Rubidoux

NOISE IMPACT AND VIBRATION ANALYSIS

CITY OF JURUPA VALLEY

PREPARED BY:

Bill Lawson, PE, INCE
blawson@urbanxroads.com
(949) 584-3148

DECEMBER 7, 2022

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
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
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Rubidoux
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

This page intentionally left blank

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Rubidoux development ("Project"). The Project site is located west of Avalon Street at 26th Street in the City of Jurupa Valley. The Project is proposed to consist of five (5) industrial buildings totaling 1,194,170 square feet on approximately 80.8 acres.

This study has been prepared to satisfy applicable City of Jurupa Valley standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this Rubidoux Noise Impact 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	*Less Than Significant*	-
Operational Noise	9	*Less Than Significant*	-
Operational Vibration		*Less Than Significant*	-
Construction Noise	10	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

This page intentionally left blank

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Rubidoux ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides 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 impacts.

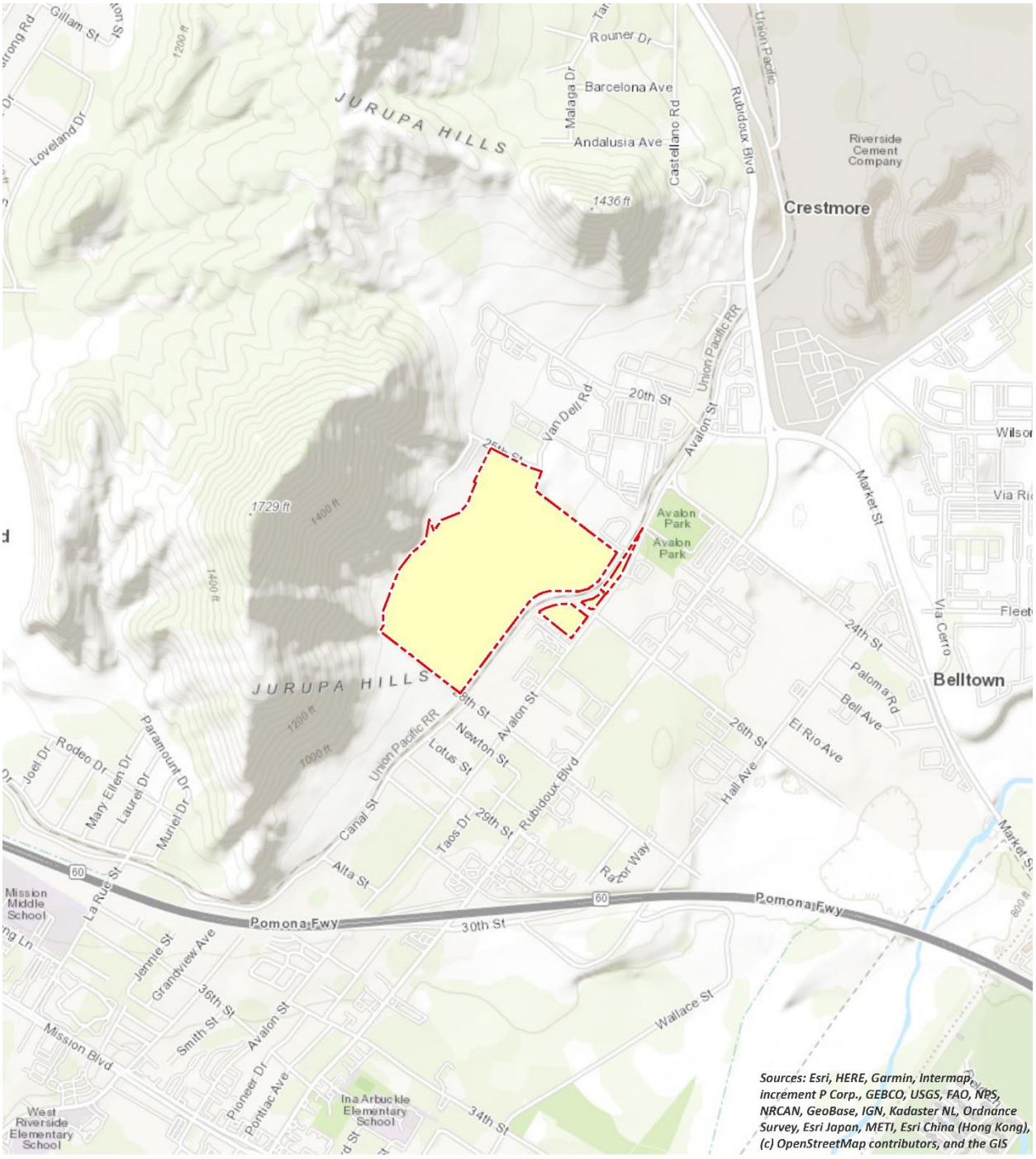
1.1 SITE LOCATION

The proposed Rubidoux site is located west of Avalon Street at 26th Street in the City of Jurupa Valley, as shown on Exhibit 1-A. The Project site is mostly vacant. Existing land uses near the site consist mostly of nearby industrial land uses with some nearby residential homes located south and east of the Project site. California State Route 60 is located approximately 0.5 miles south of the Project site, and the private Flabob Airport is located roughly 1.5 miles south of the Project site.

1.2 PROJECT DESCRIPTION

Exhibit 1-B illustrates the preliminary site plan. As indicated on Exhibit 1-B, the Project is proposed to consist of five (5) industrial buildings totaling 1,194,170 square feet on approximately 80.8 acres. At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown. 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 noise level impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week.

EXHIBIT 1-A: LOCATION MAP



LEGEND:

N

Site Boundary

EXHIBIT 1-B: SITE PLAN

This page intentionally left blank

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	
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		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
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 Jurupa Valley 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

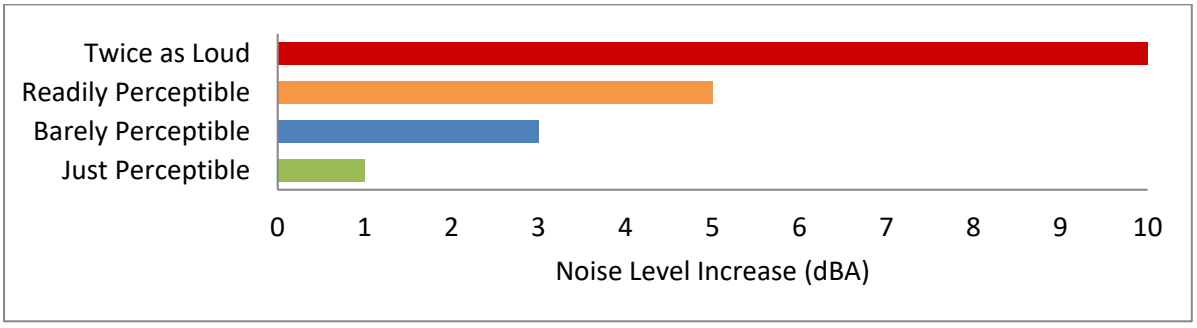
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, 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



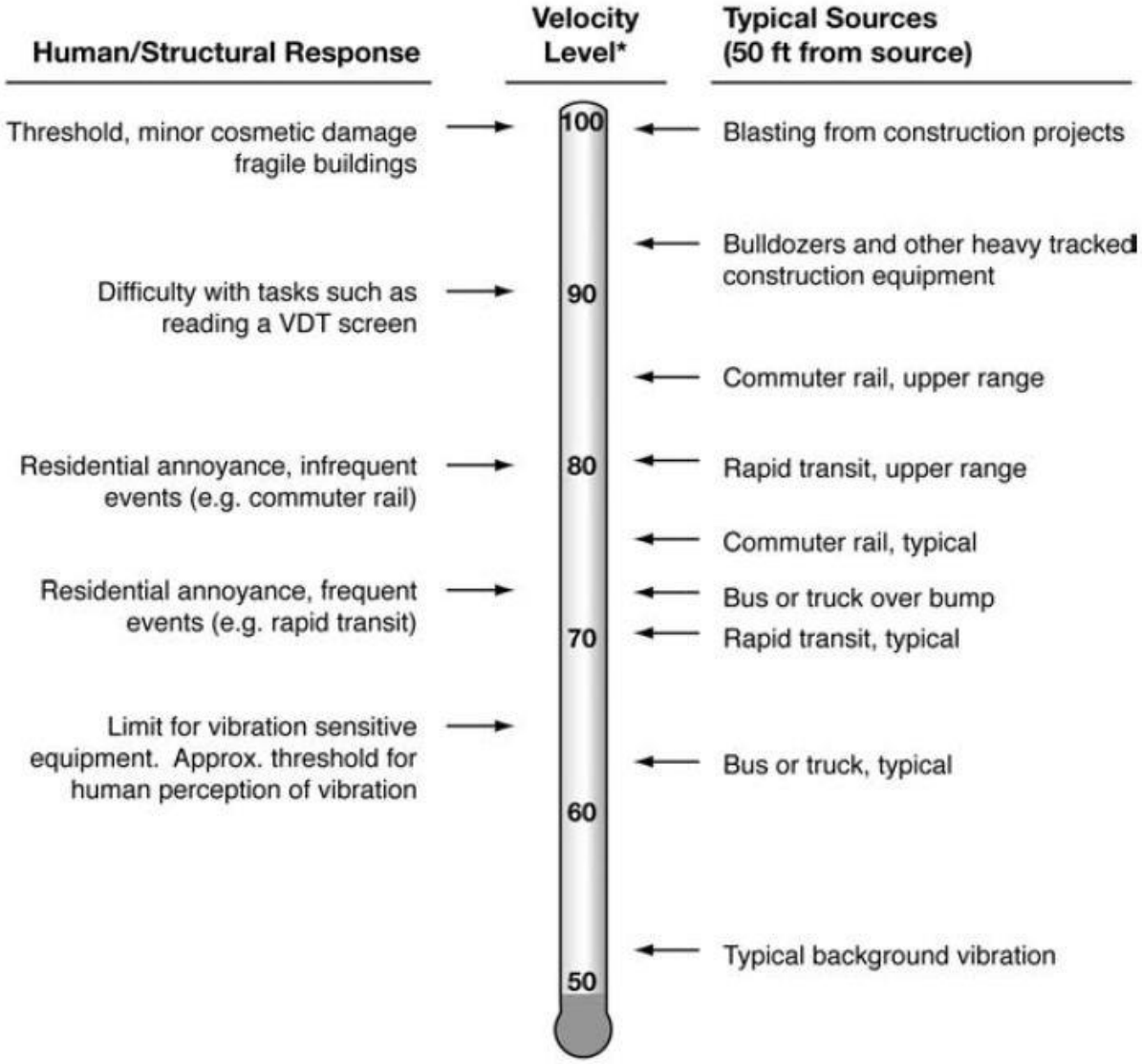
2.8 VIBRATION

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 JURUPA VALLEY GENERAL PLAN

The City of Jurupa Valley adopted the General Plan on September 7, 2017 (10) The Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level compatibility guidelines for all land uses.

3.2.1 POLICIES AND PROGRAMS

To protect City of Jurupa Valley residents from excessive noise, the Noise Element contains the following policies and programs related to the Project:

NE 1.1 Utilize the Land Use/Noise Compatibility Matrix, Figure 7-3, to determine the compatibility of proposed development, including General Plan amendments, specific plan amendments, town center plans, and rezoning's, with existing land uses and/or noise exposure due to transportation sources.

NE 1.3 New or Modified Stationary Noise Sources. Noise created by new stationary noise sources, or by existing stationary noise sources that undergo modifications that may increase noise levels, shall be mitigated so as not exceed the noise level standards of Figure 7-3. This policy does not apply to noise levels associated with agricultural operations existing in 2017.

NE 1.4 Acoustical Assessment. Require an acoustical assessment for proposed General Plan amendments and rezones that exceed the "Normally Acceptable" thresholds of the Land Use/Noise Compatibility Matrix.

NE 1.5 Noise-Sensitive Uses. Consider the following uses noise sensitive and discourage these uses in areas in excess of 65 CNEL: schools, hospitals, assisted living facilities, mental care facilities, residential uses, libraries, passive recreational uses, and places of worship.

NE 3.1 Noise Analysis. Require that a noise analysis be conducted by an acoustical specialist for all proposed development projects that have the potential to generate significant noise near a noise-sensitive land use, or on or near land designated for noise-sensitive land uses, and ensure that recommended mitigation measures are implemented.

