a site to prepare said site for construction or other improvements thereon.

"Hertz (Hz)" means the unit which describes the frequency of a function periodic in time which is the reciprocal of the period.

"Health care institution" means any hospital, convalescent home or other similar facility excluding residential.

"Impulsive noise" means a noise of short duration usually less than one second and of high intensity, with an abrupt onset and rapid decay.

"Industrial property" means a parcel of real property which is developed and used either in part or in whole for manufacturing purposes.

"Intruding noise level" means the total sound level, in decibels, created, caused, maintained or originating from an alleged offensive source at a specified location while the alleged offensive source is in operation.

"Licensed" means the issuance of a formal license or permit by the appropriate jurisdictional authority, or where no permits or licenses are issued, the sanctioning of the activity by the jurisdiction as noted in public record.

"Major roadway" means any street, avenue, boulevard or highway used for motor vehicle traffic which is owned or controlled by a public government entity.

"Mobile noise source" means any noise source other than a fixed noise source.

"Person" means a person, firm, association, co-partnership, joint venture, corporation or any entity, public or private in nature.

"Residential property" means a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and motels, and residential care facilities.

"Simple tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished. If measured, simple tone noise shall exist if the one-third octave band sound pressure levels in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two continuous one-third octave bands as follows: 5 dB for frequencies of 500 Hertz (Hz) and above or; by 15 dB for frequencies less than equal to 125 Hz.

"Sound level meter" means an instrument meeting American National Standard Institute's Standard S1.4-1971 or most recent revision thereof for Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

"Sound pressure level" of a sound, in decibels, means twenty times the logarithm to the base 10 of the ratio of the pressure of the sound to a reference pressure shall be explicitly stated.

"Vibration" means any movement of the earth, ground or other similar surface created by a temporal and spacial oscillation device or equipment located upon, affixed in conjunction with that surface.

(Ord. 95-10 § 1 (part), 1995.)

9.40.020 - Decibel measurement criteria.

Any decibel measurement made pursuant to the provisions of this chapter shall be based on a reference sound pressure of twenty micro-pascals as measured with a sound level meter using the A-weighted network (scale) at slow response.

(Ord. 95-10 § 1 (part), 1995.)

9.40.030 - Designated noise zones.

The properties hereinafter described are assigned to the following noise zones:

Noise Zone I: All single-, double- and multiple-family residential properties.

Noise Zone II: All commercial properties.

Noise Zone III: All manufacturing or industrial properties.

(Ord. 95-10 § 1 (part), 1995.)

9.40.040 - Exterior noise standards.

The following noise standards, unless otherwise specifically indicated, shall apply to all residential property with a designated noise zone:

These criteria are given in terms of allowable noise levels for a given period of time at the residential property boundary. Higher noise levels are permitted during the day (seven a.m. to ten p.m.) than the night (ten p.m. to seven a.m.). The table below shows the acceptable levels at residential land uses during the daytime and nighttime.

city of Chino Exterior Noise Ordinance Criteria for Residential Properties (Zone 1)			
Maximum Time of Exposure	Noise Metric	Noise Level Not to Exceed	
		7 am—10 pm	10 pm—7 am
30 min/hr	L50	55 dBA	50 dBA
15 min/hr	L25	60 dBA	55 dBA
5 min/hr	L8.3	65 dBA	60 dBA
1 min/hr	L1.7	70 dBA	65 dBA
Any period of time	Lmax	75 dBA	70 dBA

Each of the noise limits specified here shall be reduced by five dBA for impulse or simple tone noises, or for noises consisting of speech or music; provided, however, that if the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

It is unlawful for any person at any location within the incorporated area of the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property, to exceed:

- A. The noise standard for a cumulative period of more than thirty minutes in any hour; or
- B. The noise standard plus five dBA for a cumulative period of more than fifteen minutes in any hour; or
- C. The noise standard plus ten dBA for a cumulative period of more than five minutes in any hour; or
- D. The noise standard plus fifteen dBA for a cumulative period of more than one minute in any hour; or
- E. The noise standard plus twenty dBA for any period of time.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

If the measurement location is on boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

If the intruding noise source is continuous and cannot be reasonably discontinued or stopped for a time period whereby the ambient noise level can be determined, the measured noise level obtained while the source is in operation shall be compared directly to the allowable noise level standards as specified respective to the measurement location's designated land use and for the time of the day the noise level is measured.

- A. The reasonableness of temporarily discontinuing the noise generation by an intruding noise source shall be determined by the director or his/her duly authorized deputy for the purpose of establishing the existing ambient noise level at the measurement location.

(Ord. 95-10 § 1 (part), 1995.)

9.40.050 - Interior noise standards.

The following noise standard, unless otherwise specifically indicated, shall apply to all residential property within all noise zones:

Each of the noise limits specified above shall be reduced by five dBA for impulse or simple tone noises or for noises consisting of speech or music provided, however, if the ambient noise level exceeds the resulting standard, the ambient shall be the standard.

It is unlawful for any person at any location within the incorporated area of the city to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such a person which causes the noise level when measured within any other residential dwelling unit in any noise zone to exceed:

- A. The noise standard for cumulative period of more than five minutes in any hour; or
- B. The noise standard plus 5 dBA for a cumulative period of more than one minute in any hour; or
- C. The noise standard plus ten dBA for any period of time.

In the event the ambient noise level exceeds any of the first two noise limit categories above, the noise standard applicable to said category shall be increased to reflect the maximum ambient noise level.

If the measurement location is on a boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply.

If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be determined; the same procedures specified in Section 9.40.040(E), shall be deemed proper to enforce the provisions of this section.

(Ord. 95-10 § 1 (part), 1995.)

9.40.060 - Special provisions.

The following activities shall be exempted from the provisions of this chapter:

- A. Activities conducted on public parks, public playgrounds and public or private school grounds including school athletic and school entertainment events that are conducted under the sanction of the school or which a license or permit has been duly issued pursuant to any provision of the city code;
- B. Occasional outdoor gatherings, public dances, show, sporting and entertainment events, provided said events are conducted pursuant to a permit or license issued by the appropriate jurisdiction relative to the staging of said events. Such permits and licenses may restrict noise;
- C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle, work or warning alarm or bell, provided the sounding of any bell or alarm on

any building or motor vehicle shall terminate its operation within thirty minutes in any hour of its being activated;

- D. Noise sources associated with or vibration created by construction, repair, remodeling or grading of any real property or during authorized seismic surveys, provided said activities do not take place outside the hours for construction as defined in Section 15.44.030 of this code, and provided the noise standard of sixty-five dBA plus the limits specified in Section 9.40.040(B) as measured on residential property and any vibration created does not endanger the public health, welfare and safety;
- E. All mechanical devices, apparatus or equipment associated with agriculture operations provided:
1. Operations do not take place between eight p.m. and seven a.m. on weekdays, including Saturday, or at any time Sunday or a Federal holiday, or
 2. Such operations and equipment are utilized for the protection of salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions, or
 3. Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the California Department of Agriculture,
 4. Noise sources associated with the maintenance of real property, provided said activities take place between the hours of seven a.m. to eight p.m. on any day except Sunday, or between the hours of nine a.m. and eight p.m. on Sunday,
 5. Any activity to the extent regulation thereof has been preempted by state or federal law.

NOTE: Preemption may include motor vehicle, aircraft in flight, and railroad noise regulations.

(Ord. 2004-23 § 59, 2004; Ord. 95-10 § 1 (part), 1995.)

9.40.070 - Schools, churches, libraries, health care institutions—Special provisions.

It shall be deemed unlawful for any person to create any noise which causes the noise level at any school, hospital or similar health care institution, church or library while the same is in use, to exceed the noise standards specified in Section 9.40.040 prescribed for the assigned noise zone level, unreasonably interferes with the use of such institutions, or which unreasonably disturbs or annoys patients in a hospital, convalescent home or other similar health care institutions, provided conspicuous signs are displayed in three separate locations within one-tenth-mile of the institution or facility indicating a quiet zone.

(Ord. 95-10 § 1 (part), 1995.)

9.40.080 - Air conditioning and refrigeration—Special provisions.

Until January 1, 1996, the noise standards enumerated in Section 9.40.040 and 9.40.050 shall be increased five dBA where the alleged intruding noise source is an air conditioning or refrigeration system or associated equipment which was installed prior to the effective date of the ordinance codified in this chapter.

(Ord. 95-10 § 1 (part), 1995.)

9.40.090 - Noise sources generated on publicly owned property.

Notwithstanding any other provision of this code and in addition thereto, it is unlawful for any person to permit or cause any noise, sound, music or program to be emitted from any radio, tape player, tape recorder, record player, television outdoors, or any other mode on or in any publicly owned property, park or place when such noise, sound, music or program is audible to a person of normal hearing sensitivity one hundred feet from said radio, tape player, tape recorder, record player or television.

- A. As used herein, "a person of normal hearing sensitivity" means a person who has a hearing threshold level of between zero decibels and twenty-five decibels HL averaged over the frequencies 500, 1,000 and 2,000 Hertz.
- B. Notwithstanding any other provision of this code, any person violating this section shall be guilty of an infraction and upon conviction thereof, is punishable by a fine not exceeding fifty dollars, for a first violation; a fine not exceeding one hundred dollars for a second violation of this section within one year; a fine not exceeding two hundred fifty dollars for each additional violation of this section within one year. A person who violates the provisions of this section shall be deemed to be guilty of a separate offense for each day, or portion thereof, during which the violation continues or is repeated.
- C. Notwithstanding any other provision of this code, no citation or notice to appear shall be issued or criminal complaint shall be filed for a violation of this section unless the offending party is first given a verbal or written notification of violation by any peace officer, public officer, park ranger or other person charged with enforcing this section and the offending party given an opportunity to correct said violation.
- D. This section shall not apply to broadcasting from any aircraft, vehicle or stationary sound amplifying equipment or to the use of radios, tape players, tape recorders, record players or televisions in the course of an assembly or festival for which a license has been issued or a parade for which a permit has been issued pursuant to or any other activity, assembly or function for which a permit or license has been duly issued pursuant to any provision of the city code.

(Ord. 95-10 § 1 (part), 1995.)

9.40.100 - Noise level measurement.

The location selected for measuring exterior noise levels shall be made within the affected residential unit. The measurements shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source with windows in an open position depending on the normal seasonal ventilation requirements.

(Ord. 95-10 § 1 (part), 1995.)

9.40.110 - Vibration.

Notwithstanding other sections of this chapter, it is unlawful for any person to create, maintain or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located. **For the purpose of this chapter, the perception threshold shall be presumed to be more than 0.05 inches per second RMS vertical velocity.**

(Ord. 95-10 § 1 (part), 1995.)

9.40.120 - Proposed developments.

Each department whose duty it is to review and approve new projects or changes to existing projects that result or may result in the creation of noise shall consult with the director prior to any such approval. If at any time the director of community development has reason to believe that a standard, regulation,

action, proposed standard, regulation or action of any department respecting noise does not conform to the provisions as specified in this chapter, the director may request such department to consult with them on the advisability of revising such standard or regulation to obtain uniformity.

(Ord. 95-10 § 1 (part), 1995.)

9.40.130 - Variance procedure.

The variance procedure process shall remain as specified in the city's zoning code (Title 20).

(Ord. 95-10 § 1 (part), 1995.)

9.40.140 - Planning commission.

The planning commission shall evaluate all applications for variance from the requirements of this chapter and may grant said variances with respect to time for compliance, subject to such terms, conditions and requirements as it may deem reasonable to achieve maximum compliance with the provisions of this chapter. Said terms, conditions and requirements may include, but shall not be limited to, limitation on noise levels and operating hours. Each such variance shall set forth in detail the approved method of achieving maximum compliance and a time schedule for its accomplishment. In its determinations, the commission shall consider the following:

- A. The magnitude of nuisance caused by the offensive noise;
- B. The uses of property within the area of impingement by the noise;
- C. The time factors related to study, design, financing and construction of remedial work;
- D. The economic factors related to age and useful life of the equipment;
- E. The general public interest, welfare and safety.

Any variance granted by the commission shall be by resolution and shall be transmitted to the director of community development for enforcement. Any violation of the terms of said variance shall be unlawful.

The planning commission may require additional acoustical studies based on the individual circumstances of each case. Such studies must be performed by a person qualified in acoustical engineering with the state of California.

Meetings of the planning commission shall be held at the call of the secretary and at such times and locations as the commission shall determine. All such meetings shall be open to the public.

(Ord. 95-10 § 1 (part), 1995.)

9.40.150 - Appeals.

The appeal procedure process shall remain as specified in the city's zoning code (Title 20).

(Ord. 95-10 § 1 (part), 1995.)

9.40.160 - Prima facie violation.

Any noise exceeding the noise level standard as specified in Section 9.40.040 and 9.40.050 or vibration exceeding the standard as specified in Section 9.40.110 of this chapter, shall be deemed to be prima facie evidence of a violation of the provisions of this chapter.

(Ord. 95-10 § 1 (part), 1995.)

9.40.170 - Violations/misdemeanors.

Any persons violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not to exceed an amount as specified by city council resolution, or be imprisoned in the Jail for a period not to exceed six months or by both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such.

(Ord. 95-10 § 1 (part), 1995.)

9.40.180 - Violations/additional remedies— Injunctions.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provisions of this chapter which operation or maintenance causes or creates sound levels or vibration exceeding the allowable standards as specified in this chapter shall be deemed and is hereby declared to be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction.

Any violation of this chapter is declared to be a public nuisance and may be abated in accordance with law. The expense of this chapter is declared to be public nuisance and may be by resolution of the city council declared to be a lien against the property on which such nuisance is maintained, and such lien shall be made a personal obligation of the property owner.

(Ord. 95-10 § 1 (part), 1995.)

9.40.190 - Manner of enforcement.

The director is directed to enforce the provisions of this chapter and is authorized and may cite at his/her discretion, any person without a warrant who has reasonable cause to believe that such person has committed a misdemeanor in his/her presence.

No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his/her duty.

Violations of this chapter shall be prosecuted in the same manner as other misdemeanor violations pursuant to Chapter 1.12; provided, however, that in the event of an initial violation of the provisions of this chapter, a written notice shall be given the alleged violator which specifies the time by which the condition shall be corrected or an application for variance shall be received by the event the cause of the violation has been removed, the condition abated or fully corrected within the time period specified in the written notice.

In the event the alleged violator cannot be located in order to serve the notice of intention to prosecute, the notice as required herein shall be deemed to be given upon mailing such notice to registered or certified mail to the alleged violator at his last known address or at the place where the violation occurred in which event the specified time period for abating the violation or applying for a variance shall commence at the date of the day following the mailing of such notice. Subsequent violations of the same offense shall result in the immediate filing of a misdemeanor complaint.

(Ord. 95-10 § 1 (part), 1995.)

9.40.200 - Delay in implementation—Fixed noise sources.

None of the provisions of this chapter shall apply to a fixed sound source during the period commencing the effective date of this chapter and terminating one-hundred eighty days thereafter.

(Ord. 95-10 § 1 (part), 1995.)

15.44.030 - Construction hours.

- A. Construction shall occur only between the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday, with no construction allowed on Sundays and federal holidays. For the purposes of this section, construction shall mean any manmade change to improved or unimproved real estate, including, but not limited to, buildings or other structures, streets and other paving, utilities, filling, grading, excavation, mining, dredging, drilling operations, or pile driving.
- B. The director of development services may approve exceptions to the hours of construction noted in Subsection A of this section, provided that the change in hours does not adversely impact the adjacent neighborhood.

(Ord. [2022-015](#), § 1, 7-19-2022.)

APPENDIX 5.1:
STUDY AREA PHOTOS

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15334_L1_J 1.North
34, 0' 20.670000"117, 42' 23.250000"



15334_L1_J 2.South
34, 0' 20.710000"117, 42' 23.230000"



15334_L1_J 3.East
34, 0' 20.760000"117, 42' 22.980000"



15334_L1_J 4.West
34, 0' 20.780000"117, 42' 23.010000"

JN:13796



15334_L2_O 1.North
34, 0' 26.270000"117, 42' 23.470000"



15334_L2_O 2.South
34, 0' 26.260000"117, 42' 23.500000"



15334_L2_O 3.East
34, 0' 26.220000"117, 42' 23.440000"



15334_L2_O 4.West
34, 0' 26.240000"117, 42' 23.440000"

JN:13796



15334_L3_P 1.North
34, 0' 36.040000"117, 42' 8.090000"



15334_L3_P 2.South
34, 0' 36.020000"117, 42' 8.120000"



15334_L3_P 3.East
34, 0' 35.900000"117, 42' 8.040000"



15334_L3_P 4.West
34, 0' 35.880000"117, 42' 8.090000"

JN:13796



15334_L4_S 1.North
34, 0' 23.320000"117, 41' 52.880000"



15334_L4_S 2.South
34, 0' 23.210000"117, 41' 52.790000"



15334_L4_S 3.East
34, 0' 23.220000"117, 41' 52.790000"



15334_L4_S 4.West
34, 0' 23.190000"117, 41' 52.880000"

JN:13796



15334_L5_X 1.North
34, 0' 19.570000"117, 41' 53.120000"



15334_L5_X 2.South
34, 0' 19.450000"117, 41' 52.900000"



15334_L5_X 3.East
34, 0' 19.460000"117, 41' 52.880000"



15334_L5_X 4.West
34, 0' 19.340000"117, 41' 53.040000"

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APPENDIX 5.2:
NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

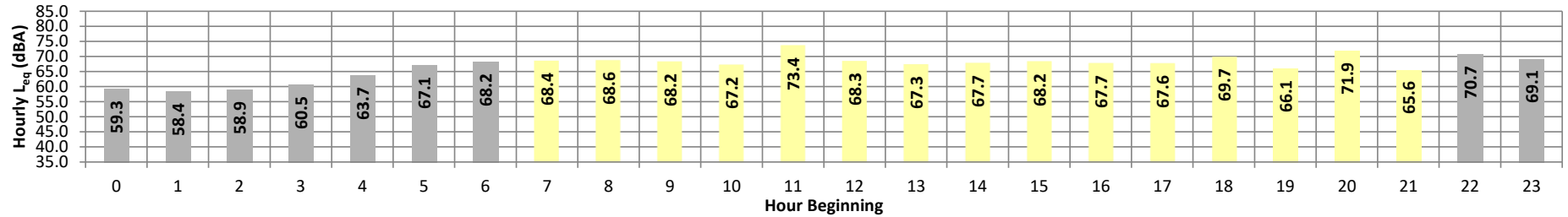
Date: Friday, March 24, 2023
Project: 13610 Yorba

Location: L1 - Located west of the site near the residence at 13626
Source: Ramona Ave.

Meter: Piccolo II

JN: 15334
Analyst: Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	59.3	70.7	45.8	70.4	69.7	67.2	64.9	56.3	49.9	46.5	46.2	45.9	59.3	10.0	69.3
	1	58.4	69.7	44.3	69.5	69.0	66.5	64.1	55.7	48.7	45.1	44.7	44.4	58.4	10.0	68.4
	2	58.9	70.9	43.6	70.7	70.1	67.2	64.3	54.8	48.0	44.5	44.1	43.7	58.9	10.0	68.9
	3	60.5	71.1	45.4	70.8	70.3	68.3	66.3	59.4	51.2	46.1	45.8	45.5	60.5	10.0	70.5
	4	63.7	73.2	48.1	72.9	72.5	70.8	69.3	64.3	57.1	49.3	48.7	48.2	63.7	10.0	73.7
	5	67.1	77.7	51.1	77.4	76.9	74.3	72.3	67.0	60.7	52.3	51.7	51.2	67.1	10.0	77.1
Day	6	68.2	78.8	53.1	78.6	77.8	75.1	72.9	68.1	63.0	54.6	53.7	53.2	68.2	10.0	78.2
	7	68.4	77.7	54.9	77.4	76.6	74.3	73.1	69.3	64.7	56.6	55.7	55.1	68.4	0.0	68.4
	8	68.6	78.6	52.5	78.2	77.4	74.6	72.9	69.3	64.7	55.2	54.1	52.7	68.6	0.0	68.6
	9	68.2	78.3	52.1	77.7	77.1	75.1	73.0	68.4	63.6	54.8	53.2	52.3	68.2	0.0	68.2
	10	67.2	77.2	51.2	76.9	76.2	73.8	71.9	67.5	62.9	53.8	52.6	51.4	67.2	0.0	67.2
	11	73.4	82.3	60.4	82.0	81.4	79.6	78.1	74.3	70.2	63.9	62.4	60.7	73.4	0.0	73.4
	12	68.3	78.1	56.5	77.7	77.1	74.7	72.7	68.4	64.6	58.8	57.6	56.7	68.3	0.0	68.3
	13	67.3	77.1	51.9	76.7	76.0	73.7	72.1	67.8	63.0	54.5	53.1	52.2	67.3	0.0	67.3
	14	67.7	77.1	52.9	76.7	76.1	74.1	72.6	68.4	63.6	55.3	54.1	53.2	67.7	0.0	67.7
	15	68.2	78.3	55.2	77.8	77.1	74.4	72.8	68.6	64.5	58.1	57.2	55.6	68.2	0.0	68.2
	16	67.7	78.3	53.9	77.9	77.1	74.3	72.3	67.5	63.0	55.7	54.6	54.0	67.7	0.0	67.7
	17	67.6	77.9	53.6	77.5	76.7	73.9	72.4	67.9	62.4	55.5	54.8	53.7	67.6	0.0	67.6
	18	69.7	83.4	53.0	81.7	80.3	76.3	73.8	67.9	63.6	55.2	54.0	53.2	69.7	0.0	69.7
	19	66.1	75.6	51.1	75.3	74.5	72.4	71.0	66.8	61.3	52.8	51.9	51.3	66.1	5.0	71.1
	20	71.9	86.0	50.9	85.5	84.3	79.1	74.4	66.3	61.0	52.7	51.7	51.0	71.9	5.0	76.9
	21	65.6	75.8	49.1	75.3	74.6	72.2	70.5	65.9	60.5	51.1	50.1	49.3	65.6	5.0	70.6
Night	22	70.7	85.9	50.2	84.4	82.7	77.4	73.1	65.6	59.6	52.1	51.2	50.4	70.7	10.0	80.7
	23	69.1	82.6	46.3	82.3	81.5	77.0	72.3	63.2	55.3	47.6	46.9	46.5	69.1	10.0	79.1
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour CNEL		
Day	Min	65.6	75.6	49.1	75.3	74.5	72.2	70.5	65.9	60.5	51.1	50.1	49.3	73.5	68.9	66.2
	Max	73.4	86.0	60.4	85.5	84.3	79.6	78.1	74.3	70.2	63.9	62.4	60.7			
Energy Average		68.9	Average:		78.3	77.5	74.8	72.9	68.3	63.6	55.6	54.5	53.5			
Night	Min	58.4	69.7	43.6	69.5	69.0	66.5	64.1	54.8	48.0	44.5	44.1	43.7			
	Max	70.7	85.9	53.1	84.4	82.7	77.4	73.1	68.1	63.0	54.6	53.7	53.2			
Energy Average		66.2	Average:		75.2	74.5	71.5	68.8	61.6	54.8	48.7	48.1	47.7			

24-Hour Noise Level Measurement Summary

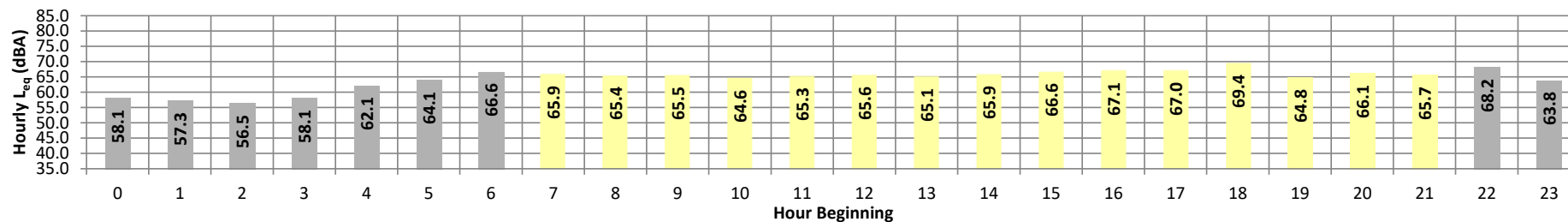
Date: Friday, March 24, 2023
Project: 13610 Yorba

Location: L2 - Located northwest of the site near Buena Vista
Source: Continuation High School

Meter: Piccolo II

JN: 15334
Analyst: Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	58.1	68.8	47.0	68.4	67.8	65.5	63.8	56.4	51.2	47.9	47.5	47.1	58.1	10.0	68.1
	1	57.3	68.9	44.5	68.5	67.8	64.7	62.6	54.8	49.2	45.3	45.0	44.6	57.3	10.0	67.3
	2	56.5	67.7	41.8	67.4	66.9	64.6	62.3	53.5	47.4	43.0	42.4	42.0	56.5	10.0	66.5
	3	58.1	68.5	44.2	68.1	67.5	65.3	63.6	57.8	51.5	45.4	44.9	44.3	58.1	10.0	68.1
	4	62.1	71.4	49.1	71.0	70.5	68.7	67.2	62.8	57.6	50.5	49.7	49.2	62.1	10.0	72.1
	5	64.1	74.1	51.5	73.6	72.9	70.7	69.0	64.1	59.6	52.9	52.3	51.6	64.1	10.0	74.1
	6	66.6	78.0	52.6	77.7	76.8	73.4	71.0	65.8	61.4	54.1	53.4	52.8	66.6	10.0	76.6
Day	7	65.9	75.0	52.6	74.6	74.2	72.1	70.5	66.6	62.2	54.3	53.5	52.8	65.9	0.0	65.9
	8	65.4	74.4	51.6	74.1	73.5	71.2	69.7	66.5	62.5	54.5	53.1	51.9	65.4	0.0	65.4
	9	65.5	74.8	51.0	74.5	74.0	71.8	70.2	66.0	62.2	53.2	52.0	51.2	65.5	0.0	65.5
	10	64.6	74.1	49.8	73.7	73.1	70.9	69.3	65.3	60.9	52.3	50.9	50.0	64.6	0.0	64.6
	11	65.3	75.3	49.1	74.9	74.3	72.0	70.3	65.5	60.8	51.3	50.2	49.3	65.3	0.0	65.3
	12	65.6	76.2	51.1	75.6	74.8	71.8	70.0	65.8	61.5	53.3	52.2	51.4	65.6	0.0	65.6
	13	65.1	75.4	50.6	75.0	74.2	71.3	69.5	65.4	61.1	53.2	52.0	50.9	65.1	0.0	65.1
	14	65.9	76.2	52.6	75.7	75.0	72.4	70.4	65.8	61.8	54.4	53.5	52.8	65.9	0.0	65.9
	15	66.6	76.3	55.2	75.9	75.2	72.7	71.0	66.8	63.4	57.2	56.2	55.4	66.6	0.0	66.6
	16	67.1	77.7	54.6	77.1	76.3	73.1	71.1	67.2	63.5	56.9	55.7	54.9	67.1	0.0	67.1
	17	67.0	77.4	54.5	76.9	76.0	73.3	71.4	67.3	63.3	56.5	55.6	54.7	67.0	0.0	67.0
	18	69.4	81.7	54.4	81.1	80.1	76.6	73.7	67.1	63.4	56.7	55.9	54.6	69.4	0.0	69.4
	19	64.8	74.0	53.1	73.6	73.0	71.1	69.5	65.3	61.3	54.4	53.7	53.2	64.8	5.0	69.8
	20	66.1	78.2	52.2	77.7	76.8	72.9	70.1	64.9	60.4	54.1	53.1	52.4	66.1	5.0	71.1
	21	65.7	78.3	49.1	77.6	76.4	72.7	69.7	63.9	59.1	51.2	50.1	49.3	65.7	5.0	70.7
Night	22	68.2	81.7	49.0	81.3	80.4	75.7	71.3	63.7	58.2	51.3	50.3	49.2	68.2	10.0	78.2
Night	23	63.8	77.8	46.2	76.9	75.3	70.0	67.2	61.3	55.2	47.7	47.0	46.3	63.8	10.0	73.8
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour CNEL		
Day	Min	64.6	74.0	49.1	73.6	73.0	70.9	69.3	63.9	59.1	51.2	50.1	49.3	70.8	66.2	63.5
	Max	69.4	81.7	55.2	81.1	80.1	76.6	73.7	67.3	63.5	57.2	56.2	55.4			
Energy Average		66.2	Average:		75.9	75.1	72.4	70.4	66.0	61.8	54.2	53.2	52.3			
Night	Min	56.5	67.7	41.8	67.4	66.9	64.6	62.3	53.5	47.4	43.0	42.4	42.0			
	Max	68.2	81.7	52.6	81.3	80.4	75.7	71.3	65.8	61.4	54.1	53.4	52.8			
Energy Average		63.5	Average:		72.6	71.8	68.7	66.4	60.0	54.6	48.7	48.0	47.5			

24-Hour Noise Level Measurement Summary

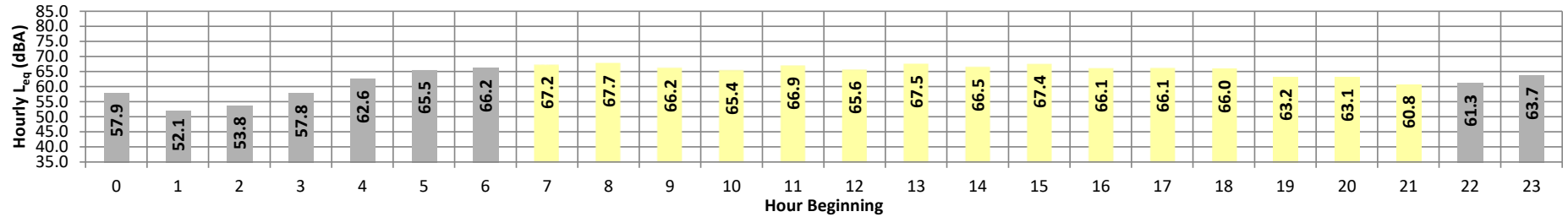
Date: Friday, March 24, 2023
Project: 13610 Yorba

Location: L3 - Located north of the project site near the residence at
Source: 13386 Yorba Ave.