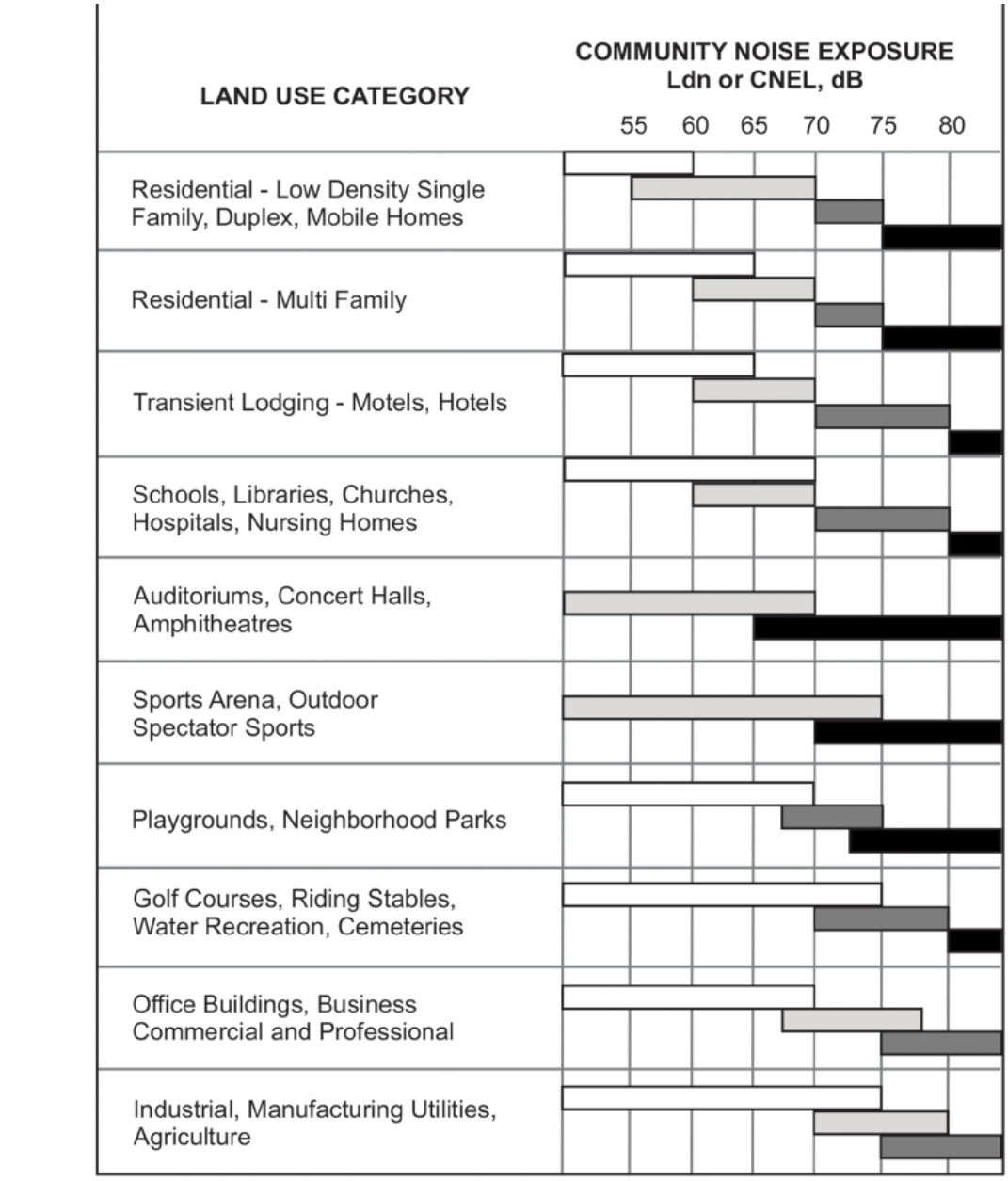
NE 3.5 Construction Noise. Limit commercial construction activities adjacent to or within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., and limit high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m.

To ensure noise-sensitive land uses are protected from high levels of noise (NE 1.1), Figure 7-3 of the Noise Element identifies guidelines to evaluate proposed developments based on exterior and interior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary. The Noise Element requires an acoustical assessment for proposed General Plan amendments and rezones that exceed the "Normally Acceptable" thresholds of the Land Use/Noise Compatibility Matrix (NE 1.4) and identifies residential use as a noise-sensitive land use (NE 1.5) discouraging new development in areas with transportation related levels more than 65 dBA CNEL. To control stationary noise sources from Industrial, commercial, and manufacturing facilities that may affect sensitive land uses, Policy (NE 3.1) requires that a noise analysis be conducted by an acoustical specialist for all proposed development projects. Maximum noise exposure levels from stationary sources for noise-sensitive uses are regulated by the Municipal Code. To prevent high levels of construction noise from impacting noise-sensitive land uses, Policy NE 3.5 limits construction activities within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., and limit high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m.

3.2.2 LAND USE COMPATIBILITY

The noise criteria identified in the City of Jurupa Valley Noise Element (Figure 7-3) are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the city with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use/Noise Compatibility Matrix* describes categories of compatibility and not specific noise standards. The industrial use of the Project is considered *normally acceptable* with unmitigated exterior noise levels of less than 75 dBA CNEL based on the *Industrial, Manufacturing, Utilities, Agriculture* land use compatibility criteria shown on Exhibit 3-A. Residential designated land uses in the Project study area are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL, and *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL. For *conditionally acceptable* exterior noise levels, of up to 80 dBA CNEL for Project land uses, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice*. (10)

EXHIBIT 3-A: LAND USE/NOISE COMPATIBILITY MATRIX



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

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

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

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: Jurupa Valley General Plan, 2017 Figure 7-3.

3.3 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as Rubidoux Project, stationary-source (operational) noise such as the expected 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 jurisdiction's Municipal Code.

However, Section 11.05.010 of the City of Jurupa Valley Municipal Code (11) indicates that this chapter is not intended to establish city-wide standards regulating noise. Therefore, potential Project related stationary-source (operational) noise impacts are limited to the generation of a substantial temporary or permanent relative increase in the ambient noise levels. The City of Jurupa Valley Municipal Code is included in Appendix 3.1

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the City of Jurupa Valley Municipal Code has established limits to the hours of operation. Section 11.05.020 indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (11) In addition, City of Jurupa Valley General Plan Noise Element Policy NE 3.5 limits commercial construction activities adjacent to or within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., as well as limiting high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m. (10)

Neither the General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, this analysis relies on a numerical daytime construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual.* According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. 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. 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 land use. (8 p. 179)

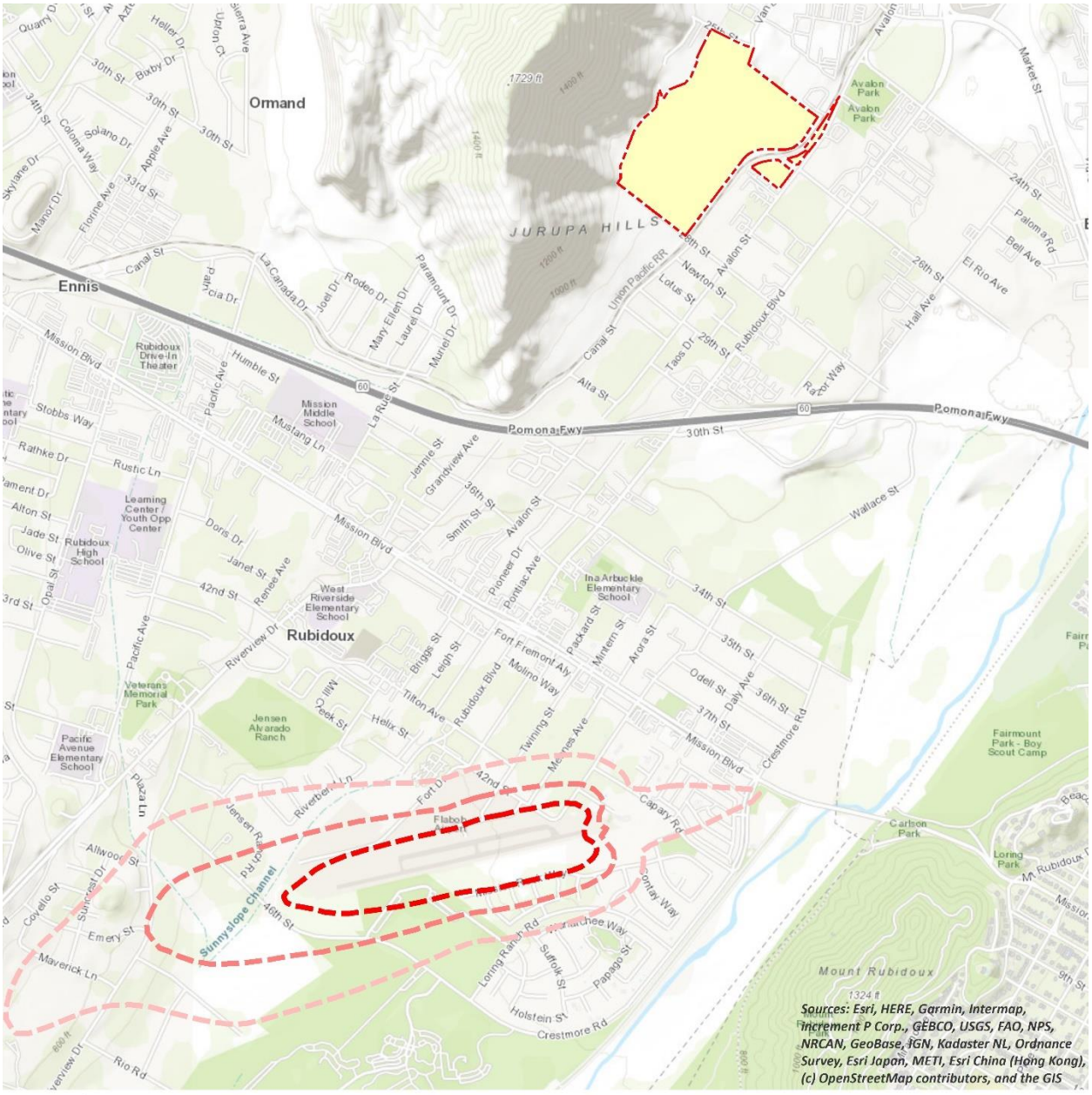
3.5 CONSTRUCTION VIBRATION STANDARDS

To analyze vibration impacts originating from the operation and construction of the Rubidoux, vibration-generating activities are evaluated against standards identified by the City of Jurupa Valley as a threshold of 0.2 inches per second (in/sec) peak-particle-velocity (PPV) during either long-term operation or construction of the Project. (13) This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

3.6 FLABOB AIRPORT LAND USE COMPATIBILITY

The Flabob Airport is located approximately 1.5 miles south of the Project site. The *Riverside County Airport Land Use Compatibility Plan Policy Document* includes policies for determining the land use compatibility of the Project. The Flabob Airport Compatibility, Map FL-1, indicates that the Project site is located outside the Airport Influence Area Boundaries. Therefore, airport noise level impacts are considered *less than significant.*

EXHIBIT 3-B: FLABOB FUTURE AIRPORT NOISE CONTOURS



LEGEND:

Site Boundary | 65 dBA CNEL | 60 dBA CNEL | 55 dBA CNEL

Source: Riverside County Airport Land Use Compatibility Plan, W3-5

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. (9) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- (Threshold 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?
- (Threshold B) Generation of excessive ground-borne vibration or ground-borne noise levels.
- (Threshold 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 INCREASE (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 ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. According to the City of Jurupa Valley, a noticeable increase of 3 dBA or more than City standards is considered a significant impact. (13) The City of Jurupa Valley noise related CEQA thresholds guidance is provided in Appendix 4.1.

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of the Rubidoux, vibration-generating activities are appropriately evaluated the thresholds of significance identified by the City of Jurupa Valley. The City of Jurupa Valley maintains a 0.2 inches per second (in/sec) peak-particle-velocity (PPV) vibration threshold during Project construction.

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

As previously indicated in Section 3.6, the noise contour boundaries of Flabob Airport are presented on Exhibit 3-B of this report and show that the Project site is located outside the Airport Influence Area Boundaries. Therefore, airport noise level impacts are considered *less than significant,* and no further noise analysis is provided under Guideline 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.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site	Noise-Sensitive	If ambient is < 65 dBA CNEL[1]	Project plus ambient > 65 dBA CNEL and a ≥ 3 dBA CNEL Project increase[2]	
	Non-Noise-Sensitive	If ambient is < 70 dBA CNEL[1]	Project plus ambient > 70 dBA CNEL and a ≥ 3 dBA CNEL Project increase[2]	
Operational	Noise-Sensitive	Exterior Noise Level Standards[2]	65 dBA L_{eq}	45 dBA L_{eq}
		If ambient is > 65 dBA L_{eq}[1]	≥ 3 dBA L_{eq} Project increase[2]	
		Vibration Level Threshold[2]	0.2 in/sec PPV	
Construction	Noise-Sensitive	Limit typical construction activities to weekdays between 7:00 a.m. and 6:00 p.m. Limit grading, demolition, pile driving to weekdays between 9:00 a.m. and 3:00 p.m.[3]		
		Noise Level Threshold[4]	80 dBA L_{eq}	70 dBA L_{eq}
		Vibration Level Threshold[2]	0.2 in/sec PPV	

[1] City of Jurupa Valley General Plan Noise Element Policy NE 1.5 and Figure 7-3 *normally acceptable* noise exposure.
[2] City of Jurupa Valley noise related CEQA thresholds guidance for noise sensitive receivers (Appendix 4.1).
[3] City of Jurupa Valley Municipal Code, Section 11.05.020.(9).
[4] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "PPV" = Peak Particle Velocity

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at six 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 Wednesday, February 12th, 2020. 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 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. (14)

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, t*hat 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 average or equivalent 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. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels north of the Project site on 25th Street near existing single-family residential home at 6041 25th Street. The noise levels at this location consist primarily of traffic noise from 25th Street and activity from R&S Madrigal Grading Construction. The noise level measurements collected show an overall 24-hour exterior noise level of 74.8 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 68.2 dBA L_{eq} with an average nighttime noise level of 68.3 dBA L_{eq}.
- Location L2 represents the noise levels Located east of the Project site on Avalon Street near Avalon Park. Noise levels at this location account for traffic on Avalon Street as well as activity from Avalon Park. The noise level measurements collected show an overall 24-hour exterior noise level of 67.4 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 62.7 dBA L_{eq} with an average nighttime noise level of 60.5 dBA L_{eq}.
- Location L3 represents the noise levels east of the Project site near existing single-family home at 2562 Avalon Street. The 24-hour CNEL indicates that the overall exterior noise level is 70.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 65.5 dBA L_{eq} with an average nighttime noise level of 63.2 dBA L_{eq}. Traffic from Avalon Street and activity from Sierra Pacific Electrical represent the primary source of noise at this location.
- Location L4 represents the noise levels southeast of the Project site on 26th Street near existing single-family homes at 5638 26th Street. The noise level measurements collected show an overall 24-hour exterior noise level of 63.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.0 dBA L_{eq} with an average nighttime noise level of 56.4 dBA L_{eq}. The noise levels at this location consist primarily of traffic noise from Avalon Street.
- Location L5 represents the noise levels south of the Project site on 28th Street near existing single-family homes at 5769 28th Street. The 24-hour CNEL indicates that the overall exterior noise level is 66.3dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 62.3 dBA L_{eq} with an average nighttime noise level of 58.8 dBA L_{eq}. Traffic on 28th Street represents the primary source of noise at this location.
- Location L6 represents the noise levels near the southern boundary of the Project site on the intersection of Canal Street and 28th Street. The 24-hour CNEL indicates that the overall exterior noise level is 64.6dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.1 dBA L_{eq} with an average nighttime noise level of 58.3 dBA L_{eq}. Traffic on 28th Street and Canal Street represents the primary source of noise at this location.

Table 5-1 provides the (energy average) 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, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

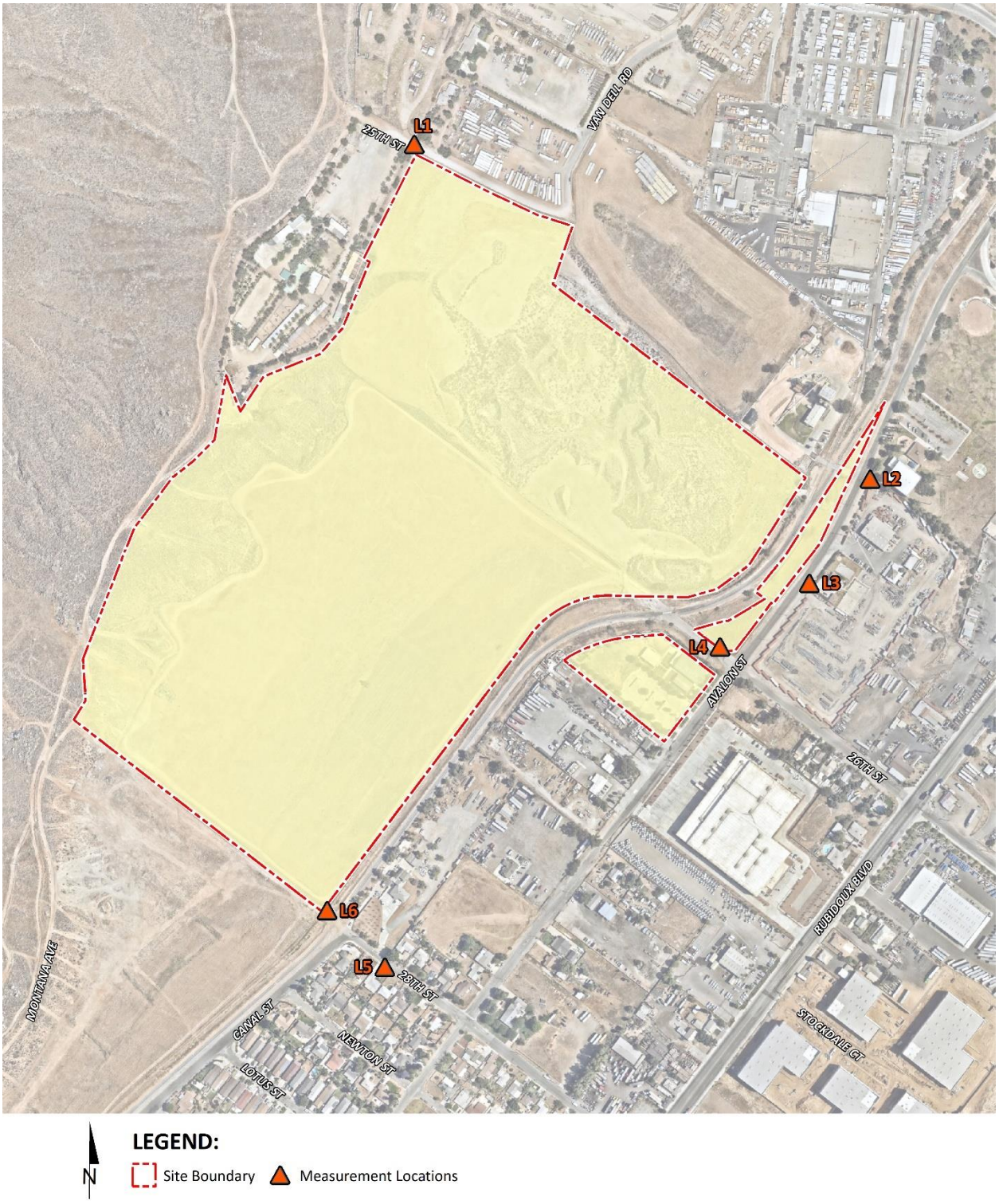
The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets as well as activity from surrounding industrial uses. The 24-hour existing noise level measurement results are shown on Table 5-1.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located north of the Project site on 25th Street near existing single-family residential home at 6041 25th Street.	68.2	68.3	74.8
L2	Located east of the Project site on Avalon Street near Avalon Park.	62.7	60.5	67.4
L3	Located east of the Project site near existing single-family home at 2562 Avalon Street.	65.5	63.2	70.1
L4	Located southeast of the Project site on 26th Street near existing single-family homes at 5638 26th Street.	57.0	56.4	63.1
L5	Located south of the Project site on 28th Street near existing single-family homes at 5769 28th Street.	62.3	58.8	66.3
L6	Located near the southern boundary of the Project site on the intersection of Canal Street and 28th Street.	56.1	58.3	64.6

[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.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment. Consistent with the City of Jurupa Valley General Plan *Land Use/Noise Compatibility Matrix*, 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. (15) 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. (16) 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. (17)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

The proposed Project is anticipated to generate a total of 5,724 actual vehicle trip-ends per day with 422 truck trip-ends per day. The Project trip generation worksheet is included in Appendix 6.1. This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network.

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the 24 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Jurupa Valley General Plan Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on the *Rubidoux Traffic Impact Analysis*, prepared by Urban Crossroads, Inc. for the following traffic scenarios under both Without and With Project conditions, for the proposed Project: Existing, Existing plus Ambient Growth (EA), EA plus Cumulative (EAC), and Horizon Year (HY) 2045. (18)

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use[1]	Distance from Centerline to Receiving Land Use (Feet)[2]	Vehicle Speed (mph)[3]
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	52'	40
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	52'	45
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	52'	45
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	52'	45
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	52'	45
6	Cedar Ave.	s/o 7th Street	Sensitive	52'	50
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	59'	50
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	59'	50
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	59'	50
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	59'	50
11	Rubidoux Bl.	s/o 34th St.	Sensitive	59'	50
12	Market St.	n/o Rivera St.	Sensitive	59'	45
13	Market St.	s/o SR-60 EB Ramps	Sensitive	50'	45
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	52'	55
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	50'	45
16	Slover Av.	w/o Cedar Ave.	Sensitive	52'	50
17	Slover Av.	e/o Cedar Ave.	Sensitive	52'	50
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	44'	40
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	44'	40
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	52'	40
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	52'	40
22	7th St.	w/o Cedar Ave.	Sensitive	25'	45
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	59'	45
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	52'	45

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] Distance to receiving land use is based upon the right-of-way distances.
[3] Rubidoux Warehouse Traffic Impact Analysis.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]							
			Existing		Existing + Ambient (EA)		Existing + Ambient + Cumulative (EAC)		Horizon Year 2045	
			Without Project	Proposed Project	Without Project	Proposed Project	Without Project	Proposed Project	Without Project	Proposed Project
1	Cedar Ave.	n/o I-10 WB Ramps	34,858	35,070	36,991	37,203	46,990	47,203	35,504	35,716
2	Cedar Ave.	s/o I-10 EB Ramps	26,005	27,925	27,597	29,516	43,432	45,361	30,842	32,762
3	Cedar Ave.	n/o Santa Ana Av.	22,754	24,939	24,147	26,332	38,323	40,518	25,357	27,542
4	Cedar Ave.	s/o Santa Ana Av.	18,203	20,547	19,318	21,661	34,303	36,658	19,315	21,659
5	Cedar Ave.	s/o Jurupa Av.	18,303	20,806	19,423	21,926	29,970	32,485	22,803	25,306
6	Cedar Ave.	s/o 7th Street	19,144	21,700	20,316	22,872	29,841	32,409	26,978	29,534
7	Rubidoux Bl.	s/o El Rivino Rd	17,484	20,040	18,554	21,110	27,761	30,329	20,288	22,844
8	Rubidoux Bl.	s/o Market St.	14,043	16,088	14,902	16,948	27,025	29,080	16,959	19,005
9	Rubidoux Bl.	s/o 24th St.	13,921	15,967	14,773	16,819	26,991	29,046	17,059	19,105
10	Rubidoux Bl.	s/o 26th St.	13,954	15,364	14,808	16,218	26,954	28,369	17,168	18,577
11	Rubidoux Bl.	s/o 34th St.	17,351	17,563	18,413	18,625	25,480	25,694	18,794	19,006
12	Market St.	n/o Rivera St.	19,529	20,716	20,724	21,912	28,080	29,273	22,771	23,958
13	Market St.	s/o SR-60 EB Ramps	21,169	21,529	22,465	22,825	30,258	30,619	26,253	26,613
14	Riverside Av.	n/o Agua Mansa Rd.	11,365	11,652	12,060	12,347	26,667	26,955	15,434	15,721
15	Agua Mansa Rd.	n/o Market St.	8,897	9,469	9,442	10,014	17,934	18,509	15,861	16,433
16	Slover Av.	w/o Cedar Ave.	10,834	10,993	11,497	11,656	17,572	17,731	10,904	11,063
17	Slover Av.	e/o Cedar Ave.	8,133	8,239	8,631	8,737	12,380	12,487	14,775	14,881
18	Santa Ana Ave.	w/o Cedar Ave.	6,673	6,779	7,081	7,187	8,051	8,158	9,185	9,291
19	Santa Ana Ave.	e/o Cedar Ave.	4,692	4,745	4,979	5,032	6,556	6,609	6,420	6,473
20	Jurupa Ave.	w/o Cedar Ave.	4,980	5,033	5,284	5,337	16,280	16,333	8,181	8,234
21	Jurupa Ave.	e/o Cedar Ave.	5,776	5,882	6,130	6,236	8,010	8,116	9,285	9,391
22	7th St.	w/o Cedar Ave.	5,367	5,420	5,695	5,748	8,705	8,758	12,870	12,923
23	Market St.	e/o Rubidoux Bl.	15,514	16,744	16,464	17,693	26,848	28,083	24,044	25,273
24	Agua Mansa Rd.	e/o Riverside Ave.	8,521	8,808	9,042	9,329	26,848	27,137	12,212	12,499

[1] Rubidoux Warehouse Traffic Impact Analysis.

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 *Traffic Impact 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 6-12 show the vehicle mixes used for the with Project traffic scenarios for both the proposed Project.

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 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	71.28%	9.81%	18.91%	100.00%
Medium Trucks	77.26%	6.50%	16.25%	100.00%
Heavy Trucks	68.16%	9.02%	22.82%	100.00%

Based on an existing 24-hour vehicle count taken on Rubidoux Boulevard north of 30th Street (05/23/2019).
"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			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	75.75%	10.13%	14.13%	100.00%

Based on an existing 24-hour vehicle count taken on Rubidoux Boulevard north of 30th Street (05/23/2019).