Meter: Piccolo II

JN: 15334
Analyst: Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.9	69.2	46.3	69.0	68.6	66.1	63.8	54.1	48.8	46.8	46.6	46.4	57.9	10.0	67.9
	1	52.1	63.4	44.3	63.2	62.7	60.0	56.8	47.8	46.0	44.7	44.6	44.4	52.1	10.0	62.1
	2	53.8	63.6	43.8	63.4	63.0	61.5	59.8	52.0	47.1	44.3	44.1	43.9	53.8	10.0	63.8
	3	57.8	69.0	46.0	68.8	68.4	66.1	63.6	54.2	48.6	46.4	46.3	46.1	57.8	10.0	67.8
	4	62.6	72.3	48.4	72.1	71.7	69.8	68.3	62.3	55.8	49.7	49.1	48.5	62.6	10.0	72.6
	5	65.5	74.9	52.7	74.6	74.2	72.1	70.8	65.9	59.7	53.8	53.3	52.9	65.5	10.0	75.5
Day	6	66.2	74.9	55.7	74.7	74.2	72.9	71.7	66.6	61.3	56.5	56.1	55.8	66.2	10.0	76.2
	7	67.2	75.7	57.2	75.4	74.9	73.3	72.2	68.2	63.0	58.3	57.8	57.4	67.2	0.0	67.2
	8	67.7	75.6	59.5	75.3	74.8	73.4	72.3	68.2	65.1	61.2	60.5	59.7	67.7	0.0	67.7
	9	66.2	74.3	57.1	74.0	73.5	72.0	71.1	67.2	62.7	58.4	57.8	57.2	66.2	0.0	66.2
	10	65.4	74.5	54.2	74.1	73.6	71.8	70.7	65.7	60.6	55.5	54.9	54.4	65.4	0.0	65.4
	11	66.9	78.1	56.1	77.4	76.5	73.8	71.7	66.4	61.5	57.2	56.7	56.2	66.9	0.0	66.9
	12	65.6	73.6	54.7	73.3	72.8	71.5	70.5	66.9	62.2	56.1	55.4	54.8	65.6	0.0	65.6
	13	67.5	81.8	53.4	80.4	79.0	74.4	70.7	64.0	60.4	54.9	54.2	53.5	67.5	0.0	67.5
	14	66.5	74.8	54.8	74.5	74.0	72.4	71.2	67.3	63.4	60.4	57.0	55.9	66.5	0.0	66.5
	15	67.4	76.1	55.6	75.8	75.2	73.5	72.1	68.4	64.2	57.2	56.4	55.7	67.4	0.0	67.4
	16	66.1	73.8	54.3	73.5	73.1	71.8	70.9	67.5	62.4	56.0	55.2	54.5	66.1	0.0	66.1
	17	66.1	75.2	53.7	74.9	74.4	72.3	71.1	66.9	61.9	55.3	54.5	53.8	66.1	0.0	66.1
	18	66.0	78.6	51.5	77.8	76.8	73.1	70.4	64.3	57.4	52.5	52.0	51.6	66.0	0.0	66.0
	19	63.2	72.4	50.9	72.1	71.7	70.2	69.0	63.4	57.1	51.8	51.4	51.0	63.2	5.0	68.2
	20	63.1	72.6	51.0	72.2	71.8	69.8	68.3	63.4	57.8	52.1	51.6	51.1	63.1	5.0	68.1
	21	60.8	71.3	48.1	70.9	70.4	68.3	66.7	59.3	53.3	49.0	48.6	48.2	60.8	5.0	65.8
Night	22	61.3	71.8	48.6	71.4	70.8	68.5	66.9	60.4	54.9	49.7	49.3	48.7	61.3	10.0	71.3
Night	23	63.7	78.1	45.2	77.5	76.0	70.8	66.6	57.8	50.3	46.0	45.6	45.3	63.7	10.0	73.7
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour CNEL		
Day	Min	60.8	71.3	48.1	70.9	70.4	68.3	66.7	59.3	53.3	49.0	48.6	48.2	69.6	66.1	62.2
	Max	67.7	81.8	59.5	80.4	79.0	74.4	72.3	68.4	65.1	61.2	60.5	59.7			
Energy Average		66.1	Average:		74.8	74.2	72.1	70.6	65.8	60.9	55.5	54.9	54.3			
Night	Min	52.1	63.4	43.8	63.2	62.7	60.0	56.8	47.8	46.0	44.3	44.1	43.9			
	Max	66.2	78.1	55.7	77.5	76.0	72.9	71.7	66.6	61.3	56.5	56.1	55.8			
Energy Average		62.2	Average:		70.5	70.0	67.5	65.4	57.9	52.5	48.7	48.3	48.0			

24-Hour Noise Level Measurement Summary

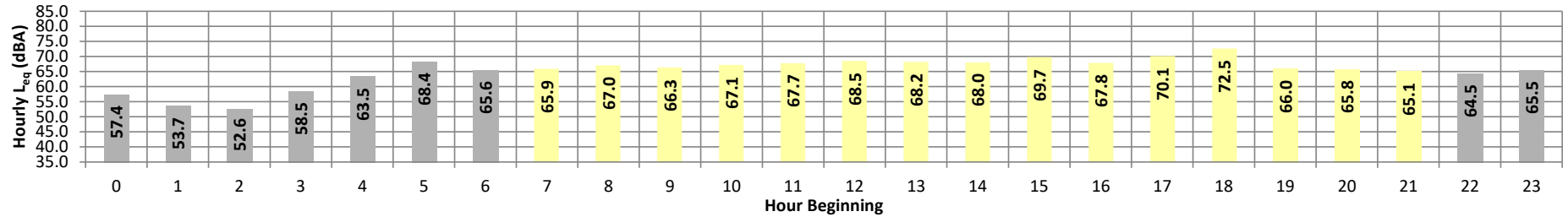
Date: Friday, March 24, 2023
Project: 13610 Yorba

Location: L4 - Located east of the project site near the residence at
Source: 13605 Monte Vista Ave.

Meter: Piccolo II

JN: 15334
Analyst: Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.4	68.1	44.0	67.7	67.1	65.1	63.0	55.9	49.9	44.6	44.3	44.0	57.4	10.0	67.4
	1	53.7	64.1	41.8	63.9	63.5	62.3	60.3	50.3	44.3	42.1	41.9	41.8	53.7	10.0	63.7
	2	52.6	63.4	42.3	63.1	62.6	60.8	58.8	48.7	44.7	42.6	42.4	42.3	52.6	10.0	62.6
	3	58.5	69.4	44.3	68.9	68.4	66.5	64.7	56.6	48.4	44.8	44.5	44.3	58.5	10.0	68.5
	4	63.5	73.9	47.4	73.5	72.9	70.8	69.0	62.8	57.3	48.2	47.7	47.5	63.5	10.0	73.5
	5	68.4	81.8	50.5	81.0	79.9	75.8	71.0	65.6	59.9	51.8	51.1	50.6	68.4	10.0	78.4
Day	6	65.6	73.8	51.6	73.5	73.0	71.6	70.7	66.9	61.7	53.0	52.3	51.7	65.6	10.0	75.6
	7	65.9	73.4	52.5	73.1	72.7	71.5	70.8	67.4	62.8	54.6	53.5	52.6	65.9	0.0	65.9
	8	67.0	77.9	49.5	77.5	76.9	74.4	71.7	66.5	61.1	52.1	50.7	49.8	67.0	0.0	67.0
	9	66.3	74.4	50.4	74.1	73.6	72.3	71.4	67.7	62.4	52.6	51.4	50.6	66.3	0.0	66.3
	10	67.1	75.4	54.1	75.0	74.6	73.1	72.2	68.3	63.4	55.6	54.9	54.3	67.1	0.0	67.1
	11	67.7	76.5	52.6	76.1	75.6	73.9	72.5	69.0	63.7	54.9	53.8	52.8	67.7	0.0	67.7
	12	68.5	78.5	51.4	78.0	77.5	74.7	73.2	69.0	64.2	54.3	52.6	51.5	68.5	0.0	68.5
	13	68.2	76.2	52.2	75.8	75.4	73.8	72.7	69.5	65.5	56.0	54.1	52.5	68.2	0.0	68.2
	14	68.0	75.8	53.3	75.4	74.8	73.2	72.3	69.5	65.8	56.2	54.7	53.5	68.0	0.0	68.0
	15	69.7	80.4	56.7	79.5	78.2	75.1	73.0	70.3	67.1	59.0	57.6	56.8	69.7	0.0	69.7
	16	67.8	74.4	55.5	74.1	73.8	72.7	72.0	69.4	65.9	57.8	56.6	55.6	67.8	0.0	67.8
	17	70.1	80.4	55.0	79.8	78.9	76.6	74.4	70.4	66.7	57.4	56.1	55.1	70.1	0.0	70.1
	18	72.5	85.4	53.9	85.1	84.5	79.3	75.9	69.1	64.9	56.1	55.0	54.0	72.5	0.0	72.5
	19	66.0	74.4	52.0	73.7	73.7	72.1	70.9	67.0	62.2	54.1	52.9	52.1	66.0	5.0	71.0
	20	65.8	74.3	50.8	73.9	73.4	72.0	70.9	66.8	61.7	53.5	52.0	51.0	65.8	5.0	70.8
21	65.1	74.4	48.6	74.1	73.6	71.8	70.5	65.9	59.3	50.2	49.3	48.7	65.1	5.0	70.1	
Night	22	64.5	74.4	48.5	74.0	73.6	71.7	70.0	64.3	57.5	49.9	49.2	48.7	64.5	10.0	74.5
Night	23	65.5	77.9	47.2	77.4	76.5	72.6	70.3	62.7	56.6	49.4	48.1	47.3	65.5	10.0	75.5
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour CNEL		
Day	Min	65.1	73.4	48.6	73.1	72.7	71.5	70.5	65.9	59.3	50.2	49.3	48.7	71.4	68.2	63.6
	Max	72.5	85.4	56.7	85.1	84.5	79.3	75.9	70.4	67.1	59.0	57.6	56.8			
Energy Average		68.2	Average:		76.4	75.8	73.8	72.3	68.4	63.8	55.0	53.7	52.7			
Night	Min	52.6	63.4	41.8	63.1	62.6	60.8	58.8	48.7	44.3	42.1	41.9	41.8			
	Max	68.4	81.8	51.6	81.0	79.9	75.8	71.0	66.9	61.7	53.0	52.3	51.7			
Energy Average		63.6	Average:		71.4	70.8	68.6	66.4	59.3	53.4	47.4	46.8	46.5			

24-Hour Noise Level Measurement Summary

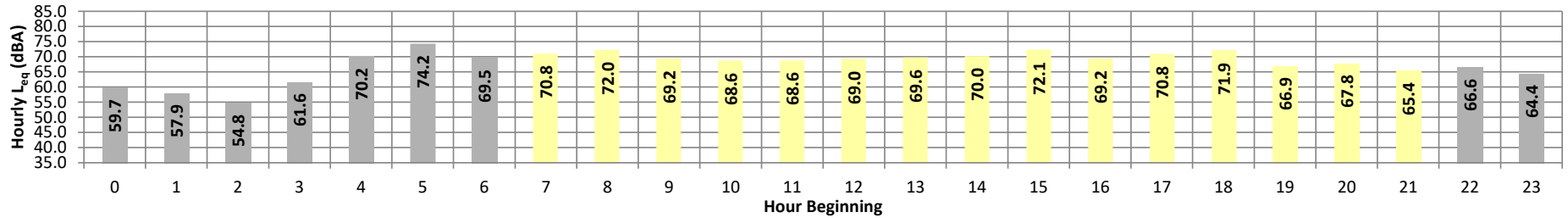
Date: Friday, March 24, 2023
Project: 13610 Yorba

Location: L5 - Located east of the project site near the residence at
Source: 13651 Monte Vista Ave.

Meter: Piccolo II

JN: 15334
Analyst: Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	59.7	69.9	49.2	69.6	69.1	67.1	65.3	58.4	53.7	49.8	49.6	49.3	59.7	10.0	69.7
	1	57.9	68.7	45.9	68.5	68.1	66.1	63.4	55.8	50.3	46.5	46.2	46.0	57.9	10.0	67.9
	2	54.8	65.7	46.3	65.4	64.9	62.5	60.1	52.1	48.8	46.8	46.6	46.4	54.8	10.0	64.8
	3	61.6	73.0	49.0	72.7	72.1	69.3	67.2	59.1	52.6	49.6	49.3	49.1	61.6	10.0	71.6
	4	70.2	83.6	54.2	82.9	81.7	77.1	73.8	66.9	61.0	55.2	54.7	54.3	70.2	10.0	80.2
	5	74.2	87.0	55.7	86.7	85.9	81.6	78.5	69.4	64.0	56.9	56.2	55.8	74.2	10.0	84.2
Day	6	69.5	78.5	57.0	78.2	77.6	75.9	74.7	70.4	65.0	58.6	57.9	57.2	69.5	10.0	79.5
	7	70.8	80.4	57.7	79.9	79.1	76.8	75.4	71.7	67.1	59.6	58.6	57.8	70.8	0.0	70.8
	8	72.0	84.4	57.2	83.7	82.5	78.9	76.1	70.6	65.4	58.7	57.9	57.3	72.0	0.0	72.0
	9	69.2	77.7	57.4	77.4	76.8	75.1	74.1	70.3	65.3	59.0	58.4	57.6	69.2	0.0	69.2
	10	68.6	77.7	55.2	77.3	76.7	74.6	73.6	69.6	63.8	57.0	56.1	55.4	68.6	0.0	68.6
	11	68.6	77.6	54.3	77.2	76.6	74.8	73.4	69.8	64.6	56.4	55.3	54.5	68.6	0.0	68.6
	12	69.0	77.5	54.8	77.1	76.6	74.9	73.8	70.4	65.5	57.2	56.0	55.0	69.0	0.0	69.0
	13	69.6	77.6	56.0	77.3	76.8	75.4	74.2	70.9	66.7	58.4	57.3	56.2	69.6	0.0	69.6
	14	70.0	77.6	61.8	77.4	76.9	75.0	74.0	71.1	67.9	62.9	62.4	61.9	70.0	0.0	70.0
	15	72.1	81.4	62.9	80.9	80.0	78.2	76.7	72.2	69.3	64.8	63.9	63.1	72.1	0.0	72.1
	16	69.2	77.0	58.1	76.7	76.2	74.5	73.5	70.6	66.8	60.0	59.1	58.3	69.2	0.0	69.2
	17	70.8	80.2	58.8	79.9	79.4	76.8	74.9	71.3	67.9	60.6	59.7	58.9	70.8	0.0	70.8
	18	71.9	84.5	56.6	83.5	82.7	78.7	75.4	70.2	66.0	58.6	57.5	56.7	71.9	0.0	71.9
	19	66.9	75.2	55.4	75.0	74.5	73.0	71.8	67.9	63.0	57.1	56.3	55.6	66.9	5.0	71.9
	20	67.8	79.4	54.9	78.8	77.7	73.7	72.1	67.4	62.3	56.6	55.9	55.2	67.8	5.0	72.8
Night	21	65.4	74.7	51.7	74.4	73.9	72.3	71.0	65.7	59.8	53.1	52.4	51.8	65.4	5.0	70.4
	22	66.6	77.6	50.6	77.5	76.9	74.6	72.0	64.8	58.7	52.0	51.2	50.7	66.6	10.0	76.6
23	64.4	75.1	48.7	74.9	74.3	72.1	70.4	62.8	55.4	50.1	49.5	48.8	64.4	10.0	74.4	
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour CNEL		
Day	Min	65.4	74.7	51.7	74.4	73.9	72.3	71.0	65.7	59.8	53.1	52.4	51.8	74.9	69.8	68.0
	Max	72.1	84.5	62.9	83.7	82.7	78.9	76.7	72.2	69.3	64.8	63.9	63.1			
Energy Average		69.8	Average:		78.4	77.8	75.5	74.0	70.0	65.4	58.7	57.8	57.0			
Night	Min	54.8	65.7	45.9	65.4	64.9	62.5	60.1	52.1	48.8	46.5	46.2	46.0			
	Max	74.2	87.0	57.0	86.7	85.9	81.6	78.5	70.4	65.0	58.6	57.9	57.2			
Energy Average		68.0	Average:		75.2	74.5	71.8	69.5	62.2	56.6	51.7	51.3	50.8			