TABLE 6-5: EXISTING WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Cedar Ave.	n/o I-10 WB Ramps	75.89%	10.07%	14.04%	100.00%
2	Cedar Ave.	s/o I-10 EB Ramps	77.19%	9.47%	13.34%	100.00%
3	Cedar Ave.	n/o Santa Ana Av.	77.62%	9.28%	13.10%	100.00%
4	Cedar Ave.	s/o Santa Ana Av.	78.20%	9.03%	12.77%	100.00%
5	Cedar Ave.	s/o Jurupa Av.	78.36%	8.96%	12.68%	100.00%
6	Cedar Ave.	s/o 7th Street	78.31%	8.99%	12.71%	100.00%
7	Rubidoux Bl.	s/o El Rivino Rd	78.52%	8.89%	12.59%	100.00%
8	Rubidoux Bl.	s/o Market St.	77.65%	9.04%	13.31%	100.00%
9	Rubidoux Bl.	s/o 24th St.	77.66%	9.03%	13.30%	100.00%
10	Rubidoux Bl.	s/o 26th St.	76.74%	9.41%	13.86%	100.00%
11	Rubidoux Bl.	s/o 34th St.	76.04%	10.01%	13.95%	100.00%
12	Market St.	n/o Rivera St.	76.52%	9.65%	13.82%	100.00%
13	Market St.	s/o SR-60 EB Ramps	75.47%	10.07%	14.46%	100.00%
14	Riverside Av.	n/o Agua Mansa Rd.	76.16%	9.91%	13.93%	100.00%
15	Agua Mansa Rd.	n/o Market St.	76.77%	9.59%	13.64%	100.00%
16	Slover Av.	w/o Cedar Ave.	76.10%	9.98%	13.92%	100.00%
17	Slover Av.	e/o Cedar Ave.	76.06%	10.00%	13.94%	100.00%
18	Santa Ana Ave.	w/o Cedar Ave.	76.13%	9.97%	13.90%	100.00%
19	Santa Ana Ave.	e/o Cedar Ave.	76.02%	10.01%	13.97%	100.00%
20	Jurupa Ave.	w/o Cedar Ave.	76.00%	10.02%	13.98%	100.00%
21	Jurupa Ave.	e/o Cedar Ave.	76.18%	9.95%	13.87%	100.00%
22	7th St.	w/o Cedar Ave.	75.98%	10.03%	13.99%	100.00%
23	Market St.	e/o Rubidoux Bl.	76.52%	9.56%	13.92%	100.00%
24	Agua Mansa Rd.	e/o Riverside Ave.	76.29%	9.84%	13.87%	100.00%

[1] Rubidoux Warehouse Traffic Impact Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: EA WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Cedar Ave.	n/o I-10 WB Ramps	75.89%	10.07%	14.04%	100.00%
2	Cedar Ave.	s/o I-10 EB Ramps	77.11%	9.51%	13.39%	100.00%
3	Cedar Ave.	n/o Santa Ana Av.	77.52%	9.33%	13.15%	100.00%
4	Cedar Ave.	s/o Santa Ana Av.	78.08%	9.08%	12.84%	100.00%
5	Cedar Ave.	s/o Jurupa Av.	78.22%	9.02%	12.75%	100.00%
6	Cedar Ave.	s/o 7th Street	78.18%	9.04%	12.78%	100.00%
7	Rubidoux Bl.	s/o El Rivino Rd	78.38%	8.95%	12.67%	100.00%
8	Rubidoux Bl.	s/o Market St.	77.55%	9.09%	13.35%	100.00%
9	Rubidoux Bl.	s/o 24th St.	77.57%	9.09%	13.35%	100.00%
10	Rubidoux Bl.	s/o 26th St.	76.68%	9.45%	13.87%	100.00%
11	Rubidoux Bl.	s/o 34th St.	76.02%	10.01%	13.96%	100.00%
12	Market St.	n/o Rivera St.	76.48%	9.68%	13.84%	100.00%
13	Market St.	s/o SR-60 EB Ramps	75.48%	10.08%	14.44%	100.00%
14	Riverside Av.	n/o Agua Mansa Rd.	76.13%	9.92%	13.94%	100.00%
15	Agua Mansa Rd.	n/o Market St.	76.71%	9.62%	13.67%	100.00%
16	Slover Av.	w/o Cedar Ave.	76.08%	9.99%	13.93%	100.00%
17	Slover Av.	e/o Cedar Ave.	76.04%	10.01%	13.95%	100.00%
18	Santa Ana Ave.	w/o Cedar Ave.	76.10%	9.98%	13.92%	100.00%
19	Santa Ana Ave.	e/o Cedar Ave.	76.00%	10.02%	13.98%	100.00%
20	Jurupa Ave.	w/o Cedar Ave.	75.99%	10.03%	13.98%	100.00%
21	Jurupa Ave.	e/o Cedar Ave.	76.16%	9.96%	13.88%	100.00%
22	7th St.	w/o Cedar Ave.	75.97%	10.03%	13.99%	100.00%
23	Market St.	e/o Rubidoux Bl.	76.48%	9.59%	13.93%	100.00%
24	Agua Mansa Rd.	e/o Riverside Ave.	76.26%	9.86%	13.88%	100.00%

[1] Rubidoux Warehouse Traffic Impact Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: EAC WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Cedar Ave.	n/o I-10 WB Ramps	75.87%	10.08%	14.05%	100.00%
2	Cedar Ave.	s/o I-10 EB Ramps	76.59%	9.74%	13.67%	100.00%
3	Cedar Ave.	n/o Santa Ana Av.	76.85%	9.63%	13.52%	100.00%
4	Cedar Ave.	s/o Santa Ana Av.	77.13%	9.51%	13.36%	100.00%
5	Cedar Ave.	s/o Jurupa Av.	77.34%	9.42%	13.24%	100.00%
6	Cedar Ave.	s/o 7th Street	77.41%	9.39%	13.20%	100.00%
7	Rubidoux Bl.	s/o El Rivino Rd	77.55%	9.33%	13.13%	100.00%
8	Rubidoux Bl.	s/o Market St.	76.80%	9.53%	13.68%	100.00%
9	Rubidoux Bl.	s/o 24th St.	76.81%	9.52%	13.67%	100.00%
10	Rubidoux Bl.	s/o 26th St.	76.29%	9.74%	13.98%	100.00%
11	Rubidoux Bl.	s/o 34th St.	75.95%	10.04%	14.01%	100.00%
12	Market St.	n/o Rivera St.	76.35%	9.76%	13.89%	100.00%
13	Market St.	s/o SR-60 EB Ramps	75.50%	10.08%	14.42%	100.00%
14	Riverside Av.	n/o Agua Mansa Rd.	76.03%	9.98%	13.99%	100.00%
15	Agua Mansa Rd.	n/o Market St.	76.39%	9.79%	13.82%	100.00%
16	Slover Av.	w/o Cedar Ave.	75.95%	10.04%	14.01%	100.00%
17	Slover Av.	e/o Cedar Ave.	75.94%	10.05%	14.01%	100.00%
18	Santa Ana Ave.	w/o Cedar Ave.	76.08%	9.99%	13.93%	100.00%
19	Santa Ana Ave.	e/o Cedar Ave.	75.97%	10.04%	14.00%	100.00%
20	Jurupa Ave.	w/o Cedar Ave.	75.85%	10.08%	14.06%	100.00%
21	Jurupa Ave.	e/o Cedar Ave.	76.05%	10.00%	13.95%	100.00%
22	7th St.	w/o Cedar Ave.	75.91%	10.06%	14.03%	100.00%
23	Market St.	e/o Rubidoux Bl.	76.31%	9.71%	13.98%	100.00%
24	Agua Mansa Rd.	e/o Riverside Ave.	75.96%	10.01%	14.02%	100.00%

[1] Rubidoux Warehouse Traffic Impact Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-8: HY 2040 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Cedar Ave.	n/o I-10 WB Ramps	75.89%	10.07%	14.04%	100.00%
2	Cedar Ave.	s/o I-10 EB Ramps	76.97%	9.57%	13.46%	100.00%
3	Cedar Ave.	n/o Santa Ana Av.	77.44%	9.36%	13.20%	100.00%
4	Cedar Ave.	s/o Santa Ana Av.	78.08%	9.08%	12.84%	100.00%
5	Cedar Ave.	s/o Jurupa Av.	77.89%	9.17%	12.94%	100.00%
6	Cedar Ave.	s/o 7th Street	77.63%	9.29%	13.08%	100.00%
7	Rubidoux Bl.	s/o El Rivino Rd	78.18%	9.04%	12.78%	100.00%
8	Rubidoux Bl.	s/o Market St.	77.36%	9.21%	13.44%	100.00%
9	Rubidoux Bl.	s/o 24th St.	77.35%	9.21%	13.44%	100.00%
10	Rubidoux Bl.	s/o 26th St.	76.56%	9.53%	13.90%	100.00%
11	Rubidoux Bl.	s/o 34th St.	76.02%	10.01%	13.97%	100.00%
12	Market St.	n/o Rivera St.	76.42%	9.72%	13.86%	100.00%
13	Market St.	s/o SR-60 EB Ramps	75.52%	10.08%	14.40%	100.00%
14	Riverside Av.	n/o Agua Mansa Rd.	76.05%	9.97%	13.98%	100.00%
15	Agua Mansa Rd.	n/o Market St.	76.34%	9.82%	13.85%	100.00%
16	Slover Av.	w/o Cedar Ave.	76.10%	9.98%	13.92%	100.00%
17	Slover Av.	e/o Cedar Ave.	75.92%	10.06%	14.02%	100.00%
18	Santa Ana Ave.	w/o Cedar Ave.	76.02%	10.01%	13.96%	100.00%
19	Santa Ana Ave.	e/o Cedar Ave.	75.95%	10.05%	14.01%	100.00%
20	Jurupa Ave.	w/o Cedar Ave.	75.90%	10.06%	14.03%	100.00%
21	Jurupa Ave.	e/o Cedar Ave.	76.02%	10.01%	13.97%	100.00%
22	7th St.	w/o Cedar Ave.	75.85%	10.09%	14.07%	100.00%
23	Market St.	e/o Rubidoux Bl.	76.26%	9.75%	13.99%	100.00%
24	Agua Mansa Rd.	e/o Riverside Ave.	76.13%	9.93%	13.94%	100.00%

[1] Rubidoux Warehouse Traffic Impact Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

6.3 VIBRATION ASSESSMENT

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-9. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. The FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 6-9: 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

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment

This page intentionally left blank

7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *Rubidoux Traffic Impact Analysis*. (18) 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 24-hour dBA CNEL 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 CNEL 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 through 7-12 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation for the proposed Project. Roadway segments are analyzed from the without Project to the with Project conditions in each of the following timeframes: Existing, Existing plus Ambient Growth (EA), Existing plus Ambient Growth plus Cumulative (EAC), and Horizon Year (HY) 2045. Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.2	248	534	1152
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	79.8	233	503	1083
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.2	214	460	991
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.2	184	396	854
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	78.3	185	398	857
6	Cedar Ave.	s/o 7th Street	Sensitive	79.2	215	463	998
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	77.8	197	424	913
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	76.9	170	366	789
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	76.9	169	364	784
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	76.9	169	365	785
11	Rubidoux Bl.	s/o 34th St.	Sensitive	77.8	196	421	908
12	Market St.	n/o Rivera St.	Sensitive	77.5	187	404	870
13	Market St.	s/o SR-60 EB Ramps	Sensitive	80.1	237	511	1101
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	77.7	170	366	788
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	75.1	109	234	504
16	Slover Av.	w/o Cedar Ave.	Sensitive	76.8	147	317	683
17	Slover Av.	e/o Cedar Ave.	Sensitive	75.5	121	262	564
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	73.9	80	172	372
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	72.4	63	136	294
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	71.7	68	146	315
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	72.4	75	161	347
22	7th St.	w/o Cedar Ave.	Sensitive	77.7	82	176	379
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	76.5	161	346	746
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	74.9	111	239	515

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-2: EXISTING WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.2	248	535	1152
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	79.9	237	510	1098
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.3	217	468	1008
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.4	188	405	872
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	78.4	189	407	876
6	Cedar Ave.	s/o 7th Street	Sensitive	79.4	220	474	1020
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.0	201	434	935
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	77.2	179	386	831
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	77.2	178	383	826
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	77.2	178	383	824
11	Rubidoux Bl.	s/o 34th St.	Sensitive	77.8	196	422	909
12	Market St.	n/o Rivera St.	Sensitive	77.7	192	414	891
13	Market St.	s/o SR-60 EB Ramps	Sensitive	80.3	243	523	1126
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	77.8	171	369	795
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	75.2	111	239	514
16	Slover Av.	w/o Cedar Ave.	Sensitive	76.8	147	317	684
17	Slover Av.	e/o Cedar Ave.	Sensitive	75.5	122	262	565
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	73.9	80	173	372
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	72.4	63	136	294
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	71.7	68	146	315
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	72.4	75	161	348
22	7th St.	w/o Cedar Ave.	Sensitive	77.7	82	176	380
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	76.8	167	360	776
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	75.0	112	242	520

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-3: EA WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.4	258	556	1198
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	80.0	243	523	1127
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.5	222	479	1031
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.5	191	412	889
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	78.5	192	414	892
6	Cedar Ave.	s/o 7th Street	Sensitive	79.5	224	482	1038
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.1	205	441	950
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	77.1	177	381	820
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	77.1	176	379	816
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	77.1	176	379	817
11	Rubidoux Bl.	s/o 34th St.	Sensitive	78.1	204	439	945
12	Market St.	n/o Rivera St.	Sensitive	77.8	195	420	905
13	Market St.	s/o SR-60 EB Ramps	Sensitive	80.4	247	532	1146
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	78.0	177	381	820
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	75.3	113	243	524
16	Slover Av.	w/o Cedar Ave.	Sensitive	77.0	153	330	710
17	Slover Av.	e/o Cedar Ave.	Sensitive	75.8	126	272	587
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	74.2	83	179	387
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	72.6	66	142	306
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	72.0	71	152	327
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	72.6	78	168	361
22	7th St.	w/o Cedar Ave.	Sensitive	78.0	85	183	395
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	76.8	167	360	776
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	75.2	115	249	536

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-4: EA WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.4	258	556	1199
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	80.1	246	530	1142
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.6	226	486	1047
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.6	195	421	907
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	78.6	196	423	910
6	Cedar Ave.	s/o 7th Street	Sensitive	79.6	228	492	1060
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.2	209	451	972
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	77.5	186	400	862
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	77.4	185	398	857
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	77.4	184	397	855
11	Rubidoux Bl.	s/o 34th St.	Sensitive	78.1	204	439	946
12	Market St.	n/o Rivera St.	Sensitive	77.9	200	430	926
13	Market St.	s/o SR-60 EB Ramps	Sensitive	80.5	252	543	1170
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	78.0	178	384	826
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	75.4	115	248	534
16	Slover Av.	w/o Cedar Ave.	Sensitive	77.0	153	330	711
17	Slover Av.	e/o Cedar Ave.	Sensitive	75.8	127	273	587
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	74.2	83	180	387
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	72.6	66	142	306
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	72.0	71	152	328
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	72.6	78	168	362
22	7th St.	w/o Cedar Ave.	Sensitive	78.0	85	183	395
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	77.0	173	374	805
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	75.3	117	251	541

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-5: EAC WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	81.5	303	652	1405
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	82.0	329	708	1525
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	81.5	302	651	1403
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	81.0	281	605	1303
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	80.4	257	553	1191
6	Cedar Ave.	s/o 7th Street	Sensitive	81.2	289	623	1341
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	79.9	268	577	1242
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	79.7	263	566	1220
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	79.7	263	566	1219
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	79.7	262	565	1218
11	Rubidoux Bl.	s/o 34th St.	Sensitive	79.5	253	545	1173
12	Market St.	n/o Rivera St.	Sensitive	79.1	239	514	1108
13	Market St.	s/o SR-60 EB Ramps	Sensitive	81.7	301	649	1397
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	81.4	300	646	1392
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	78.1	173	373	804
16	Slover Av.	w/o Cedar Ave.	Sensitive	78.9	203	437	942
17	Slover Av.	e/o Cedar Ave.	Sensitive	77.4	161	346	746
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	74.7	91	195	421
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	73.8	79	170	367
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	76.9	149	322	693
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	73.8	93	201	432
22	7th St.	w/o Cedar Ave.	Sensitive	79.8	113	243	524
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	78.9	232	499	1075
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	79.9	238	514	1107

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-6: EAC WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	81.5	303	652	1406
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	82.1	331	714	1538
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	81.5	305	658	1417
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	81.1	284	612	1318
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	80.5	260	560	1207
6	Cedar Ave.	s/o 7th Street	Sensitive	81.3	293	632	1361
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	80.0	272	586	1261
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	79.9	270	582	1254
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	79.9	270	582	1253
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	79.9	269	580	1249
11	Rubidoux Bl.	s/o 34th St.	Sensitive	79.5	253	545	1174
12	Market St.	n/o Rivera St.	Sensitive	79.2	243	523	1127
13	Market St.	s/o SR-60 EB Ramps	Sensitive	81.8	306	659	1420
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	81.4	301	648	1397
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	78.2	175	377	812
16	Slover Av.	w/o Cedar Ave.	Sensitive	78.9	203	438	943
17	Slover Av.	e/o Cedar Ave.	Sensitive	77.4	161	347	747
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	74.7	91	196	422
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	73.8	79	171	367
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	76.9	149	322	693
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	73.8	93	201	432
22	7th St.	w/o Cedar Ave.	Sensitive	79.8	113	243	524
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	79.1	237	511	1100
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	79.9	239	515	1110

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-7: HY 2040 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.3	251	541	1166
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	80.5	262	563	1214
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.7	230	494	1065
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.5	191	412	889
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	79.2	214	461	992
6	Cedar Ave.	s/o 7th Street	Sensitive	80.7	270	582	1254
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.5	217	468	1008
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	77.7	193	415	894
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	77.7	193	417	898
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	77.8	194	419	902
11	Rubidoux Bl.	s/o 34th St.	Sensitive	78.2	206	445	958
12	Market St.	n/o Rivera St.	Sensitive	78.2	208	447	964
13	Market St.	s/o SR-60 EB Ramps	Sensitive	81.1	274	590	1271
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	79.0	208	449	967
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	77.6	160	344	741
16	Slover Av.	w/o Cedar Ave.	Sensitive	76.8	148	318	686
17	Slover Av.	e/o Cedar Ave.	Sensitive	78.1	181	390	840
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	75.3	99	213	460
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	73.7	78	168	362
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	73.9	94	203	438
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	74.4	103	221	477
22	7th St.	w/o Cedar Ave.	Sensitive	81.5	146	316	680
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	78.4	215	464	999
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	76.5	141	304	655

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-8: HY 2040 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.3	251	541	1166
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	80.6	265	570	1228
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.8	233	502	1081
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.6	195	421	906
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	79.3	218	469	1010
6	Cedar Ave.	s/o 7th Street	Sensitive	80.8	275	591	1274
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.6	222	478	1029
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	78.0	201	433	934
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	78.0	202	435	937
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	78.0	202	435	938
11	Rubidoux Bl.	s/o 34th St.	Sensitive	78.2	207	445	959
12	Market St.	n/o Rivera St.	Sensitive	78.3	212	457	984
13	Market St.	s/o SR-60 EB Ramps	Sensitive	81.2	279	601	1295
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	79.1	210	451	972
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	77.6	161	348	749
16	Slover Av.	w/o Cedar Ave.	Sensitive	76.8	148	319	687
17	Slover Av.	e/o Cedar Ave.	Sensitive	78.1	181	390	840
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	75.3	99	214	460
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	73.7	78	168	362
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	73.9	94	203	438
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	74.4	103	221	477
22	7th St.	w/o Cedar Ave.	Sensitive	81.5	147	316	680
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	78.6	221	476	1025
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	76.5	142	306	659

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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 to fully analyze all the existing traffic scenarios identified in the *Rubidoux Traffic Impact Analysis* prepared by Urban Crossroads, Inc. The future EAC and Horizon Year 2045 traffic noise conditions that include all cumulative projects are used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments. Table 7-1 shows the Existing without Project CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 71.7 to 80.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project will also range from 71.7 to 80.3 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.3 dBA CNEL.

7.3 EA PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Existing plus Ambient Growth (EA) without Project CNEL noise levels. The EA without Project exterior noise levels is expected to range from 72.0 to 80.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the EA with Project will also range from 72.0 to 80.5 dBA CNEL. Table 7-10 shows that the Project off-site traffic noise level increases under will range from 0.0 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.4 EAC PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the Existing plus Ambient Growth plus Cumulative (EAC) without Project CNEL noise levels. The EAC without Project exterior noise levels are expected to range from 73.8 to 82.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows that the EAC with Project will range from 73.8 to 82.1 dBA CNEL. Table 7-11 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.2 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.5 HY 2045 PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-7 presents the Horizon Year (HY) without Project CNEL noise levels. The HY without Project exterior noise levels are expected to range from 73.7 to 81.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows that the HY with Project will range from 73.7 to 81.5 dBA CNEL. Table 7-12 shows that the Project off-site traffic noise level increases under will range from 0.0 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

TABLE 7-9: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Exterior Noise Standard	Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition			Limit	Exceeded?
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.2	80.2	0.0	Yes	65	3	No
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	79.8	79.9	0.1	Yes	65	3	No
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.2	79.3	0.1	Yes	65	3	No
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.2	78.4	0.1	Yes	65	3	No
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	78.3	78.4	0.1	Yes	65	3	No
6	Cedar Ave.	s/o 7th Street	Sensitive	79.2	79.4	0.1	Yes	65	3	No
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	77.8	78.0	0.2	Yes	65	3	No
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	76.9	77.2	0.3	No	70	3	No
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	76.9	77.2	0.3	No	70	3	No
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	76.9	77.2	0.3	No	70	3	No
11	Rubidoux Bl.	s/o 34th St.	Sensitive	77.8	77.8	0.0	Yes	65	3	No
12	Market St.	n/o Rivera St.	Sensitive	77.5	77.7	0.2	Yes	65	3	No
13	Market St.	s/o SR-60 EB Ramps	Sensitive	80.1	80.3	0.1	Yes	65	3	No
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	77.7	77.8	0.1	No	70	3	No
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	75.1	75.2	0.1	No	70	3	No
16	Slover Av.	w/o Cedar Ave.	Sensitive	76.8	76.8	0.0	Yes	65	3	No
17	Slover Av.	e/o Cedar Ave.	Sensitive	75.5	75.5	0.0	Yes	65	3	No
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	73.9	73.9	0.0	Yes	65	3	No
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	72.4	72.4	0.0	Yes	65	3	No
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	71.7	71.7	0.0	Yes	65	3	No
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	72.4	72.4	0.0	Yes	65	3	No
22	7th St.	w/o Cedar Ave.	Sensitive	77.7	77.7	0.0	Yes	65	3	No
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	76.5	76.8	0.3	No	70	3	No
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	74.9	75.0	0.1	Yes	65	3	No

[1] Noise sensitive uses limited to noise sensitive 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 7-10: EA WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Exterior Noise Standard	Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition			Limit	Exceeded?
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.4	80.4	0.0	Yes	65	3	No
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	80.0	80.1	0.1	Yes	65	3	No
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.5	79.6	0.1	Yes	65	3	No
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.5	78.6	0.1	Yes	65	3	No
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	78.5	78.6	0.1	Yes	65	3	No
6	Cedar Ave.	s/o 7th Street	Sensitive	79.5	79.6	0.1	Yes	65	3	No
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.1	78.2	0.1	Yes	65	3	No
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	77.1	77.5	0.3	No	70	3	No
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	77.1	77.4	0.3	No	70	3	No
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	77.1	77.4	0.3	No	70	3	No
11	Rubidoux Bl.	s/o 34th St.	Sensitive	78.1	78.1	0.0	Yes	65	3	No
12	Market St.	n/o Rivera St.	Sensitive	77.8	77.9	0.2	Yes	65	3	No
13	Market St.	s/o SR-60 EB Ramps	Sensitive	80.4	80.5	0.1	Yes	65	3	No
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	78.0	78.0	0.0	No	70	3	No
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	75.3	75.4	0.1	No	70	3	No
16	Slover Av.	w/o Cedar Ave.	Sensitive	77.0	77.0	0.0	Yes	65	3	No
17	Slover Av.	e/o Cedar Ave.	Sensitive	75.8	75.8	0.0	Yes	65	3	No
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	74.2	74.2	0.0	Yes	65	3	No
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	72.6	72.6	0.0	Yes	65	3	No
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	72.0	72.0	0.0	Yes	65	3	No
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	72.6	72.6	0.0	Yes	65	3	No
22	7th St.	w/o Cedar Ave.	Sensitive	78.0	78.0	0.0	Yes	65	3	No
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	76.8	77.0	0.2	No	70	3	No
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	75.2	75.3	0.1	Yes	65	3	No

[1] Noise sensitive uses limited to noise sensitive 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 7-11: EAC WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Exterior Noise Standard	Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition			Limit	Exceeded?
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	81.5	81.5	0.0	Yes	65	3	No
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	82.0	82.1	0.1	Yes	65	3	No
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	81.5	81.5	0.1	Yes	65	3	No
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	81.0	81.1	0.1	Yes	65	3	No
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	80.4	80.5	0.1	Yes	65	3	No
6	Cedar Ave.	s/o 7th Street	Sensitive	81.2	81.3	0.1	Yes	65	3	No
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	79.9	80.0	0.1	Yes	65	3	No
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	79.7	79.9	0.2	No	70	3	No
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	79.7	79.9	0.2	No	70	3	No
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	79.7	79.9	0.2	No	70	3	No
11	Rubidoux Bl.	s/o 34th St.	Sensitive	79.5	79.5	0.0	Yes	65	3	No
12	Market St.	n/o Rivera St.	Sensitive	79.1	79.2	0.1	Yes	65	3	No
13	Market St.	s/o SR-60 EB Ramps	Sensitive	81.7	81.8	0.1	Yes	65	3	No
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	81.4	81.4	0.0	No	70	3	No
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	78.1	78.2	0.1	No	70	3	No
16	Slover Av.	w/o Cedar Ave.	Sensitive	78.9	78.9	0.0	Yes	65	3	No
17	Slover Av.	e/o Cedar Ave.	Sensitive	77.4	77.4	0.0	Yes	65	3	No
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	74.7	74.7	0.0	Yes	65	3	No
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	73.8	73.8	0.0	Yes	65	3	No
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	76.9	76.9	0.0	Yes	65	3	No
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	73.8	73.8	0.0	Yes	65	3	No
22	7th St.	w/o Cedar Ave.	Sensitive	79.8	79.8	0.0	Yes	65	3	No
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	78.9	79.1	0.1	No	70	3	No
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	79.9	79.9	0.0	Yes	65	3	No

[1] Noise sensitive uses limited to noise sensitive 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 7-12: HY 2045 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Exterior Noise Standard	Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition			Limit	Exceeded?
1	Cedar Ave.	n/o I-10 WB Ramps	Sensitive	80.3	80.3	0.0	Yes	65	3	No
2	Cedar Ave.	s/o I-10 EB Ramps	Sensitive	80.5	80.6	0.1	Yes	65	3	No
3	Cedar Ave.	n/o Santa Ana Av.	Sensitive	79.7	79.8	0.1	Yes	65	3	No
4	Cedar Ave.	s/o Santa Ana Av.	Sensitive	78.5	78.6	0.1	Yes	65	3	No
5	Cedar Ave.	s/o Jurupa Av.	Sensitive	79.2	79.3	0.1	Yes	65	3	No
6	Cedar Ave.	s/o 7th Street	Sensitive	80.7	80.8	0.1	Yes	65	3	No
7	Rubidoux Bl.	s/o El Rivino Rd	Sensitive	78.5	78.6	0.1	Yes	65	3	No
8	Rubidoux Bl.	s/o Market St.	Non-Sensitive	77.7	78.0	0.3	No	70	3	No
9	Rubidoux Bl.	s/o 24th St.	Non-Sensitive	77.7	78.0	0.3	No	70	3	No
10	Rubidoux Bl.	s/o 26th St.	Non-Sensitive	77.8	78.0	0.3	No	70	3	No
11	Rubidoux Bl.	s/o 34th St.	Sensitive	78.2	78.2	0.0	Yes	65	3	No
12	Market St.	n/o Rivera St.	Sensitive	78.2	78.3	0.1	Yes	65	3	No
13	Market St.	s/o SR-60 EB Ramps	Sensitive	81.1	81.2	0.1	Yes	65	3	No
14	Riverside Av.	n/o Agua Mansa Rd.	Non-Sensitive	79.0	79.1	0.0	No	70	3	No
15	Agua Mansa Rd.	n/o Market St.	Non-Sensitive	77.6	77.6	0.1	No	70	3	No
16	Slover Av.	w/o Cedar Ave.	Sensitive	76.8	76.8	0.0	Yes	65	3	No
17	Slover Av.	e/o Cedar Ave.	Sensitive	78.1	78.1	0.0	Yes	65	3	No
18	Santa Ana Ave.	w/o Cedar Ave.	Sensitive	75.3	75.3	0.0	Yes	65	3	No
19	Santa Ana Ave.	e/o Cedar Ave.	Sensitive	73.7	73.7	0.0	Yes	65	3	No
20	Jurupa Ave.	w/o Cedar Ave.	Sensitive	73.9	73.9	0.0	Yes	65	3	No
21	Jurupa Ave.	e/o Cedar Ave.	Sensitive	74.4	74.4	0.0	Yes	65	3	No
22	7th St.	w/o Cedar Ave.	Sensitive	81.5	81.5	0.0	Yes	65	3	No
23	Market St.	e/o Rubidoux Bl.	Non-Sensitive	78.4	78.6	0.2	No	70	3	No
24	Agua Mansa Rd.	e/o Riverside Ave.	Sensitive	76.5	76.5	0.0	Yes	65	3	No

[1] Noise sensitive uses limited to noise sensitive 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)?