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APPENDIX 7.1:
OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Ramona Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 12,474 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,079 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.97	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.30	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.81	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.0	63.5	57.3	65.9	66.5	
Medium Trucks:	62.0	61.3	49.9	53.4	61.8	61.8	
Heavy Trucks:	71.3	69.7	65.0	65.8	72.9	73.1	
Vehicle Noise:	72.9	71.4	67.4	66.6	73.9	74.2	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	90	194	417	898		
	CNEL:	93	201	433	934		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Ramona Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 12,529 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,084 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.93% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.95	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.26	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.78	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.0	63.5	57.4	65.9	66.5	
Medium Trucks:	62.0	61.3	50.0	53.4	61.8	61.9	
Heavy Trucks:	71.3	69.7	65.0	65.9	72.9	73.1	
Vehicle Noise:	72.9	71.4	67.4	66.7	74.0	74.2	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	90	194	418	902		
	CNEL:	94	202	435	937		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Ramona Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 14,065 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,217 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.45	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.78	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.28	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.8	65.5	64.0	57.9	66.4	67.0	
Medium Trucks:	62.5	61.8	50.5	53.9	62.3	62.4	
Heavy Trucks:	71.8	70.2	65.5	66.4	73.4	73.6	
Vehicle Noise:	73.4	71.9	67.9	67.2	74.5	74.7	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	97	210	452	973		
	CNEL:	101	218	470	1,012		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Ramona Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 14,120 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,221 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.93% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.43	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.75	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.26	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.8	65.5	64.0	57.9	66.4	67.1	
Medium Trucks:	62.5	61.8	50.5	54.0	62.3	62.4	
Heavy Trucks:	71.8	70.2	65.5	66.4	73.4	73.6	
Vehicle Noise:	73.4	71.9	67.9	67.2	74.5	74.7	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	98	210	453	976		
	CNEL:	101	219	471	1,015		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Ramona Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,325 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,326 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.07	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.41	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.91	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.2	65.9	64.4	58.2	66.8	67.4	
Medium Trucks:	62.9	62.1	50.8	54.3	62.7	62.7	
Heavy Trucks:	72.2	70.6	65.9	66.7	73.8	74.0	
Vehicle Noise:	73.7	72.3	68.3	67.5	74.8	75.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			103	222	478	1,031	
CNEL:			107	231	497	1,071	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Ramona Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,380 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,330 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.94% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.06	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.38	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.89	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.2	65.9	64.4	58.3	66.8	67.4	
Medium Trucks:	62.9	62.2	50.9	54.3	62.7	62.8	
Heavy Trucks:	72.2	70.6	65.9	66.8	73.8	74.0	
Vehicle Noise:	73.8	72.3	68.3	67.5	74.9	75.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			103	223	480	1,034	
CNEL:			107	231	499	1,074	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Ramona Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,434 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 989 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.35	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.68	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-13.18	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.9	64.6	63.1	57.0	65.5	66.1	
Medium Trucks:	61.6	60.9	49.6	53.0	61.4	61.5	
Heavy Trucks:	70.9	69.3	64.6	65.5	72.5	72.7	
Vehicle Noise:	72.5	71.0	67.0	66.3	73.6	73.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			85	183	393	848	
CNEL:			88	190	409	881	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Ramona Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,452 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 991 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.90% Medium Trucks: 87.6% 1.6% 10.8% 2.65% Heavy Trucks: 71.7% 6.1% 22.2% 7.45%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.34	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.64	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-13.16	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.9	64.6	63.1	57.0	65.5	66.2	
Medium Trucks:	61.7	60.9	49.6	53.1	61.4	61.5	
Heavy Trucks:	70.9	69.3	64.6	65.5	72.5	72.7	
Vehicle Noise:	72.5	71.0	67.0	66.3	73.6	73.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			85	183	395	851	
CNEL:			88	191	410	884	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Ramona Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 12,842 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,111 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.84	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.18	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.68	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.4	65.1	63.6	57.5	66.0	66.7	
Medium Trucks:	62.1	61.4	50.1	53.5	61.9	62.0	
Heavy Trucks:	71.4	69.8	65.1	66.0	73.0	73.2	
Vehicle Noise:	73.0	71.5	67.5	66.8	74.1	74.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			92	197	425	916	
CNEL:			95	205	442	952	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Ramona Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 12,860 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,112 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.90% Medium Trucks: 87.6% 1.6% 10.8% 2.65% Heavy Trucks: 71.7% 6.1% 22.2% 7.44%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.84	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.14	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.66	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.4	65.1	63.6	57.5	66.0	66.7	
Medium Trucks:	62.2	61.4	50.1	53.6	61.9	62.0	
Heavy Trucks:	71.4	69.8	65.1	66.0	73.0	73.2	
Vehicle Noise:	73.0	71.5	67.5	66.8	74.1	74.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			92	198	427	919	
CNEL:			96	206	443	955	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Ramona Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 15,843 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,370 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.93	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.26	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.77	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.3	66.0	64.5	58.4	66.9	67.6	
Medium Trucks:	63.0	62.3	51.0	54.4	62.8	62.9	
Heavy Trucks:	72.3	70.7	66.0	66.9	73.9	74.1	
Vehicle Noise:	73.9	72.4	68.4	67.7	75.0	75.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			105	227	489	1,054	
CNEL:			110	236	508	1,095	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Ramona Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 15,860 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,372 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.91% Medium Trucks: 87.6% 1.6% 10.8% 2.65% Heavy Trucks: 71.7% 6.1% 22.2% 7.44%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.93	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.23	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.75	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.3	66.0	64.5	58.4	66.9	67.6	
Medium Trucks:	63.1	62.3	51.0	54.5	62.8	62.9	
Heavy Trucks:	72.3	70.7	66.0	66.9	73.9	74.1	
Vehicle Noise:	73.9	72.4	68.4	67.7	75.0	75.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			106	228	490	1,056	
CNEL:			110	237	510	1,098	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Ramona Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,515 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 996 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.31	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.65	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-13.15	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.0	64.6	63.2	57.0	65.6	66.2	
Medium Trucks:	61.6	60.9	49.6	53.1	61.4	61.5	
Heavy Trucks:	70.9	69.3	64.6	65.5	72.5	72.7	
Vehicle Noise:	72.5	71.0	67.0	66.3	73.6	73.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			85	184	395	852	
CNEL:			89	191	411	885	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Ramona Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,562 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,000 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.99% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.29	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.65	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-13.15	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.0	64.6	63.2	57.0	65.6	66.2	
Medium Trucks:	61.6	60.9	49.6	53.1	61.4	61.5	
Heavy Trucks:	70.9	69.3	64.6	65.5	72.5	72.7	
Vehicle Noise:	72.5	71.0	67.1	66.3	73.6	73.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			85	184	396	852	
CNEL:			89	191	411	886	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Ramona Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 12,680 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,097 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.90	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.23	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.73	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.4	65.0	63.6	57.4	66.0	66.6	
Medium Trucks:	62.1	61.3	50.0	53.5	61.8	61.9	
Heavy Trucks:	71.4	69.8	65.0	65.9	73.0	73.1	
Vehicle Noise:	72.9	71.5	67.5	66.7	74.0	74.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			91	196	422	908	
CNEL:			94	203	438	944	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Ramona Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 12,727 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,101 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.99% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.88	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-17.23	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.73	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.4	65.1	63.6	57.4	66.0	66.6	
Medium Trucks:	62.1	61.3	50.0	53.5	61.8	61.9	
Heavy Trucks:	71.4	69.8	65.0	65.9	73.0	73.1	
Vehicle Noise:	72.9	71.5	67.5	66.7	74.0	74.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			91	196	422	909	
CNEL:			94	203	438	945	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Ramona Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,948 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,207 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.48	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.82	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.32	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.8	65.5	64.0	57.8	66.4	67.0	
Medium Trucks:	62.5	61.7	50.4	53.9	62.3	62.3	
Heavy Trucks:	71.8	70.2	65.5	66.3	73.4	73.6	
Vehicle Noise:	73.3	71.9	67.9	67.1	74.4	74.7	

Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:	97	209	449	968			
CNEL:	101	217	467	1,006			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Ramona Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,995 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,211 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.47	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.82	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-12.32	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.8	65.5	64.0	57.8	66.4	67.0	
Medium Trucks:	62.5	61.7	50.4	53.9	62.3	62.3	
Heavy Trucks:	71.8	70.2	65.5	66.3	73.4	73.6	
Vehicle Noise:	73.3	71.9	67.9	67.1	74.4	74.7	

Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:	97	209	449	968			
CNEL:	101	217	467	1,006			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Ramona Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 10,938 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 946 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.54	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.87	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.38	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.2	63.9	62.4	56.2	64.8	65.4	
Medium Trucks:	60.9	60.1	48.8	52.3	60.6	60.7	
Heavy Trucks:	70.2	68.6	63.8	64.7	71.8	71.9	
Vehicle Noise:	71.7	70.3	66.3	65.5	72.8	73.1	

Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:	93	199	429	925			
CNEL:	96	207	446	962			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Ramona Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 11,016 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 953 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.74% Medium Trucks: 87.6% 1.6% 10.8% 2.72% Heavy Trucks: 71.7% 6.1% 22.2% 7.54%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.52	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.70	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.27	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.2	63.9	62.4	56.2	64.8	65.4	
Medium Trucks:	61.0	60.3	49.0	52.5	60.8	60.9	
Heavy Trucks:	70.3	68.7	64.0	64.8	71.9	72.0	
Vehicle Noise:	71.8	70.4	66.3	65.6	72.9	73.2	

Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
Ldn:	94	202	436	939			
CNEL:	98	210	453	976			

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Ramona Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 12,019 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,040 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.13	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.46	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.97	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	64.3	62.8	56.6	65.2	65.8
Medium Trucks:	61.3	60.5	49.2	52.7	61.0	61.1
Heavy Trucks:	70.6	69.0	64.3	65.1	72.2	72.4
Vehicle Noise:	72.1	70.7	66.7	65.9	73.2	73.5

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	99	212	457	985	
CNEL:	102	221	475	1,024	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Ramona Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 12,098 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,046 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.75% Medium Trucks: 87.6% 1.6% 10.8% 2.71% Heavy Trucks: 71.7% 6.1% 22.2% 7.53%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.11	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.31	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.87	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	64.3	62.8	56.6	65.2	65.8
Medium Trucks:	61.4	60.7	49.4	52.8	61.2	61.3
Heavy Trucks:	70.7	69.1	64.4	65.2	72.3	72.4
Vehicle Noise:	72.2	70.8	66.7	66.0	73.3	73.6

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	100	215	464	999	
CNEL:	104	224	482	1,038	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Ramona Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,221 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,144 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.71	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-17.05	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.55	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.7	63.2	57.0	65.6	66.2
Medium Trucks:	61.7	60.9	49.6	53.1	61.5	61.5
Heavy Trucks:	71.0	69.4	64.7	65.5	72.6	72.8
Vehicle Noise:	72.6	71.1	67.1	66.3	73.6	73.9