8 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, out-patient 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, six 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: Located approximately 231 feet north of the Project site, R1 represents existing residential home north of 25th Street. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents Avalon Park located east of the Project site at roughly 125 feet, on the east side of Avalon Street. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

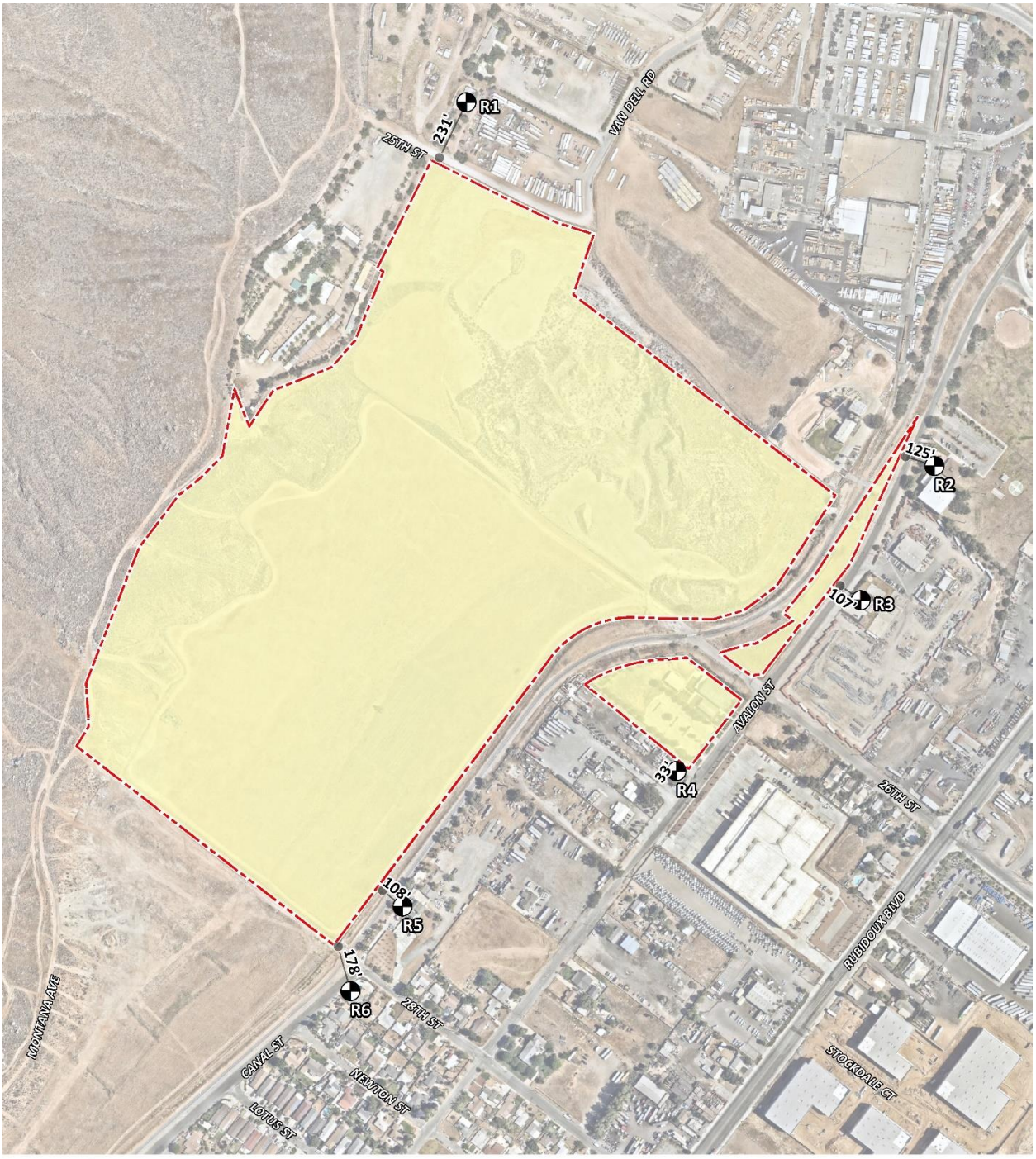
R3: Location R3 represents the existing residential home on the south side of Avalon Street at approximately 107 feet from the Project site. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.

R4: Location R4 represents the CMS Metal Fabrication located at 2651 Avalon Street, approximately 33 feet south of the Project site. R4 is placed at the building façade. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.

R5: Location R5 represents the existing residential homes on the south side of 28th Street at approximately 108 feet from the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents the existing residential homes located south of the Project site at roughly 178 feet, north of 28th Street. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from the operation of the proposed Rubidoux Project. Exhibit 9-A identifies the representative receiver locations and noise source locations used to assess the hourly average L_{eq} operational noise levels consistent with the City of Jurupa Valley Municipal Code, 11.05.040.

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. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar industrial uses, the Project business operations would primarily be conducted within the enclosed buildings, 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 continuously. 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 precisions 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. (14)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

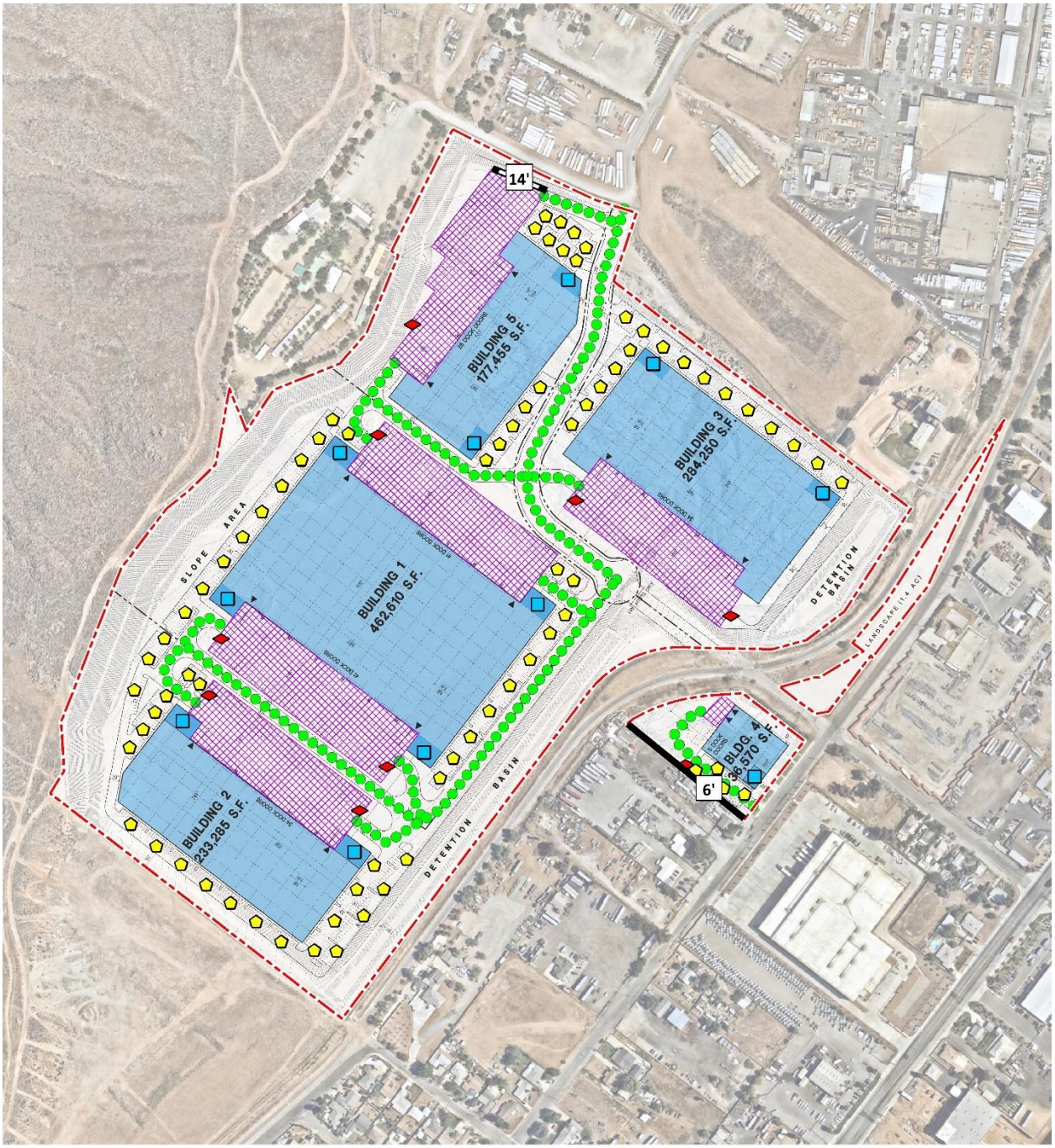


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

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	60	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 levels are 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 and 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 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 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 represents 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 existing 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. In addition, the operational noise analysis includes the planned 14-foot-high wall as shown on Exhibit 9-A. Table 9-2 shows the Project operational noise levels by noise source during the daytime hours of 7:00 a.m. to 10:00 p.m. The Project daytime hourly noise levels at the off-site receiver locations are expected to range from 37.6 to 47.7 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	R6
Loading Dock Activity	43.7	35.7	39.5	39.4	42.6	36.8
Roof-Top Air Conditioning Units	31.5	30.4	30.8	36.4	31.0	28.9
Trash Enclosure Activity	24.1	19.3	19.7	35.3	29.9	24.3
Parking Lot Vehicle Movements	28.5	24.4	25.7	39.3	31.1	28.9
Truck Movements	37.7	27.5	31.8	45.3	37.0	32.2
Total (All Noise Sources)	**45.0**	**37.6**	**40.8**	**47.7**	**44.3**	**39.2**

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

Tables 9-3 shows the Project operational noise levels by source during the nighttime hours of 10:00 p.m. to 7:00 a.m. The Project nighttime hourly noise levels at the off-site receiver locations are expected to range from 37.2 to 47.6 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 9-1). Appendix 9.1 includes the detailed noise model inputs including the planned 14-foot-high wall.

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)					
	R1	R2	R3	R4	R5	R6
Loading Dock Activity	43.7	35.7	39.5	39.4	42.6	36.8
Roof-Top Air Conditioning Units	29.1	28.0	28.4	34.0	28.6	26.4
Trash Enclosure Activity	24.1	19.3	19.7	35.3	29.9	24.3
Parking Lot Vehicle Movements	28.5	24.4	25.7	39.3	31.1	28.9
Truck Movements	37.7	27.5	31.8	45.3	37.0	32.2
Total (All Noise Sources)	**44.9**	**37.2**	**40.6**	**47.6**	**44.2**	**39.0**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in 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 Jurupa Valley exterior noise level standards at nearby receiver locations. Table 9-4 shows the operational noise levels associated with Rubidoux Project will satisfy the City of Jurupa Valley 65 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at nearby receiver locations R1, R2, R3, R5 and R6. However, the operational analysis shows that exterior noise levels at receiver location R4 will exceed the City of Jurupa Valley 45 dBA L_{eq} nighttime exterior noise level standards. A review of the existing conditions at receiver location R4 shows that the buildings are no longer used for residential purposes. Receiver location R4 is currently supporting CMS metal fabrication. Therefore, R4 does not represent a noise sensitive residential use, and the Project-related nighttime operational noise level impacts at R4 are considered *less than significant*.