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	105	226	487	1,050	
CNEL:	109	235	507	1,091	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Ramona Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,299 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,150 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.77% Medium Trucks: 87.6% 1.6% 10.8% 2.71% Heavy Trucks: 71.7% 6.1% 22.2% 7.52%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.70	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.91	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.47	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.7	63.2	57.1	65.6	66.2
Medium Trucks:	61.8	61.1	49.8	53.2	61.6	61.7
Heavy Trucks:	71.1	69.5	64.8	65.6	72.7	72.9
Vehicle Noise:	72.6	71.2	67.1	66.4	73.7	74.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	106	229	493	1,063	
CNEL:	110	238	513	1,105	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Yorba Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,636 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 488 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 35 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			Autos: 76.5% 13.6% 9.9% 89.95%				
			Medium Trucks: 87.6% 1.6% 10.8% 2.63%				
			Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
Site Data			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 30.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 30.0 feet			Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet			Autos: 29.816				
Observer Height (Above Pad): 5.0 feet			Medium Trucks: 29.518				
Pad Elevation: 0.0 feet			Heavy Trucks: 29.547				
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.33	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.66	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-15.16	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.0	60.7	59.2	53.1	61.6	62.3	
Medium Trucks:	58.2	57.5	46.2	49.6	58.0	58.1	
Heavy Trucks:	68.5	66.9	62.2	63.1	70.1	70.3	
Vehicle Noise:	69.7	68.2	64.1	63.7	70.9	71.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			35	75	161	346	
CNEL:			36	77	166	359	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Yorba Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,660 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 490 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 35 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			Autos: 76.5% 13.6% 9.9% 89.99%				
			Medium Trucks: 87.6% 1.6% 10.8% 2.62%				
			Heavy Trucks: 71.7% 6.1% 22.2% 7.39%				
Site Data			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 30.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 30.0 feet			Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet			Autos: 29.816				
Observer Height (Above Pad): 5.0 feet			Medium Trucks: 29.518				
Pad Elevation: 0.0 feet			Heavy Trucks: 29.547				
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.31	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.66	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-15.16	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.1	60.7	59.3	53.1	61.7	62.3	
Medium Trucks:	58.2	57.5	46.2	49.6	58.0	58.1	
Heavy Trucks:	68.5	66.9	62.2	63.1	70.1	70.3	
Vehicle Noise:	69.7	68.2	64.1	63.7	70.9	71.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			35	75	161	346	
CNEL:			36	77	167	359	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Yorba Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,057 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 524 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 35 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			Autos: 76.5% 13.6% 9.9% 89.95%				
			Medium Trucks: 87.6% 1.6% 10.8% 2.63%				
			Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
Site Data			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 30.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 30.0 feet			Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet			Autos: 29.816				
Observer Height (Above Pad): 5.0 feet			Medium Trucks: 29.518				
Pad Elevation: 0.0 feet			Heavy Trucks: 29.547				
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.01	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.35	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-14.85	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.4	61.0	59.6	53.4	61.9	62.6	
Medium Trucks:	58.5	57.8	46.5	49.9	58.3	58.4	
Heavy Trucks:	68.8	67.2	62.5	63.4	70.4	70.6	
Vehicle Noise:	70.0	68.5	64.4	64.0	71.2	71.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			36	78	168	363	
CNEL:			38	81	175	376	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Yorba Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 6,081 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 526 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 35 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			Autos: 76.5% 13.6% 9.9% 89.99%				
			Medium Trucks: 87.6% 1.6% 10.8% 2.62%				
			Heavy Trucks: 71.7% 6.1% 22.2% 7.39%				
Site Data			Noise Source Elevations (in feet)				
Barrier Height: 0.0 feet			Autos: 0.000				
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks: 2.297				
Centerline Dist. to Barrier: 30.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Centerline Dist. to Observer: 30.0 feet			Lane Equivalent Distance (in feet)				
Barrier Distance to Observer: 0.0 feet			Autos: 29.816				
Observer Height (Above Pad): 5.0 feet			Medium Trucks: 29.518				
Pad Elevation: 0.0 feet			Heavy Trucks: 29.547				
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-3.99	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.35	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-14.85	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.4	61.0	59.6	53.4	62.0	62.6	
Medium Trucks:	58.5	57.8	46.5	49.9	58.3	58.4	
Heavy Trucks:	68.8	67.2	62.5	63.4	70.4	70.6	
Vehicle Noise:	70.0	68.6	64.4	64.0	71.2	71.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			36	78	169	363	
CNEL:			38	81	175	376	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Yorba Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 6,663 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 576 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-3.60	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-18.93	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-14.44	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.8	61.4	60.0	53.8	62.4	63.0	
Medium Trucks:	58.9	58.2	46.9	50.4	58.7	58.8	
Heavy Trucks:	69.3	67.6	62.9	63.8	70.9	71.0	
Vehicle Noise:	70.5	69.0	64.8	64.4	71.7	71.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			39	83	179	387	
CNEL:			40	86	186	401	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Yorba Av. Road Segment: n/o Chino Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 6,686 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 578 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.99% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-3.58	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-18.93	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-14.44	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.8	61.5	60.0	53.8	62.4	63.0	
Medium Trucks:	58.9	58.2	46.9	50.4	58.7	58.8	
Heavy Trucks:	69.3	67.6	62.9	63.8	70.9	71.0	
Vehicle Noise:	70.5	69.0	64.8	64.4	71.7	71.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			39	83	180	387	
CNEL:			40	86	186	401	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Yorba Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 4,179 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 361 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-5.63	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-20.96	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-16.46	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	60.7	59.4	57.9	51.8	60.3	61.0	
Medium Trucks:	56.9	56.2	44.9	48.3	56.7	56.8	
Heavy Trucks:	67.2	65.6	60.9	61.8	68.8	69.0	
Vehicle Noise:	68.4	66.9	62.8	62.4	69.6	69.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			28	61	132	283	
CNEL:			29	63	136	294	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Yorba Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 4,273 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 370 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 90.17% Medium Trucks: 87.6% 1.6% 10.8% 2.58% Heavy Trucks: 71.7% 6.1% 22.2% 7.25%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-5.52	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-20.96	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-16.46	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	60.8	59.5	58.1	51.9	60.4	61.1	
Medium Trucks:	56.9	56.2	44.9	48.3	56.7	56.8	
Heavy Trucks:	67.2	65.6	60.9	61.8	68.8	69.0	
Vehicle Noise:	68.4	67.0	62.8	62.4	69.6	69.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			28	61	132	284	
CNEL:			29	63	137	294	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Yorba Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 5,567 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 482 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.38	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.72	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-15.22	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.0	60.7	59.2	53.0	61.6	62.2	
Medium Trucks:	58.2	57.4	46.1	49.6	57.9	58.0	
Heavy Trucks:	68.5	66.9	62.2	63.0	70.1	70.3	
Vehicle Noise:	69.7	68.2	64.0	63.6	70.9	71.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			34	74	159	343	
CNEL:			36	77	165	356	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Yorba Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 5,660 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 490 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 90.12% Medium Trucks: 87.6% 1.6% 10.8% 2.59% Heavy Trucks: 71.7% 6.1% 22.2% 7.29%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.30	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.72	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-15.22	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.1	60.7	59.3	53.1	61.7	62.3	
Medium Trucks:	58.2	57.4	46.1	49.6	57.9	58.0	
Heavy Trucks:	68.5	66.9	62.2	63.0	70.1	70.3	
Vehicle Noise:	69.7	68.2	64.0	63.6	70.9	71.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			34	74	159	344	
CNEL:			36	77	165	356	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Yorba Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 6,123 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 530 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-3.97	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.30	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-14.80	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.4	61.1	59.6	53.4	62.0	62.6	
Medium Trucks:	58.6	57.8	46.5	50.0	58.4	58.4	
Heavy Trucks:	68.9	67.3	62.6	63.4	70.5	70.7	
Vehicle Noise:	70.1	68.6	64.4	64.0	71.3	71.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			37	79	170	366	
CNEL:			38	82	176	379	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Yorba Av. Road Segment: n/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 6,217 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 538 vehicles Vehicle Speed: 35 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 90.10% Medium Trucks: 87.6% 1.6% 10.8% 2.59% Heavy Trucks: 71.7% 6.1% 22.2% 7.30%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-3.89	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	75.75	-19.30	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	81.57	-14.80	3.32	-1.20	-5.77	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.5	61.1	59.7	53.5	62.1	62.7	
Medium Trucks:	58.6	57.8	46.5	50.0	58.4	58.4	
Heavy Trucks:	68.9	67.3	62.6	63.4	70.5	70.7	
Vehicle Noise:	70.1	68.6	64.4	64.0	71.3	71.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			37	79	170	366	
CNEL:			38	82	176	380	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Yorba Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 3,962 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 343 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			VehicleType Day Evening Night Daily				
Site Data			Autos: 76.5% 13.6% 9.9% 89.95%				
Barrier Height: 0.0 feet			Medium Trucks: 87.6% 1.6% 10.8% 2.63%				
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
Centerline Dist. to Barrier: 30.0 feet			Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 30.0 feet			Autos: 0.000				
Barrier Distance to Observer: 0.0 feet			Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet			Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet			Autos: 29.816				
Road Grade: 0.0%			Medium Trucks: 29.518				
Left View: -90.0 degrees			Heavy Trucks: 29.547				
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.44	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-21.77	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-17.28	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.8	59.3	53.2	61.7	62.4
Medium Trucks:	58.1	57.3	46.0	49.5	57.8	59.3
Heavy Trucks:	67.8	66.2	61.5	62.4	69.4	69.6
Vehicle Noise:	69.2	67.7	63.7	63.1	70.4	70.6

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	32	68	147	318	
CNEL:	33	71	153	330	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Yorba Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,228 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 366 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			VehicleType Day Evening Night Daily				
Site Data			Autos: 76.5% 13.6% 9.9% 88.16%				
Barrier Height: 0.0 feet			Medium Trucks: 87.6% 1.6% 10.8% 3.37%				
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks: 71.7% 6.1% 22.2% 8.48%				
Centerline Dist. to Barrier: 30.0 feet			Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 30.0 feet			Autos: 0.000				
Barrier Distance to Observer: 0.0 feet			Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet			Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet			Autos: 29.816				
Road Grade: 0.0%			Medium Trucks: 29.518				
Left View: -90.0 degrees			Heavy Trucks: 29.547				
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.24	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-20.42	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-16.41	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	61.0	59.5	53.4	61.9	62.6
Medium Trucks:	59.4	58.7	47.4	50.8	59.2	59.3
Heavy Trucks:	68.7	67.1	62.4	63.3	70.3	70.5
Vehicle Noise:	70.0	68.5	64.3	63.9	71.2	71.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	36	77	167	360	
CNEL:	37	80	173	373	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Yorba Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 4,782 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 414 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			VehicleType Day Evening Night Daily				
Site Data			Autos: 76.5% 13.6% 9.9% 89.95%				
Barrier Height: 0.0 feet			Medium Trucks: 87.6% 1.6% 10.8% 2.63%				
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
Centerline Dist. to Barrier: 30.0 feet			Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 30.0 feet			Autos: 0.000				
Barrier Distance to Observer: 0.0 feet			Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet			Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet			Autos: 29.816				
Road Grade: 0.0%			Medium Trucks: 29.518				
Left View: -90.0 degrees			Heavy Trucks: 29.547				
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.62	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-20.96	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-16.46	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.6	60.2	54.0	62.5	63.2
Medium Trucks:	58.9	58.2	46.8	50.3	58.7	58.7
Heavy Trucks:	68.7	67.1	62.3	63.2	70.3	70.4
Vehicle Noise:	70.0	68.6	64.5	63.9	71.2	71.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	36	78	167	360	
CNEL:	37	81	173	374	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Yorba Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 5,049 vehicles			Autos: 15				
Peak Hour Percentage: 8.65%			Medium Trucks (2 Axles): 15				
Peak Hour Volume: 437 vehicles			Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet			VehicleType Day Evening Night Daily				
Site Data			Autos: 76.5% 13.6% 9.9% 88.45%				
Barrier Height: 0.0 feet			Medium Trucks: 87.6% 1.6% 10.8% 3.25%				
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks: 71.7% 6.1% 22.2% 8.31%				
Centerline Dist. to Barrier: 30.0 feet			Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 30.0 feet			Autos: 0.000				
Barrier Distance to Observer: 0.0 feet			Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet			Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet			Autos: 29.816				
Road Grade: 0.0%			Medium Trucks: 29.518				
Left View: -90.0 degrees			Heavy Trucks: 29.547				
Right View: 90.0 degrees							
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.46	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-19.81	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-15.73	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.1	61.8	60.3	54.2	62.7	63.3
Medium Trucks:	60.0	59.3	48.0	51.5	59.8	59.9
Heavy Trucks:	69.4	67.8	63.1	63.9	71.0	71.2
Vehicle Noise:	70.7	69.2	65.0	64.6	71.9	72.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	40	86	185	400	
CNEL:	41	89	192	414	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Yorba Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 5,260 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 455 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.21	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-20.54	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-16.04	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.4	62.0	60.6	54.4	63.0	63.6	
Medium Trucks:	59.3	58.6	47.3	50.7	59.1	59.2	
Heavy Trucks:	69.1	67.5	62.8	63.6	70.7	70.9	
Vehicle Noise:	70.5	69.0	64.9	64.3	71.6	71.8	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	38	83	178	384	
CNEL:	40	86	185	398	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Yorba Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 5,527 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 478 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 88.58% Medium Trucks: 87.6% 1.6% 10.8% 3.19% Heavy Trucks: 71.7% 6.1% 22.2% 8.23%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.06	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-19.49	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-15.38	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.5	62.2	60.7	54.6	63.1	63.7	
Medium Trucks:	60.4	59.6	48.3	51.8	60.1	60.2	
Heavy Trucks:	69.7	68.1	63.4	64.3	71.3	71.5	
Vehicle Noise:	71.1	69.6	64.9	64.9	72.2	72.5	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	42	91	196	422	
CNEL:	44	94	203	438	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Yorba Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 2,945 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 255 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.72	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-23.06	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-18.56	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	60.9	59.5	58.1	51.9	60.4	61.1	
Medium Trucks:	56.8	56.0	44.7	48.2	56.6	56.6	
Heavy Trucks:	66.6	64.9	60.2	61.1	68.2	68.3	
Vehicle Noise:	67.9	66.5	62.4	61.8	69.1	69.3	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	26	56	121	261	
CNEL:	27	58	126	271	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Yorba Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,039 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 263 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 88.70% Medium Trucks: 87.6% 1.6% 10.8% 3.13% Heavy Trucks: 71.7% 6.1% 22.2% 8.17%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.65	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-22.17	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-18.01	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	60.9	59.6	58.1	52.0	60.5	61.2	
Medium Trucks:	57.7	56.9	45.6	49.1	57.4	57.5	
Heavy Trucks:	67.1	65.5	60.8	61.7	68.7	68.9	
Vehicle Noise:	68.4	67.0	62.8	62.3	69.6	69.8	

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	28	61	131	282	
CNEL:	29	63	136	292	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Yorba Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,300 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 285 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.23	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-22.57	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-18.07	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	60.0	58.5	52.4	60.9	61.6
Medium Trucks:	57.3	56.5	45.2	48.7	57.1	57.1
Heavy Trucks:	67.0	65.4	60.7	61.6	68.6	68.8
Vehicle Noise:	68.4	67.0	62.9	62.3	69.6	69.8

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	28	61	130	281	
CNEL:	29	63	135	292	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Yorba Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,394 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 294 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 88.83% Medium Trucks: 87.6% 1.6% 10.8% 3.08% Heavy Trucks: 71.7% 6.1% 22.2% 8.09%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.16	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-21.77	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-17.57	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	60.1	58.6	52.5	61.0	61.6
Medium Trucks:	58.1	57.3	46.0	49.5	57.9	57.9
Heavy Trucks:	67.5	65.9	61.2	62.1	69.1	69.3
Vehicle Noise:	68.9	67.4	63.2	62.8	70.0	70.3

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	30	65	140	302	
CNEL:	31	67	145	313	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Yorba Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,399 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 294 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.10	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-22.44	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-17.94	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	60.1	58.7	52.5	61.1	61.7
Medium Trucks:	57.4	56.7	45.4	48.8	57.2	57.3
Heavy Trucks:	67.2	65.6	60.9	61.7	68.8	69.0
Vehicle Noise:	68.6	67.1	63.0	62.4	69.7	69.9

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	29	62	133	287	
CNEL:	30	64	138	298	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Yorba Av. Road Segment: s/o Edison Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 3,493 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 302 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 30.0 feet Centerline Dist. to Observer: 30.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 88.87% Medium Trucks: 87.6% 1.6% 10.8% 3.06% Heavy Trucks: 71.7% 6.1% 22.2% 8.07%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 29.816 Medium Trucks: 29.518 Heavy Trucks: 29.547			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.04	3.26	-1.20	-4.49	0.000	0.000
Medium Trucks:	77.72	-21.66	3.33	-1.20	-4.86	0.000	0.000
Heavy Trucks:	82.99	-17.45	3.32	-1.20	-5.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	60.2	58.7	52.6	61.1	61.8
Medium Trucks:	58.2	57.4	46.1	49.6	58.0	58.0
Heavy Trucks:	67.7	66.1	61.4	62.2	69.3	69.4
Vehicle Noise:	69.0	67.5	63.3	62.9	70.2	70.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	31	66	143	307	
CNEL:	32	69	148	319	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Monte Vista Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 7,438 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 643 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.21	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.55	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-15.05	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.3	63.0	61.5	55.4	63.9	64.5	
Medium Trucks:	60.0	59.3	48.0	51.4	59.8	60.1	
Heavy Trucks:	69.3	67.7	63.0	63.9	70.9	71.1	
Vehicle Noise:	70.9	69.4	65.4	64.7	72.0	72.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			60	128	276	595	
CNEL:			62	133	287	619	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Monte Vista Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 7,462 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 645 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.67% Medium Trucks: 87.6% 1.6% 10.8% 2.74% Heavy Trucks: 71.7% 6.1% 22.2% 7.59%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.21	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.36	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-14.93	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.3	63.0	61.5	55.4	63.9	64.5	
Medium Trucks:	60.2	59.5	48.2	51.6	60.0	60.1	
Heavy Trucks:	69.4	67.8	63.1	64.0	71.0	71.2	
Vehicle Noise:	71.0	69.5	65.5	64.8	72.1	72.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			60	130	281	605	
CNEL:			63	135	292	629	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Monte Vista Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 7,905 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 684 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.95	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.28	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-14.79	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.6	63.3	61.8	55.6	64.2	64.8	
Medium Trucks:	60.3	59.5	48.2	51.7	60.1	60.3	
Heavy Trucks:	69.6	68.0	63.3	64.1	71.2	71.4	
Vehicle Noise:	71.1	69.7	65.7	64.9	72.2	72.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			62	134	288	620	
CNEL:			64	139	299	645	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Monte Vista Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 7,929 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 686 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.68% Medium Trucks: 87.6% 1.6% 10.8% 2.74% Heavy Trucks: 71.7% 6.1% 22.2% 7.58%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.95	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.10	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-14.68	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.6	63.3	61.8	55.6	64.2	64.8	
Medium Trucks:	60.5	59.7	48.4	51.9	60.2	60.3	
Heavy Trucks:	69.7	68.1	63.4	64.2	71.3	71.5	
Vehicle Noise:	71.2	69.8	65.7	65.0	72.3	72.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			63	136	292	629	
CNEL:			65	141	304	654	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Monte Vista Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 8,696 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 752 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.53	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-18.87	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-14.37	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.7	62.2	56.0	64.6	65.2
Medium Trucks:	60.7	60.0	48.6	52.1	60.5	60.5
Heavy Trucks:	70.0	68.4	63.7	64.5	71.6	71.8
Vehicle Noise:	71.6	70.1	66.1	65.3	72.6	72.9

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	66	142	307	661	
CNEL:	69	148	319	687	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Monte Vista Av. Road Segment: s/o Schaefer Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 8,720 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 754 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.71% Medium Trucks: 87.6% 1.6% 10.8% 2.73% Heavy Trucks: 71.7% 6.1% 22.2% 7.57%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.53	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-18.71	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-14.27	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.7	62.2	56.0	64.6	65.2
Medium Trucks:	60.9	60.1	48.8	52.3	60.6	60.7
Heavy Trucks:	70.1	68.5	63.8	64.6	71.7	71.9
Vehicle Noise:	71.6	70.2	66.2	65.4	72.7	73.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	67	144	311	670	
CNEL:	70	150	323	696	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Chino Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 14,830 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,283 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.70	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.04	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.54	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.6	63.1	56.9	65.5	66.1
Medium Trucks:	61.8	61.0	49.7	53.2	61.6	61.6
Heavy Trucks:	71.6	70.0	65.2	66.1	73.2	73.3
Vehicle Noise:	72.9	71.5	67.4	66.8	74.1	74.3

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	82	178	383	825	
CNEL:	86	184	397	856	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Chino Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 14,877 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,287 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.69	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.04	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.54	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.6	63.1	56.9	65.5	66.1
Medium Trucks:	61.8	61.0	49.7	53.2	61.6	61.6
Heavy Trucks:	71.6	70.0	65.2	66.1	73.2	73.3
Vehicle Noise:	72.9	71.5	67.4	66.8	74.1	74.3

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	82	178	383	825	
CNEL:	86	184	397	856	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Chino Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,216 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,403 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.32	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.65	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.15	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.9	63.5	57.3	65.9	66.5
Medium Trucks:	62.2	61.4	50.1	53.6	61.9	62.0
Heavy Trucks:	71.9	70.3	65.6	66.5	73.5	73.7
Vehicle Noise:	73.3	71.9	67.8	67.2	74.5	74.7

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	88	189	406	875	
CNEL:	91	196	422	909	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Chino Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,263 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,407 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.30	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.65	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.15	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	65.0	63.5	57.3	65.9	66.5
Medium Trucks:	62.2	61.4	50.1	53.6	61.9	62.0
Heavy Trucks:	71.9	70.3	65.6	66.5	73.5	73.7
Vehicle Noise:	73.3	71.9	67.8	67.2	74.5	74.7

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	88	189	406	875	
CNEL:	91	196	422	909	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Chino Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,837 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,543 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.10	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.24	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-10.74	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	65.4	63.9	57.7	66.3	66.9
Medium Trucks:	62.6	61.9	50.5	54.0	62.4	62.4
Heavy Trucks:	72.4	70.8	66.0	66.9	74.0	74.1
Vehicle Noise:	73.7	72.3	68.2	67.6	74.9	75.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	93	201	433	933	
CNEL:	97	209	449	968	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Chino Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,884 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,547 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.40%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.11	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.24	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-10.74	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	65.4	63.9	57.7	66.3	66.9
Medium Trucks:	62.6	61.9	50.5	54.0	62.4	62.4
Heavy Trucks:	72.4	70.8	66.0	66.9	74.0	74.1
Vehicle Noise:	73.7	72.3	68.2	67.6	74.9	75.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	93	201	433	933	
CNEL:	97	209	449	968	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Chino Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,687 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,184 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.05	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.39	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.89	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	64.2	62.7	56.6	65.1	65.8
Medium Trucks:	61.4	60.7	49.4	52.9	61.2	61.3
Heavy Trucks:	71.2	69.6	64.9	65.8	72.8	73.0
Vehicle Noise:	72.6	71.1	67.0	66.5	73.7	74.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	78	168	363	826	
CNEL:	81	175	377	811	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Chino Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 13,734 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,188 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.99% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.04	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.39	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.89	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	64.2	62.8	56.6	65.1	65.8
Medium Trucks:	61.4	60.7	49.4	52.9	61.2	61.3
Heavy Trucks:	71.2	69.6	64.9	65.8	72.8	73.0
Vehicle Noise:	72.6	71.1	67.0	66.5	73.7	74.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	78	168	363	826	
CNEL:	81	175	377	812	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Chino Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 14,856 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,285 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.70	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.03	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.53	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.6	63.1	56.9	65.5	66.1
Medium Trucks:	61.8	61.1	49.7	53.2	61.6	61.6
Heavy Trucks:	71.6	70.0	65.3	66.1	73.2	73.4
Vehicle Noise:	73.0	71.5	67.4	66.8	74.1	74.3

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	83	178	383	826	
CNEL:	86	185	398	857	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Chino Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 14,903 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,289 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.62% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.68	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.03	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.53	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.6	63.1	56.9	65.5	66.1
Medium Trucks:	61.8	61.1	49.7	53.2	61.6	61.6
Heavy Trucks:	71.6	70.0	65.3	66.1	73.2	73.4
Vehicle Noise:	73.0	71.5	67.4	66.8	74.1	74.3

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	83	178	383	826	
CNEL:	86	185	398	857	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Chino Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,278 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,408 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.30	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.64	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.14	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.0	63.5	57.3	65.9	66.5	
Medium Trucks:	62.2	61.5	50.1	53.6	62.0	62.0	
Heavy Trucks:	72.0	70.4	65.7	66.5	73.6	73.7	
Vehicle Noise:	73.4	71.9	67.8	67.2	74.5	74.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			88	189	407	877	
CNEL:			91	196	423	911	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Chino Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,325 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,412 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.29	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.64	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.14	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.0	63.5	57.3	65.9	66.5	
Medium Trucks:	62.2	61.5	50.1	53.6	62.0	62.0	
Heavy Trucks:	72.0	70.4	65.7	66.5	73.6	73.7	
Vehicle Noise:	73.4	71.9	67.8	67.2	74.5	74.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			88	189	407	878	
CNEL:			91	196	423	911	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Chino Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 11,758 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,017 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.71	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-17.05	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.55	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.9	63.5	62.1	55.9	64.5	65.1	
Medium Trucks:	60.8	60.0	48.7	52.2	60.6	60.6	
Heavy Trucks:	70.6	68.9	64.2	65.1	72.2	72.3	
Vehicle Noise:	71.9	70.5	66.4	65.8	73.1	73.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			71	152	328	706	
CNEL:			73	158	340	733	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Chino Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 11,781 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,019 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.97% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.40%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.70	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-17.05	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.55	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.9	63.6	62.1	55.9	64.5	65.1	
Medium Trucks:	60.8	60.0	48.7	52.2	60.6	60.6	
Heavy Trucks:	70.6	68.9	64.2	65.1	72.2	72.3	
Vehicle Noise:	71.9	70.5	66.4	65.8	73.1	73.3	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			71	152	328	706	
CNEL:			73	158	340	733	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Chino Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 12,586 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,089 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.42	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.75	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.26	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.2	63.8	62.4	56.2	64.8	65.4	
Medium Trucks:	61.1	60.3	49.0	52.5	60.8	60.9	
Heavy Trucks:	70.8	69.2	64.5	65.4	72.4	72.6	
Vehicle Noise:	72.2	70.8	66.7	66.1	73.4	73.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			74	159	343	739	
CNEL:			77	165	356	767	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Chino Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 12,609 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,091 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.97% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.40%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.41	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-16.75	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.26	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	65.2	63.9	62.4	56.2	64.8	65.4	
Medium Trucks:	61.1	60.3	49.0	52.5	60.8	60.9	
Heavy Trucks:	70.8	69.2	64.5	65.4	72.4	72.6	
Vehicle Noise:	72.2	70.8	66.7	66.1	73.4	73.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			74	159	343	739	
CNEL:			77	165	356	767	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Chino Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,297 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,410 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.29	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.63	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.13	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.0	63.5	57.3	65.9	66.5	
Medium Trucks:	62.2	61.5	50.1	53.6	62.0	62.0	
Heavy Trucks:	72.0	70.4	65.7	66.5	73.6	73.8	
Vehicle Noise:	73.4	71.9	67.8	67.2	74.5	74.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			88	189	408	878	
CNEL:			91	196	423	912	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Chino Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,320 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,412 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 36 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.97% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 40.460 Medium Trucks: 40.241 Heavy Trucks: 40.262			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.29	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-15.63	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.13	1.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.3	65.0	63.5	57.3	65.9	66.5	
Medium Trucks:	62.2	61.5	50.1	53.6	62.0	62.0	
Heavy Trucks:	72.0	70.4	65.7	66.5	73.6	73.8	
Vehicle Noise:	73.4	71.9	67.8	67.2	74.5	74.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			88	189	408	878	
CNEL:			91	196	423	912	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Schaefer Av. Road Segment: w/o Norton Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,371 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,503 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.53	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.86	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.37	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.7	66.4	64.9	58.8	67.3	68.0	
Medium Trucks:	63.4	62.7	51.4	54.8	63.2	63.3	
Heavy Trucks:	72.7	71.1	66.4	67.3	74.3	74.5	
Vehicle Noise:	74.3	72.8	68.8	68.1	75.4	75.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			112	241	520	1,120	
CNEL:			116	251	541	1,165	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Schaefer Av. Road Segment: w/o Norton Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,449 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,509 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.51	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.84	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.35	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.8	66.4	65.0	58.8	67.4	68.0	
Medium Trucks:	63.5	62.7	51.4	54.9	63.2	63.3	
Heavy Trucks:	72.7	71.1	66.4	67.3	74.3	74.5	
Vehicle Noise:	74.3	72.8	68.8	68.1	75.4	75.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			112	242	521	1,123	
CNEL:			117	252	542	1,168	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Schaefer Av. Road Segment: w/o Norton Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 18,992 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,643 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.14	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.48	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.98	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.1	66.8	65.3	59.2	67.7	68.4	
Medium Trucks:	63.8	63.1	51.8	55.2	63.6	63.7	
Heavy Trucks:	73.1	71.5	66.8	67.7	74.7	74.9	
Vehicle Noise:	74.7	73.2	69.2	68.5	75.8	76.0	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			119	256	552	1,189	
CNEL:			124	266	574	1,236	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Schaefer Av. Road Segment: w/o Norton Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 19,071 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,650 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.12	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.45	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.96	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.1	66.8	65.4	59.2	67.7	68.4	
Medium Trucks:	63.8	63.1	51.8	55.3	63.6	63.7	
Heavy Trucks:	73.1	71.5	66.8	67.7	74.7	74.9	
Vehicle Noise:	74.7	73.2	69.2	68.5	75.8	76.0	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			119	257	553	1,192	
CNEL:			124	267	575	1,239	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Schaefer Av. Road Segment: w/o Norton Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 20,509 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,774 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.19	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.14	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.65	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.5	67.1	65.7	59.5	68.1	68.7	
Medium Trucks:	64.1	63.4	52.1	55.6	63.9	64.0	
Heavy Trucks:	73.4	71.8	67.1	68.0	75.0	75.2	
Vehicle Noise:	75.0	73.5	69.6	68.8	76.1	76.4	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			125	270	581	1,251	
CNEL:			130	280	604	1,301	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Schaefer Av. Road Segment: w/o Norton Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 20,587 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,781 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.21	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.12	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.63	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.5	67.2	65.7	59.5	68.1	68.7	
Medium Trucks:	64.2	63.4	52.1	55.6	63.9	64.0	
Heavy Trucks:	73.5	71.9	67.1	68.0	75.1	75.2	
Vehicle Noise:	75.0	73.6	69.6	68.8	76.1	76.4	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			125	270	582	1,254	
CNEL:			130	281	605	1,304	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Schaefer Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,701 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,445 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.70	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.04	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.54	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.6	66.2	64.8	58.6	67.2	67.8	
Medium Trucks:	63.3	62.5	51.2	54.7	63.0	63.1	
Heavy Trucks:	72.6	70.9	66.2	67.1	74.2	74.3	
Vehicle Noise:	74.1	72.7	68.7	67.9	75.2	75.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			109	235	507	1,091	
CNEL:			113	244	527	1,134	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Schaefer Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,779 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,451 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.68	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-16.01	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.52	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.6	66.3	64.8	58.6	67.2	67.8	
Medium Trucks:	63.3	62.5	51.2	54.7	63.1	63.1	
Heavy Trucks:	72.6	71.0	66.3	67.1	74.2	74.4	
Vehicle Noise:	74.1	72.7	68.7	67.9	75.2	75.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			109	236	508	1,094	
CNEL:			114	245	528	1,138	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Schaefer Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 18,282 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,581 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.31	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.64	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.15	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.0	66.6	65.2	59.0	67.6	68.2	
Medium Trucks:	63.6	62.9	51.6	55.1	63.4	63.5	
Heavy Trucks:	72.9	71.3	66.6	67.5	74.5	74.7	
Vehicle Noise:	74.5	73.1	69.1	68.3	75.6	75.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			116	250	538	1,159	
CNEL:			120	260	559	1,205	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Schaefer Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 18,360 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,588 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.29	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.62	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.13	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.0	66.7	65.2	59.0	67.6	68.2	
Medium Trucks:	63.7	62.9	51.6	55.1	63.5	63.5	
Heavy Trucks:	73.0	71.4	66.7	67.5	74.6	74.7	
Vehicle Noise:	74.5	73.1	69.1	68.3	75.6	75.9	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			116	250	539	1,162	
CNEL:			121	260	561	1,208	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Schaefer Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 21,643 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,872 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.43	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.91	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.41	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.7	67.4	65.9	59.7	68.3	68.9	
Medium Trucks:	64.4	63.6	52.3	55.8	64.2	64.2	
Heavy Trucks:	73.7	72.1	67.4	68.2	75.3	75.5	
Vehicle Noise:	75.2	73.8	69.8	69.0	76.3	76.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			130	279	602	1,297	
CNEL:			135	290	626	1,348	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Schaefer Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 21,721 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,879 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.64% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.44	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.89	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.40	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.7	67.4	65.9	59.8	68.3	68.9	
Medium Trucks:	64.4	63.7	52.4	55.8	64.2	64.3	
Heavy Trucks:	73.7	72.1	67.4	68.2	75.3	75.5	
Vehicle Noise:	75.3	73.8	69.8	69.0	76.4	76.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			130	280	603	1,300	
CNEL:			135	291	627	1,351	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Schaefer Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 17,658 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,527 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.46	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.79	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.30	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.8	66.5	65.0	58.9	67.4	68.0	
Medium Trucks:	63.5	62.8	51.4	54.9	63.3	63.4	
Heavy Trucks:	72.8	71.2	66.5	67.4	74.4	74.6	
Vehicle Noise:	74.4	72.9	68.9	68.1	75.5	75.7	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			113	244	526	1,133	
CNEL:			118	254	546	1,177	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Schaefer Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 17,900 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,548 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.91% Medium Trucks: 87.6% 1.6% 10.8% 2.66% Heavy Trucks: 71.7% 6.1% 22.2% 7.43%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.40	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.69	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.23	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.9	66.5	65.1	58.9	67.5	68.1	
Medium Trucks:	63.6	62.9	51.6	55.0	63.4	63.5	
Heavy Trucks:	72.9	71.3	66.6	67.4	74.5	74.6	
Vehicle Noise:	74.4	73.0	69.0	68.2	75.5	75.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			114	247	531	1,144	
CNEL:			119	256	552	1,189	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Schaefer Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,189 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,660 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.10	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.43	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.94	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.2	66.8	65.4	59.2	67.8	68.4	
Medium Trucks:	63.9	63.1	51.8	55.3	63.6	63.7	
Heavy Trucks:	73.2	71.6	66.8	67.7	74.8	74.9	
Vehicle Noise:	74.7	73.3	69.3	68.5	75.8	76.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			120	258	556	1,197	
CNEL:			124	268	578	1,244	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Schaefer Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,431 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,681 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.91% Medium Trucks: 87.6% 1.6% 10.8% 2.66% Heavy Trucks: 71.7% 6.1% 22.2% 7.43%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.04	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.33	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.87	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.2	66.9	65.4	59.3	67.8	68.4	
Medium Trucks:	64.0	63.2	51.9	55.4	63.7	63.8	
Heavy Trucks:	73.2	71.6	66.9	67.8	74.8	75.0	
Vehicle Noise:	74.8	73.3	69.3	68.6	75.9	76.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			121	260	561	1,209	
CNEL:			126	271	583	1,256	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Schaefer Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,108 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,826 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.32	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.02	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.52	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	67.3	65.8	59.6	68.2	68.8
Medium Trucks:	64.3	63.5	52.2	55.7	64.0	64.1
Heavy Trucks:	73.6	72.0	67.3	68.1	75.2	75.4
Vehicle Noise:	75.1	73.7	69.7	68.9	76.2	76.5