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	45.0	44.9	65	45	No	No
R2	37.6	37.2	65	45	No	No
R3	40.8	40.6	65	45	No	No
R4	47.7	47.6	65	45	No	Yes[5]
R5	44.3	44.2	65	45	No	No
R6	39.2	39.0	65	45	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 for residential land use, as shown on Table 4-1.
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
[5] This is location is no longer used for residential purposes and is currently supporting CMS metal fabrication.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 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 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:

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

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 Tables 9-5, the Project will generate daytime operational noise level increases ranging from 0.0 to 0.5 dBA L_{eq} at the nearest receiver locations. Table 9-6 shows that the Project will generate a nighttime operational noise level increases ranging from 0.0 to 0.5 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 4-1, and the increases at the sensitive receiver locations will be *less than significant.*

9.7 OPERATIONAL VIBRATION IMPACTS

To assess the potential vibration impacts from truck haul trips associated with operational activities the City of Jurupa Valley threshold for vibration of 0.2 in/sec PPV is used. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. Typical vibration levels for the Rubidoux heavy truck activity at normal traffic speeds will approach 0.004 in/sec PPV at 25 feet based on the FTA *Transit Noise Impact and Vibration Assessment.* (8 p. 113) Trucks transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts at nearby homes will satisfy the 0.2 in/sec PPV threshold, and therefore, 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	45.0	L1	68.2	68.2	0.0	3	No
R2	37.6	L2	62.7	62.7	0.0	3	No
R3	40.8	L3	65.5	65.5	0.0	3	No
R4	47.7	L4	57.0	57.5	0.5	3	No
R5	44.3	L5	62.3	62.4	0.1	3	No
R6	39.2	L6	56.1	56.2	0.1	3	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	44.9	L1	68.3	68.3	0.0	3	No
R2	37.2	L2	60.5	60.5	0.0	3	No
R3	40.6	L3	63.2	63.2	0.0	3	No
R4	47.6	L4	56.4	56.9	0.5	3	No
R5	44.2	L5	58.8	58.9	0.1	3	No
R6	39.0	L6	58.3	58.4	0.1	3	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.

This page intentionally left blank

10 CONSTRUCTION IMPACTS

This section analyzes potential equivalent dBA L_{eq} impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 8. To prevent high levels of construction noise from impacting noise-sensitive land uses, City of Jurupa Valley General Plan Noise Element Policy NE 3.5 limits construction activities within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., and limit high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. 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/Demolition
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction.

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 10-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 Feet		Highest Reference Noise Level	
		(dBA L_{eq})	(dBA L_{max})	(dBA L_{eq})	(dBA L_{max})
Site Preparation/ Demolition	Scraper, Water Truck, & Dozer Activity	75.3	83.3	75.3	83.3
	Backhoe	64.2	72.0		
	Water Truck Pass-By & Backup Alarm	71.9	77.9		
Grading	Rough Grading Activities	73.5	80.4	73.5	80.4
	Water Truck Pass-By & Backup Alarm	71.9	77.9		
	Construction Vehicle Maintenance Activities	67.5	70.4		
Building Construction	Foundation Trenching	68.2	70.5	71.6	78.8
	Framing	62.3	72.3		
	Concrete Mixer Backup Alarms & Air Brakes	71.6	78.8		
Paving	Concrete Mixer Truck Movements	71.2	73.1	71.2	73.1
	Concrete Paver Activities	65.6	71.3		
	Concrete Mixer Pour & Paving Activities	65.9	71.9		
Architectural Coating	Air Compressors	65.2	67.0	65.2	67.0
	Generator	64.9	67.0		
	Crane	62.3	65.2		

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.

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. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location.

As shown on Table 10-2, the unmitigated construction noise levels are expected to range from 56.5 to 71.7 dBA L_{eq} at the nearby receiver locations. To demonstrate compliance with the City of Jurupa Valley daytime and nighttime thresholds during short-term Project construction activities, this analysis relies on the L_{eq} thresholds of significance outlined in Section 3.5 and summarized on Table 4-1. Appendix 10.1 includes the detailed CadnaA construction noise model inputs. To supplement the L_{eq} construction noise analysis, Table 10-3 shows that the unmitigated L_{max} construction noise levels will range from 64.5 to 79.7 dBA L_{max}. However, since City of Jurupa Valley relies on the L_{eq} noise metric to assess the construction noise levels, the $L_{max.}$ construction noise levels are presented for informational purposes only. Appendix 10.2 includes the detailed L_{max} CadnaA construction noise model inputs.

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY (L_{EQ})

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	67.0	65.2	63.3	62.9	56.9	67.0
R2	66.6	64.8	62.9	62.5	56.5	66.6
R3	69.3	67.5	65.6	65.2	59.2	69.3
R4	71.7	69.9	68.0	67.6	61.6	71.7
R5	69.5	67.7	65.8	65.4	59.4	69.5
R6	67.4	65.6	63.7	63.3	57.3	67.4

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

TABLE 10-3: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY (L_{MAX})

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	75.0	73.2	71.3	70.9	64.9	75.0
R2	74.6	72.8	70.9	70.5	64.5	74.6
R3	77.3	75.5	73.6	73.2	67.2	77.3
R4	79.7	77.9	76.0	75.6	69.6	79.7
R5	77.5	75.7	73.8	73.4	67.4	77.5
R6	75.4	73.6	71.7	71.3	65.3	75.4

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.2.

10.4 NIGHTTIME CONCRETE POUR ANALYSIS

The Project may require nighttime concrete pouring activities as a part of Project construction. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours. Since the nighttime concrete pours will take place outside the permitted City of Jurupa Valley General Plan Noise Element Policy NE 3.5 hourly limits, the Project Applicant will be required to obtain authorization for nighttime work from the City of Jurupa Valley.

The reference paving equipment activity noise levels, shown on Table 10-1, were collected during a nighttime concrete pour at an industrial construction site to represent these activities. As shown on Table 10-2, the concrete pouring equipment noise levels are expected to range from 62.5 to 67.6 dBA L_{eq} when equipment is operating at the closest point from the edge of Project construction activities to the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

10.5 CONSTRUCTION NOISE LEVEL COMPLIANCE

Table 10-4 shows the highest construction noise levels at the potentially impacted receiver locations will satisfy the City of Jurupa Valley 80 dBA L_{eq} daytime and 70 dBA L_{eq} nighttime thresholds (requiring authorization for nighttime work from the City of Jurupa Valley) during short-term Project construction activities. Therefore, the noise impacts due to Project construction noise including nighttime concrete pouring activities are considered *less than significant* at all noise sensitive receiver locations.

TABLE 10-4: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Highest Daytime Construction Noise Levels[2]	Nighttime Construction Noise Levels (Concrete Pours)	Threshold[3]		Threshold Exceeded?[4]	
			Daytime	Nighttime	Daytime	Nighttime
R1	67.0	62.9	80	70	No	No
R2	66.6	62.5	80	70	No	No
R3	69.3	65.2	80	70	No	No
R4	71.7	67.6	80	70	No	No
R5	69.5	65.4	80	70	No	No
R6	67.4	63.3	80	70	No	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Estimated construction noise levels during worst-case operating conditions, as shown on Table 10-2. Nighttime construction noise levels based on reference concrete pour noise levels (Paving stage) shown on Table 10-2.
[3] Construction noise level threshold as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.6 CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.
- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the FTA. Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading.

Using the vibration source level of construction equipment provided on Table 6-9 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-5 presents the expected Project related vibration levels at the nearby receiver locations.

At distances ranging from 33 to 231 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.0032 to 0.0587 in/sec PPV and will remain below the City of Jurupa Valley threshold of 0.2 in/sec PPV at all receiver locations, as shown on Table 10-5. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site. Moreover, the impacts at the site of the nearest receivers 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.

TABLE 10-5: UNMITIGATED PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver[1]	Distance to Const. Activity (Feet)	Receiver Vibration Levels (in/sec) PPV[2]					Threshold (in/sec) PPV	Threshold Exceeded?[4]
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration		
R1	231'	0.0001	0.0012	0.0027	0.0032	0.0032	0.2	No
R2	125'	0.0003	0.0031	0.0068	0.0080	0.0080	0.2	No
R3	107'	0.0003	0.0040	0.0086	0.0101	0.0101	0.2	No
R4	33'	0.0020	0.0231	0.0501	0.0587	0.0587	0.2	No
R5	108'	0.0003	0.0039	0.0085	0.0099	0.0099	0.2	No
R6	178'	0.0002	0.0018	0.0040	0.0047	0.0047	0.2	No

[1] Receiver locations are shown on Exhibit 10-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-9.
[4] Does the vibration level exceed the maximum acceptable vibration threshold?

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 Jurupa Valley.** *General Plan Noise Element.* September 2017.
11. —. *Municipal Code, Chapter 11.05 - Noise Regulations.*
12. **City of Jurupa Valley Planning Department.** *Noise Thresholds of Significance Guidance (MA16170, Project: Agua Mansa Commerce Park Specific Plan, Noise Comment 2).* December 19, 2018.
13. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
14. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
15. **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.
16. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
17. **Urban Crossroads, Inc.** *Rubidoux Warehouse Traffic Impact Analysis.*

This page intentionally left blank

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Rubidoux 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.

Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
1133 Camelback #8329
Newport Beach, CA 92658
(949) 584-3148
blawson@urbanxroads.com

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 Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

This page intentionally left blank

APPENDIX 3.1:

CITY OF JURUPA VALLEY MUNICIPAL CODE

This page intentionally left blank

CHAPTER 11.05. - NOISE REGULATIONS

Sec. 11.05.010. - Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of City of Jurupa Valley residents and degrade their quality of life. Pursuant to its police power, the City Council declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish city-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act (Pub. Resources Code Section 21000 *et seq.*) and no such thresholds are established.

(Ord. No. 2012-01, § 1(11.10.010), 2-16-2012)

Sec. 11.05.020. - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this chapter:

(1) Facilities owned or operated by or for a governmental agency;

(2) Capital improvement projects of a governmental agency;

(3) The maintenance or repair of public properties;

(4) Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;

(5) Public or private schools and school-sponsored activities;

(6) Agricultural operations on land designated "agriculture" in the Jurupa Valley General Plan, or land zoned A-1 (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), or A-D (agriculture-dairy), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;

(7) Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Jurupa Valley Municipal Code or Title 9;

(8) Private construction projects located one-quarter (¼) of a mile or more from an inhabited dwelling;

(9) Private construction projects located within one-quarter (¼) of a mile from an inhabited dwelling, provided that:

(a) Construction does not occur between the hours of six (6:00) p.m. and six (6:00) a.m. during the months of June through September; and

(b) Construction does not occur between the hours of six (6:00) p.m. and seven (7:00) a.m. during the months of October through May;

(10) Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven (7:00) a.m. and eight (8:00) p.m.;

(11) Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;

(12) Heating and air conditioning equipment;

(13) Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare; or

(14) The discharge of firearms consistent with all state laws.

(Ord. No. 2012-01, § 1(11.10.020), 2-16-2012)

Sec. 11.05.030. - Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Audio equipment means a television, stereo, radio, tape player, compact disc player, mp3 player, iPod or other similar device.

Decibel (dB) means a unit for measuring the relative amplitude of a sound equal approximately to the smallest difference normally detectable by the human ear, the range of which includes approximately one hundred and thirty (130) decibels on a scale beginning with zero decibels for the faintest detectable sound. Decibels are measured with a sound level meter using different methodologies as defined below:

(1) "A-weighting (dBA)" means the standard A-weighted frequency response of a sound level meter, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear for moderate sounds.

(2) "Maximum sound level (Lmax)" means the maximum sound level measured on a sound level meter.

Governmental agency means the United States, the State of California, Riverside County, City of Jurupa Valley, any city within Riverside County, any special district within Riverside County or any combination of these agencies.

Land use permit means a discretionary permit issued by Jurupa Valley pursuant to Jurupa Valley Municipal Code or Title 9.

Motor vehicle means a vehicle that is self-propelled.

Motor vehicle sound system means a stereo, radio, tape player, compact disc player, mp3 player, iPod or other similar device.

Noise means any loud, discordant or disagreeable sound.

Occupied property means property upon which is located a residence, business or industrial or manufacturing use.

Off-highway vehicle means a motor vehicle designed to travel over any terrain.

Public or private school means an institution conducting academic instruction at the preschool, elementary school, junior high school, high school, or college level.

Public property means property owned by a governmental agency or held open to the public, including, but not limited to, parks, streets, sidewalks, and alleys.

Sensitive receptor means a land use that is identified as sensitive to noise in the noise element of the Jurupa Valley General Plan, as applicable to the City of Jurupa Valley by Chapter 1.35, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries.

Sound-amplifying equipment means a loudspeaker, microphone, megaphone or other similar device.

Sound level meter means an instrument meeting the standards of the American National Standards Institute for Type 1 or Type 2 sound level meters or an instrument that provides equivalent data.

(Ord. No. 2012-01, § 1(11.10.040), 2-16-2012)

Sec. 11.05.040. - General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 1 of this section or that violates the special sound source standards set forth in Section 11.05.060.