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	128	275	592	1,276	
CNEL:	133	286	615	1,326	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Schaefer Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,350 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,847 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.92% Medium Trucks: 87.6% 1.6% 10.8% 2.66% Heavy Trucks: 71.7% 6.1% 22.2% 7.43%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.37	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.93	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.47	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	67.3	65.8	59.7	68.2	68.9
Medium Trucks:	64.4	63.6	52.3	55.8	64.1	64.2
Heavy Trucks:	73.6	72.0	67.3	68.2	75.2	75.4
Vehicle Noise:	75.2	73.7	69.7	69.0	76.3	76.5

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	129	277	597	1,287	
CNEL:	134	288	621	1,337	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Schaefer Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,006 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,558 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.37	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.71	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.21	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.6	65.1	58.9	67.5	68.1
Medium Trucks:	63.6	62.8	51.5	55.0	63.4	63.4
Heavy Trucks:	72.9	71.3	66.6	67.4	74.5	74.7
Vehicle Noise:	74.5	73.0	69.0	68.2	75.5	75.8

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	115	247	533	1,147	
CNEL:	119	257	554	1,193	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Schaefer Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,093 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,565 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.78% Medium Trucks: 87.6% 1.6% 10.8% 2.70% Heavy Trucks: 71.7% 6.1% 22.2% 7.52%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.36	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.58	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.13	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.6	65.1	59.0	67.5	68.1
Medium Trucks:	63.7	63.0	51.7	55.1	63.5	63.6
Heavy Trucks:	73.0	71.4	66.6	67.5	74.6	74.7
Vehicle Noise:	74.5	73.1	69.0	68.3	75.6	75.9

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	116	250	539	1,160	
CNEL:	121	260	560	1,206	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Schaefer Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,345 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,673 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.06	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.40	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.90	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.2	66.9	65.4	59.3	67.8	68.4	
Medium Trucks:	63.9	63.2	51.8	55.3	63.7	63.7	
Heavy Trucks:	73.2	71.6	66.9	67.7	74.8	75.0	
Vehicle Noise:	74.8	73.3	69.3	68.5	75.9	76.1	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			120	259	559	1,204	
CNEL:			125	270	581	1,251	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Schaefer Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 19,431 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,681 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.79% Medium Trucks: 87.6% 1.6% 10.8% 2.70% Heavy Trucks: 71.7% 6.1% 22.2% 7.51%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.05	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.27	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.83	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.2	66.9	65.4	59.3	67.8	68.4	
Medium Trucks:	64.0	63.3	52.0	55.4	63.8	63.9	
Heavy Trucks:	73.3	71.7	67.0	67.8	74.9	75.1	
Vehicle Noise:	74.8	73.4	69.3	68.6	75.9	76.2	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			122	262	565	1,216	
CNEL:			126	272	587	1,264	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Schaefer Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,279 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,841 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.35	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.98	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.49	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.6	67.3	65.8	59.7	68.2	68.8	
Medium Trucks:	64.3	63.6	52.3	55.7	64.1	64.2	
Heavy Trucks:	73.6	72.0	67.3	68.2	75.2	75.4	
Vehicle Noise:	75.2	73.7	69.7	68.9	76.3	76.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			128	276	595	1,283	
CNEL:			133	287	619	1,333	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Schaefer Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 21,365 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,848 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet			Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15				
Site Data			Vehicle Mix				
			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees			Autos: 76.5% 13.6% 9.9% 89.81% Medium Trucks: 87.6% 1.6% 10.8% 2.69% Heavy Trucks: 71.7% 6.1% 22.2% 7.50%				
			Noise Source Elevations (in feet)				
			Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0				
			Lane Equivalent Distance (in feet)				
			Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950				
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.36	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.87	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.42	1.04	-1.20	-5.44	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	68.6	67.3	65.8	59.7	68.2	68.9	
Medium Trucks:	64.4	63.7	52.4	55.8	64.2	64.3	
Heavy Trucks:	73.7	72.1	67.4	68.2	75.3	75.5	
Vehicle Noise:	75.2	73.8	69.8	69.0	76.3	76.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			129	279	601	1,295	
CNEL:			135	290	625	1,346	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Schaefer Av. Road Segment: e/o Monte Vista Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 19,381 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,676 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.05	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.39	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.89	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.9	65.4	59.3	67.8	68.4
Medium Trucks:	63.9	63.2	51.9	55.3	63.7	63.8
Heavy Trucks:	73.2	71.6	66.9	67.8	74.8	75.0
Vehicle Noise:	74.8	73.3	69.3	68.5	75.9	76.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	121	260	559	1,205	
CNEL:	125	270	581	1,253	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Schaefer Av. Road Segment: e/o Monte Vista Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 19,443 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,682 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.90% Medium Trucks: 87.6% 1.6% 10.8% 2.65% Heavy Trucks: 71.7% 6.1% 22.2% 7.44%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.04	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.34	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.86	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.9	65.4	59.3	67.8	68.5
Medium Trucks:	64.0	63.2	51.9	55.4	63.7	63.8
Heavy Trucks:	73.2	71.6	66.9	67.8	74.8	75.0
Vehicle Noise:	74.8	73.3	69.3	68.6	75.9	76.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	121	261	562	1,210	
CNEL:	126	271	584	1,258	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Schaefer Av. Road Segment: e/o Monte Vista Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 20,791 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,798 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.25	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.08	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.59	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	67.2	65.7	59.6	68.1	68.7
Medium Trucks:	64.2	63.5	52.2	55.6	64.0	64.1
Heavy Trucks:	73.5	71.9	67.2	68.1	75.1	75.3
Vehicle Noise:	75.1	73.6	69.6	68.8	76.2	76.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	126	272	586	1,263	
CNEL:	131	283	609	1,313	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Schaefer Av. Road Segment: e/o Monte Vista Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 20,854 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,804 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.91% Medium Trucks: 87.6% 1.6% 10.8% 2.65% Heavy Trucks: 71.7% 6.1% 22.2% 7.44%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.26	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-15.04	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.56	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	67.2	65.7	59.6	68.1	68.8
Medium Trucks:	64.3	63.5	52.2	55.7	64.0	64.1
Heavy Trucks:	73.5	71.9	67.2	68.1	75.1	75.3
Vehicle Noise:	75.1	73.6	69.6	68.9	76.2	76.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	127	273	589	1,268	
CNEL:	132	284	612	1,318	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Schaefer Av. Road Segment: e/o Monte Vista Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 22,870 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,978 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.67	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.67	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.17	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.6	66.1	60.0	68.5	69.2
Medium Trucks:	64.6	63.9	52.6	56.0	64.4	64.5
Heavy Trucks:	73.9	72.3	67.6	68.5	75.5	75.7
Vehicle Noise:	75.5	74.0	70.0	69.3	76.6	76.8

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	135	290	625	1,346	
CNEL:	140	301	649	1,399	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Schaefer Av. Road Segment: e/o Monte Vista Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 22,933 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,984 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 51 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 49.0 feet Centerline Dist. to Observer: 49.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.91% Medium Trucks: 87.6% 1.6% 10.8% 2.65% Heavy Trucks: 71.7% 6.1% 22.2% 7.44%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 42.140 Medium Trucks: 41.929 Heavy Trucks: 41.950			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.68	1.01	-1.20	-4.64	0.000	0.000
Medium Trucks:	79.45	-14.63	1.04	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.15	1.04	-1.20	-5.44	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.6	66.2	60.0	68.5	69.2
Medium Trucks:	64.7	63.9	52.6	56.1	64.4	64.5
Heavy Trucks:	73.9	72.3	67.6	68.5	75.5	75.7
Vehicle Noise:	75.5	74.0	70.0	69.3	76.6	76.9

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	135	291	627	1,351	
CNEL:	140	302	652	1,404	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Edison Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 21,116 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,827 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.83	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.51	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.01	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	65.3	63.8	57.6	66.2	66.8
Medium Trucks:	62.5	61.8	50.4	53.9	62.3	62.3
Heavy Trucks:	72.3	70.7	66.0	66.8	73.9	74.1
Vehicle Noise:	73.7	72.2	68.1	67.5	74.8	75.0

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	125	270	582	1,254	
CNEL:	130	280	604	1,302	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Edison Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 21,210 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,835 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.88% Medium Trucks: 87.6% 1.6% 10.8% 2.66% Heavy Trucks: 71.7% 6.1% 22.2% 7.45%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.85	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.44	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.97	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	65.3	63.8	57.7	66.2	66.8
Medium Trucks:	62.6	61.8	50.5	54.0	62.3	62.4
Heavy Trucks:	72.3	70.7	66.0	66.9	73.9	74.1
Vehicle Noise:	73.7	72.2	68.1	67.6	74.8	75.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	126	272	586	1,262	
CNEL:	131	282	608	1,310	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Edison Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 22,712 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,965 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.15	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.19	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.69	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.6	64.1	58.0	66.5	67.1
Medium Trucks:	62.8	62.1	50.8	54.2	62.6	62.7
Heavy Trucks:	72.6	71.0	66.3	67.1	74.2	74.4
Vehicle Noise:	74.0	72.5	68.4	67.8	75.1	75.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	132	284	611	1,317	
CNEL:	137	294	634	1,367	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Edison Av. Road Segment: w/o Ramona Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 22,806 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,973 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.89% Medium Trucks: 87.6% 1.6% 10.8% 2.66% Heavy Trucks: 71.7% 6.1% 22.2% 7.45%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.16	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.13	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.65	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.6	64.1	58.0	66.5	67.2
Medium Trucks:	62.9	62.1	50.8	54.3	62.7	62.7
Heavy Trucks:	72.6	71.0	66.3	67.2	74.2	74.4
Vehicle Noise:	74.0	72.5	68.4	67.9	75.2	75.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	132	285	615	1,324	
CNEL:	137	296	638	1,374	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY				Project Name: Yorba Job Number: 15334			
Road Name: Edison Av. Road Segment: w/o Ramona Av.							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 24,984 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 2,161 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.56	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-13.77	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.28	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	66.0	64.5	58.4	66.9	67.6
Medium Trucks:	63.2	62.5	51.2	54.6	63.0	63.1
Heavy Trucks:	73.0	71.4	66.7	67.6	74.6	74.8
Vehicle Noise:	74.4	72.9	68.8	68.2	75.5	75.8

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	140	302	651	1,403	
CNEL:	146	314	676	1,456	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P				Project Name: Yorba Job Number: 15334			
Road Name: Edison Av. Road Segment: w/o Ramona Av.							
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 25,078 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 2,169 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.89% Medium Trucks: 87.6% 1.6% 10.8% 2.66% Heavy Trucks: 71.7% 6.1% 22.2% 7.45%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.57	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-13.72	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.24	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	66.0	64.5	58.4	66.9	67.6
Medium Trucks:	63.3	62.5	51.2	54.7	63.1	63.1
Heavy Trucks:	73.0	71.4	66.7	67.6	74.6	74.8
Vehicle Noise:	74.4	72.9	68.9	68.3	75.6	75.8

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	141	304	654	1,410	
CNEL:	146	315	679	1,464	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Edison Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,290 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,496 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.55	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-15.88	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.39	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.8	64.4	58.2	66.8	67.4
Medium Trucks:	62.9	62.1	50.8	54.3	62.6	62.7
Heavy Trucks:	72.1	70.5	65.8	66.7	73.7	73.9
Vehicle Noise:	73.7	72.3	68.3	67.5	74.8	75.1

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	126	271	583	1,256	
CNEL:	131	281	606	1,305	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Edison Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,416 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,506 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.71% Medium Trucks: 87.6% 1.6% 10.8% 2.73% Heavy Trucks: 71.7% 6.1% 22.2% 7.56%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.53	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-15.69	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.27	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.9	64.4	58.2	66.8	67.4
Medium Trucks:	63.0	62.3	51.0	54.5	62.8	62.9
Heavy Trucks:	72.3	70.7	66.0	66.8	73.9	74.0
Vehicle Noise:	73.8	72.4	68.3	67.6	74.9	75.2

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	128	275	592	1,276	
CNEL:	133	286	616	1,326	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Edison Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 18,603 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,609 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.23	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-15.57	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.07	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	66.2	64.7	58.5	67.1	67.7
Medium Trucks:	63.2	62.4	51.1	54.6	62.9	63.0
Heavy Trucks:	72.5	70.9	66.2	67.0	74.1	74.3
Vehicle Noise:	74.0	72.6	68.6	67.8	75.1	75.4

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	132	284	612	1,318	
CNEL:	137	295	636	1,370	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Edison Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 18,728 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,620 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.72% Medium Trucks: 87.6% 1.6% 10.8% 2.72% Heavy Trucks: 71.7% 6.1% 22.2% 7.55%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.21	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-15.39	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.96	0.48	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	66.2	64.7	58.5	67.1	67.7
Medium Trucks:	63.3	62.6	51.3	54.8	63.1	63.2
Heavy Trucks:	72.6	71.0	66.3	67.1	74.2	74.4
Vehicle Noise:	74.1	72.7	68.6	67.9	75.2	75.5

Centerline Distance to Noise Contour (in feet)					
	70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:	134	288	621	1,338	
CNEL:	139	300	646	1,391	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Edison Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 38,285 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 3,312 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.90	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-12.43	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.94	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.6	69.3	67.8	61.7	70.2	70.8	
Medium Trucks:	66.3	65.6	64.3	57.7	66.1	66.2	
Heavy Trucks:	75.6	74.0	69.3	70.2	77.2	77.4	
Vehicle Noise:	77.2	75.7	71.7	70.9	78.3	78.5	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			213	460	990	2,133	
CNEL:			222	478	1,029	2,217	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Edison Av. Road Segment: w/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 38,411 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 3,323 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.84% Medium Trucks: 87.6% 1.6% 10.8% 2.68% Heavy Trucks: 71.7% 6.1% 22.2% 7.48%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.91	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-12.35	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.88	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.6	69.3	67.8	61.7	70.2	70.9	
Medium Trucks:	66.4	65.7	64.3	57.8	66.2	66.2	
Heavy Trucks:	75.7	74.0	69.3	70.2	77.3	77.4	
Vehicle Noise:	77.2	75.8	71.7	71.0	78.3	78.6	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			215	463	997	2,149	
CNEL:			223	481	1,037	2,233	

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E Road Name: Edison Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,320 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,412 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.80	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.14	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.64	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.9	65.6	64.1	58.0	66.5	67.1	
Medium Trucks:	62.6	61.9	60.5	54.0	62.4	62.5	
Heavy Trucks:	71.9	70.3	65.6	66.5	73.5	73.7	
Vehicle Noise:	73.5	72.0	68.0	67.2	74.6	74.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			121	260	561	1,208	
CNEL:			126	271	583	1,256	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: E+P Road Name: Edison Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 16,367 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,416 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.39%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.79	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.14	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.64	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	66.9	65.6	64.1	58.0	66.5	67.2	
Medium Trucks:	62.6	61.9	60.5	54.0	62.4	62.5	
Heavy Trucks:	71.9	70.3	65.6	66.5	73.5	73.7	
Vehicle Noise:	73.5	72.0	68.0	67.2	74.6	74.8	
Centerline Distance to Noise Contour (in feet)							
			70 dBA	65 dBA	60 dBA	55 dBA	
Ldn:			121	260	561	1,209	
CNEL:			126	271	583	1,256	

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC Road Name: Edison Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,469 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,511 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.50	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-15.84	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.34	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.2	65.9	64.4	58.3	66.8	67.4	
Medium Trucks:	62.9	62.2	50.8	54.3	62.7	62.7	
Heavy Trucks:	72.2	70.6	65.9	66.7	73.8	74.0	
Vehicle Noise:	73.8	72.3	68.3	67.5	74.9	75.1	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	126	272	587	1,264		
	CNEL:	131	283	610	1,314		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: OYC+P Road Name: Edison Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 17,516 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 1,515 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.98% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.40%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.49	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-15.84	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.34	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	67.2	65.9	64.4	58.3	66.8	67.4	
Medium Trucks:	62.9	62.2	50.8	54.3	62.7	62.7	
Heavy Trucks:	72.2	70.6	65.9	66.7	73.8	74.0	
Vehicle Noise:	73.8	72.3	68.3	67.5	74.9	75.1	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	126	272	587	1,265		
	CNEL:	131	283	610	1,315		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY Road Name: Edison Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 36,265 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 3,137 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.95% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.42%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.67	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-12.67	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-8.17	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.4	69.1	67.6	61.4	70.0	70.6	
Medium Trucks:	66.1	65.3	54.0	57.5	65.8	65.9	
Heavy Trucks:	75.4	73.8	69.1	69.9	77.0	77.1	
Vehicle Noise:	76.9	75.5	71.5	70.7	78.0	78.3	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	206	443	955	2,057		
	CNEL:	214	461	993	2,139		

Wednesday, May 31, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)							
Scenario: HY+P Road Name: Edison Av. Road Segment: e/o Yorba Av.				Project Name: Yorba Job Number: 15334			
SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS			
Highway Data				Site Conditions (Hard = 10, Soft = 15)			
Average Daily Traffic (Adt): 36,312 vehicles Peak Hour Percentage: 8.65% Peak Hour Volume: 3,141 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 78 feet				Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15			
Site Data				Vehicle Mix			
				VehicleType	Day	Evening	Night
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 76.5% 13.6% 9.9% 89.96% Medium Trucks: 87.6% 1.6% 10.8% 2.63% Heavy Trucks: 71.7% 6.1% 22.2% 7.41%			
				Noise Source Elevations (in feet)			
				Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0			
				Lane Equivalent Distance (in feet)			
				Autos: 45.869 Medium Trucks: 45.676 Heavy Trucks: 45.695			
FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.67	0.46	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-12.67	0.49	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-8.17	0.48	-1.20	-5.34	0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.4	69.1	67.6	61.4	70.0	70.6	
Medium Trucks:	66.1	65.3	54.0	57.5	65.8	65.9	
Heavy Trucks:	75.4	73.8	69.1	69.9	77.0	77.1	
Vehicle Noise:	76.9	75.5	71.5	70.7	78.0	78.3	
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dBA	60 dBA	55 dBA		
	Ldn:	206	443	955	2,058		
	CNEL:	214	461	993	2,139		

Wednesday, May 31, 2023

APPENDIX 9.1:
OPERATIONAL NOISE MODEL INPUTS

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15334 - Chino Lovett Industrial

CadnaA Noise Prediction Model: 15334-04.cna

Date: 12.07.23

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	43.8	43.6	50.3	55.0	50.0	0.0				5.00	a	6120152.21	2312665.42	5.00
RECEIVERS		R2	48.3	48.0	54.7	55.0	50.0	0.0				5.00	a	6120644.12	2313258.15	5.00
RECEIVERS		R3	39.9	39.7	46.3	55.0	50.0	0.0				5.00	a	6121442.60	2314227.65	5.00
RECEIVERS		R4	38.1	37.9	44.6	55.0	50.0	0.0				5.00	a	6122881.60	2313034.44	5.00
RECEIVERS		R5	38.0	37.8	44.4	55.0	50.0	0.0				5.00	a	6122879.60	2312549.43	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			Height (ft)	Coordinates				
			Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)		Night (min)	X (ft)	Y (ft)	Z (ft)	
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6121395.75	2313067.24	45.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6121394.04	2313111.73	45.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6121388.91	2312310.84	45.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6121389.76	2312353.62	45.00
POINTSOURCE		CAR01	81.1	81.1	81.1	Lw	81.1					5.00	a	6121026.11	2312259.50	5.00
POINTSOURCE		CAR02	81.1	81.1	81.1	Lw	81.1					5.00	a	6121074.88	2312259.50	5.00
POINTSOURCE		CAR03	81.1	81.1	81.1	Lw	81.1					5.00	a	6121123.65	2312259.50	5.00
POINTSOURCE		CAR04	81.1	81.1	81.1	Lw	81.1					5.00	a	6121169.86	2312258.64	5.00
POINTSOURCE		CAR05	81.1	81.1	81.1	Lw	81.1					5.00	a	6121287.94	2312260.35	5.00
POINTSOURCE		CAR06	81.1	81.1	81.1	Lw	81.1					5.00	a	6121328.15	2312258.64	5.00
POINTSOURCE		CAR07	81.1	81.1	81.1	Lw	81.1					5.00	a	6121388.05	2312256.93	5.00
POINTSOURCE		CAR08	81.1	81.1	81.1	Lw	81.1					5.00	a	6121429.98	2312255.22	5.00
POINTSOURCE		CAR09	81.1	81.1	81.1	Lw	81.1					5.00	a	6121479.60	2312332.23	5.00
POINTSOURCE		CAR10	81.1	81.1	81.1	Lw	81.1					5.00	a	6121438.53	2312348.49	5.00
POINTSOURCE		CAR11	81.1	81.1	81.1	Lw	81.1					5.00	a	6121480.46	2312389.56	5.00

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			Height		Coordinates			
			Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	(ft)		X (ft)	Y (ft)	Z (ft)
POINTSOURCE		CAR12	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.10	2312406.67	5.00
POINTSOURCE		CAR13	81.1	81.1	81.1	Lw	81.1					5.00	a	6121481.32	2312431.48	5.00
POINTSOURCE		CAR14	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.96	2312458.87	5.00
POINTSOURCE		CAR15	81.1	81.1	81.1	Lw	81.1					5.00	a	6121481.32	2312520.47	5.00
POINTSOURCE		CAR16	81.1	81.1	81.1	Lw	81.1					5.00	a	6121440.24	2312544.43	5.00
POINTSOURCE		CAR17	81.1	81.1	81.1	Lw	81.1					5.00	a	6121481.32	2312588.92	5.00
POINTSOURCE		CAR18	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.96	2312619.73	5.00
POINTSOURCE		CAR19	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.03	2312638.55	5.00
POINTSOURCE		CAR20	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.10	2312681.34	5.00
POINTSOURCE		CAR21	81.1	81.1	81.1	Lw	81.1					5.00	a	6121481.32	2312701.87	5.00
POINTSOURCE		CAR22	81.1	81.1	81.1	Lw	81.1					5.00	a	6121440.24	2312730.11	5.00
POINTSOURCE		CAR23	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.03	2312773.75	5.00
POINTSOURCE		CAR24	81.1	81.1	81.1	Lw	81.1					5.00	a	6121438.53	2312795.14	5.00
POINTSOURCE		CAR25	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.88	2312855.03	5.00
POINTSOURCE		CAR26	81.1	81.1	81.1	Lw	81.1					5.00	a	6121442.81	2312876.42	5.00
POINTSOURCE		CAR27	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.88	2312898.67	5.00
POINTSOURCE		CAR28	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.96	2312934.61	5.00
POINTSOURCE		CAR29	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.88	2312960.28	5.00
POINTSOURCE		CAR30	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.96	2312982.53	5.00
POINTSOURCE		CAR31	81.1	81.1	81.1	Lw	81.1					5.00	a	6121484.74	2313008.20	5.00
POINTSOURCE		CAR32	81.1	81.1	81.1	Lw	81.1					5.00	a	6121441.10	2313044.99	5.00
POINTSOURCE		CAR33	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.03	2313050.98	5.00
POINTSOURCE		CAR34	81.1	81.1	81.1	Lw	81.1					5.00	a	6121483.03	2313083.49	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6120895.19	2313170.77	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6120891.77	2312413.52	5.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li		Operating Time			Moving Pt. Src			Height				
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	Day	Evening	Night	Number	Speed (mph)	(ft)	
LINESOURCE		TRUCK01	93.2	93.2	93.2	72.0	72.0	72.0	Lw	93.2										8	a
LINESOURCE		TRUCK02	93.2	93.2	93.2	76.1	76.1	76.1	Lw	93.2										8	a

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
LINESOURCE	TRUCK01	8.00	a	6121083.44	2313162.21	8.00	0.00
				6121401.74	2313166.49	8.00	0.00
				6121477.89	2313136.54	8.00	0.00
				6121505.30	2313137.38	8.00	0.00
LINESOURCE	TRUCK02	8.00	a	6120977.34	2312400.68	8.00	0.00
				6120975.62	2312232.96	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li		Operating Time			Height		
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	(ft)	
AREASOURCE		DOCK01	103.4	103.4	103.4	61.7	61.7	61.7	Lw	103.4					8	a

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
AREASOURCE	DOCK01	8.00	a	6121080.01	2312400.68	8.00	0.00
				6120876.37	2312400.68	8.00	0.00
				6120879.79	2313184.46	8.00	0.00
				6121083.44	2313184.46	8.00	0.00
				6121083.44	2313136.54	8.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates				
								Begin (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BUILDING			BUILDING00001	x	0		40.00	a	6121083.44	2313136.54	40.00	0.00
									6121366.66	2313136.54	40.00	0.00
									6121366.66	2313126.28	40.00	0.00
									6121422.28	2313124.56	40.00	0.00
									6121418.00	2312296.29	40.00	0.00
									6121017.55	2312298.00	40.00	0.00
									6121018.41	2312401.54	40.00	0.00
									6121080.01	2312400.68	40.00	0.00

APPENDIX 10.1:
CONSTRUCTION NOISE MODEL INPUTS

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15334 - Chino Lovett Industrial

CadnaA Noise Prediction Model: 15334-02_Construction.cna

Date: 01.06.23

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	60.0	-47.0	57.0	65.0	50.0	0.0				5.00	a	6120152.21	2312665.42	5.00
RECEIVERS		R2	63.5	-43.5	60.5	65.0	50.0	0.0				5.00	a	6120644.12	2313258.15	5.00
RECEIVERS		R3	56.7	-50.2	53.7	65.0	50.0	0.0				5.00	a	6121442.60	2314227.65	5.00
RECEIVERS		R4	55.4	-51.6	52.4	65.0	50.0	0.0				5.00	a	6122881.60	2313034.44	5.00
RECEIVERS		R5	55.5	-51.5	52.5	65.0	50.0	0.0				5.00	a	6122879.60	2312549.43	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li		Operating Time			Height (ft)	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value norm. dB(A)	Day (min)	Special (min)	Night (min)		
SITEBOUNDARY		CONSTRUCTION	122.0	15.0	15.0	74.5	-32.5	-32.5	PWL-Pt	115				8	a

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
SITEBOUNDARY	CONSTRUCTION	8.00	a	6120870.63	2313190.30	8.00	0.00
				6121505.54	2313187.83	8.00	0.00
				6121502.45	2312250.14	8.00	0.00
				6121480.58	2312230.35	8.00	0.00
				6120866.33	2312233.41	8.00	0.00

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APPENDIX 10.2:
NIGHTTIME CONCRETE POUR NOISE MODEL INPUTS

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15334 - Chino Lovett Industrial

CadnaA Noise Prediction Model: 15334-04_Pour.cna

Date: 12.07.23

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates			
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS		R1	44.7	-62.3	41.7	65.0	50.0	0.0				5.00	a	6120152.21	2312665.42	5.00
RECEIVERS		R2	47.6	-59.3	44.6	65.0	50.0	0.0				5.00	a	6120644.12	2313258.15	5.00
RECEIVERS		R3	42.0	-64.8	39.0	65.0	50.0	0.0				5.00	a	6121442.60	2314227.65	5.00
RECEIVERS		R4	40.9	-65.9	37.9	65.0	50.0	0.0				5.00	a	6122881.60	2313034.44	5.00
RECEIVERS		R5	41.1	-65.7	38.1	65.0	50.0	0.0				5.00	a	6122879.60	2312549.43	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			Height		
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	(ft)	
BUILDING		POUR	107.3	0.3	0.3	63.0	-44.0	-44.0	PWL-Pt	100.3					8	a

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BUILDING	POUR	8.00	a	6121083.44	2313136.54	8.00	0.00
				6121366.66	2313136.54	8.00	0.00
				6121366.66	2313126.28	8.00	0.00
				6121422.28	2313124.56	8.00	0.00
				6121418.00	2312296.29	8.00	0.00
				6121017.55	2312298.00	8.00	0.00
				6121018.41	2312401.54	8.00	0.00
				6121080.01	2312400.68	8.00	0.00

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