Table 1
Sound Level Standards (Db Lmax)

General Plan Foundation Component	*General Plan Land Use Designation*	*General Plan Land Use Designation Name*	*Density*	*Maximum Decibel Level*	
				7 a.m.—10 p.m.	*10 p.m.—7 a.m.*
Community Development	EDR	Estate density residential	2 AC	55	45
	VLDR	Very low density residential	1 AC	55	45
	LDR	Low density residential	1/2 AC	55	45
	MDR	Medium density residential	2—5	55	45
	MHDR	Medium high density residential	5—8	55	45
	HDR	High density residential	8—14	55	45
	VHDR	Very high density residential	14—20	55	45
	HTDR	Highest density residential	20+	55	45
	CR	Retail commercial		65	55
	CO	Office commercial		65	55
	CT	Tourist commercial		65	55
	CC	Community center		65	55
	I	Light industrial		75	55
	HI	Heavy industrial		75	75

	BP	Business park		65	45
	PF	Public facility		65	45
	SP	Specific plan—Residential		55	45
		Specific plan—Commercial		65	55
		Specific plan—Light Industrial		75	55
		Specific plan—Heavy Industrial		75	75
Rural Community	EDR	Estate density residential	2 AC	55	45
	VLDR	Very low density residential	AC	55	45
	LDR	Low density residential	1/2 AC	55	45
Rural	RR	Rural residential	5 AC	45	45
	RM	Rural mountainous	10 AC	45	45
	RD	Rural desert	0 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	C	Conservation		45	45
	CH	Conservation habitat		45	45
	REC	Recreation		45	45
	RUR	Rural	20 AC	45	45
	W	Watershed		45	45
	MR	Mineral resources		75	45

(Ord. No. 2012-01, § 1(11.10.040), 2-16-2012)

Sec. 11.05.050. - Sound level measurement methodology.

If the sound standard being applied is measured in decibels, then sound level measurements pursuant to this section shall be required to establish a violation of this chapter. If the sound standard being applied is not measured in decibels, then sound level measurements are not required to establish a violation of this chapter. Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the Enforcement Officials identified in Section 11.05.080. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be re-verified. Sound level meters and calibration equipment shall be certified annually.

(Ord. No. 2012-01, § 1(11.10.050), 2-16-2012)

Sec. 11.05.060. - Special sound sources standards.

The general sound level standards set forth in Section 11.05.040 apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitute separate violations of this chapter:

(1) *Motor vehicles.*

(a) *Off-highway vehicles.*

(i) No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.

(ii) No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than ninety-six (96) dBA if the vehicle was manufactured on or after January 1, 1986, or is not more than one hundred and one (101) dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of twenty (20) inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.

(b) *Sound systems.* No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of ten (10:00) p.m. and eight (8:00) a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than one hundred (100) feet from the vehicle. Sound level measurements may be used, but are not required to establish a violation of this subsection.

(2) *Power tools and equipment.* No person shall operate any power tools or equipment between the hours of ten (10:00) p.m. and eight (8:00) a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a

distance greater than one hundred (100) feet from the power tools or equipment. Sound level measurements may be used, but are not required to establish a violation of this subsection.

(3) *Audio equipment.* No person shall operate any audio equipment, whether portable or not, such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment. Sound level measurements may be used, but are not required to establish a violation of this subsection.

(4) *Sound-amplifying equipment and live music.* No person shall install, use or operate sound-amplifying equipment, or perform, or allow to be performed, live music if the sound emanating from sound-amplifying equipment or live music is audible to the human ear at a distance greater than one hundred (100) feet from the equipment or music. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control. Sound level measurements may be used, but are not required to establish a violation of this subsection.

(Ord. No. 2012-01, § 1(11.10.060), 2-16-2012; Ord. No. 2015-08, § 1, 6-18-2015)

Sec. 11.05.070. - Exceptions.

Exceptions may be requested from the standards set forth in Section 11.10.040 or 11.10.060 of this chapter and may be characterized as construction-related or continuous-events exceptions.

(1) *Application and processing.*

(a) *Construction-related exceptions.* An application for a construction-related exception shall be made to and considered by the Building Official of the city on forms provided by the Building and Safety Division and shall be accompanied by the appropriate filing fee. No public hearing is required.

(b) *Continuous events exceptions.* An application for a continuous events exception shall be made to the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous events exception, the Planning Director shall set the matter for public hearing before the Planning Commission, notice of which shall be given as provided in Section 9.240.250 of this Code. Notwithstanding the above, an application for a continuous events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.

(2) *Requirements for approval.* The appropriate decision-making body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decision-making body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.

(3) *Appeals.* The Building Official's decision on an application for a construction-relation exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decision-making body or officer shall mail notice of the decision to the applicant. Within ten (10) calendar days after the mailing of such notice, the applicant or interested person may appeal the decision pursuant to and in accordance with the provisions of Chapter 2.40 of this Code.

(Ord. No. 2012-01, § 1(11.10.070), 2-16-2012; Ord. No. 2015-08, § 2, 6-18-2015; Ord. No. 2016-04, § 11(11.10.070), 4-7-2016)

Sec. 11.05.080. - Violations and penalties.

A. Violation of the provisions of this chapter may be enforced pursuant to the enforcement provisions set forth in Title 1 of this Code, including Chapter 1.10, Code Enforcement Generally, Chapter 1.15, Criminal Prosecution, Chapter 1.20, Administrative Penalties, or Chapter 1.25, Public Nuisance Injunctions.

B. The fine schedule for a violation of this chapter enforced pursuant to Chapter 1.20, shall be in the amount of:

(1) Two hundred dollars ($200) for the first violation occurring within a three hundred and sixty-six (366) day period;

(2) Five hundred dollars ($500) for a second violation occurring within three hundred and sixty-six (366) days of the first violation;

(3) Seven hundred and fifty dollars ($750) for a third violation occurring within three hundred and sixty-six (366) days of the first violation; or

(4) One thousand dollars ($1,000) for a fourth violation and each subsequent violation occurring within three hundred and sixty-six (366) days of the first violation.

C. The fines set forth in subsection (B) of this section may be modified by a resolution of the City Council establishing an administrative citation schedule not to exceed one thousand dollars ($1,000) per violation and which may include increased fines for repeat violations and penalties.

D. The City Manager or his designee may reduce the fines set forth in subsections (B) or (C) of this section in the event he or she finds that the violation is not likely to reoccur, the violator cooperated with Enforcement Officials in attempting to enforce the provisions of this chapter and resolve the issues giving rise to the violation, the actions of the violator giving rise to the violation were not malicious and were not taken in deliberate disregard of the provisions of this chapter, and the ends of justice would not be served by imposing the full fine.

(Ord. No. 2012-01, § 1(11.10.080), 2-16-2012)

Sec. 11.05.090. - Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the Enforcement Officials identified in Section 11.05.080 when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter.

(Ord. No. 2012-01, § 1(11.10.090), 2-16-2012)

This page intentionally left blank

APPENDIX 4.1:

CITY OF JURUPA VALLEY CEQA THRESHOLDS

This page intentionally left blank

Noise Impact Analysis October 30, 2018		Comment
		increase and, if appropriate, the project's contribution to a potentially significant cumulative traffic noise increase.
2	Global	Sec. 11.05.010 of the Municipal Code states in part: "*...This chapter is intended to establish city-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act (Pub. Resources Code Section 21000 et seq.) and no such thresholds are established...*" **Please use the following standards for CEQA significance thresholds and revise report throughout:** • Construction Noise: For sensitive residential land uses nearby, the daytime and nighttime 8-hour standards are 80 dBA Leq and 70 dBA Leq, respectively (FTA Transit Noise and Vibration Impact Assessment). • Operational Noise (stationary): During operation of the Project, a significant noise-related impact would occur if Project operational noise at a noise-sensitive receptor exceeds: o 65 dBA Leq (10 minutes) between 7:00 a.m. and 10:00 p.m., or o 45 dBA Leq (10 min) between 10:00 p.m. and 7:00 a.m. • Operational Noise (traffic): Project-related traffic increases the noise level at a: o Residential land use by 3 dBA or more to 65 dBA CNEL or above; or o Commercial land use by 3 dBA or more to 70 dBA CNEL or above. • Vibration: A significant vibration-related impact would occur if the Project would expose a vibration-sensitive receptor to vibration levels that exceed 0.2 in/sec PPV during either long-term operation or construction of the Project *Note: The Municipal Code noise standards may be used for planning purposes only (i.e. to demonstrate that the project meets the City code requirements for site plan approval).*
3	Page 23	Construction exemptions for San Bernardino County are not discussed and are contained in Section 83.01.080(g) (3), i.e., 7 am – 7pm, except Sundays and federal holidays.
4	Page 24 and global	Policy NE 4.4 is intended for train operation but is being used to assess projects. Please convert this RMS level to VdB so that it can

This page intentionally left blank

APPENDIX 5.1:

STUDY AREA PHOTOS

This page intentionally left blank

JN:12722 Study Area Photos

L1_E
34, 0' 40.610000", 117, 24' 0.910000"

L1_N
34, 0' 40.610000", 117, 24' 0.910000"

L1_S
34, 0' 40.610000", 117, 24' 0.910000"

L1_W
34, 0' 40.610000", 117, 24' 0.910000"

L2_E
34, 0' 56.000000", 117, 23' 38.120000"

L2_N
34, 0' 56.210000", 117, 23' 38.390000"

JN:12722 Study Area Photos

L2_S
34, 0' 56.040000", 117, 23' 38.120000"

L2_W
34, 0' 55.990000", 117, 23' 38.140000"

L3_E
34, 0' 52.340000", 117, 23' 40.640000"

L3_N
34, 0' 52.360000", 117, 23' 40.610000"

L3_S
34, 0' 52.360000", 117, 23' 40.610000"

L3_W
34, 0' 52.350000", 117, 23' 40.610000"

JN:12722 Study Area Photos

L4_E
34, 0' 50.060000", 117, 23' 44.400000"

L4_N
34, 0' 50.040000", 117, 23' 44.400000"

L4_S
34, 0' 50.040000", 117, 23' 44.400000"

L4_W
34, 0' 50.060000", 117, 23' 44.400000"

L5_E
34, 0' 38.620000", 117, 23' 58.410000"

L5_N
34, 0' 38.640000", 117, 23' 58.440000"

JN:12722 Study Area Photos

L5_S
34, 0' 38.640000", 117, 23' 58.410000"

L5_W
34, 0' 38.620000", 117, 23' 58.410000"

L6_E
34, 1' 7.720000", 117, 23' 57.560000"

L6_N
34, 1' 8.970000", 117, 24' 0.090000"

L6_S
34, 1' 7.660000", 117, 23' 57.590000"

L6_W
34, 1' 7.720000", 117, 23' 57.590000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

This page intentionally left blank

24-Hour Noise Level Measurement Summary

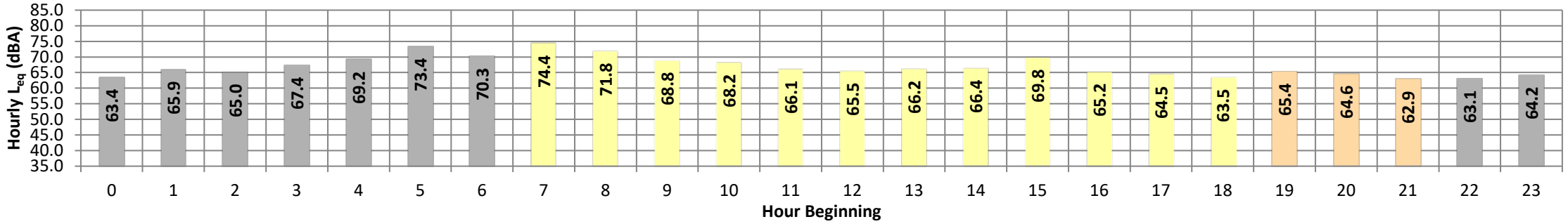
Date: Wednesday, February 12, 2020
Project: Rubidoux Warehouse

Location: L1 - Located north of the Project site on 25th Street near existing single-family residential home at 6041 25th Street.

Meter: Piccolo I

JN: 12722
Analyst: P. Mara

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	63.4	70.1	59.5	67.0	66.0	65.0	65.0	64.0	63.0	61.0	60.0	60.0	63.4	10.0	73.4
	1	65.9	74.1	61.1	71.0	70.0	69.0	68.0	66.0	64.0	62.0	62.0	62.0	65.9	10.0	75.9
	2	65.0	71.2	61.3	69.0	68.0	67.0	66.0	65.0	64.0	63.0	62.0	62.0	65.0	10.0	75.0
	3	67.4	73.7	63.4	70.0	70.0	69.0	69.0	68.0	67.0	65.0	65.0	64.0	67.4	10.0	77.4
	4	69.2	85.8	64.9	72.0	71.0	71.0	70.0	69.0	68.0	67.0	66.0	65.0	69.2	10.0	79.2
	5	73.4	96.9	67.0	83.0	79.0	73.0	72.0	71.0	70.0	68.0	68.0	68.0	73.4	10.0	83.4
	6	70.3	87.3	65.8	80.0	74.0	71.0	70.0	69.0	68.0	67.0	67.0	66.0	70.3	10.0	80.3
Day	7	74.4	97.7	65.6	83.0	78.0	71.0	70.0	69.0	68.0	67.0	66.0	66.0	74.4	0.0	74.4
	8	71.8	97.5	63.7	80.0	74.0	70.0	69.0	68.0	66.0	65.0	64.0	64.0	71.8	0.0	71.8
	9	68.8	92.4	63.5	75.0	72.0	69.0	69.0	67.0	66.0	65.0	65.0	64.0	68.8	0.0	68.8
	10	68.2	90.5	62.2	75.0	72.0	70.0	69.0	67.0	66.0	64.0	64.0	63.0	68.2	0.0	68.2
	11	66.1	79.9	61.4	70.0	69.0	68.0	68.0	66.0	65.0	63.0	63.0	62.0	66.1	0.0	66.1
	12	65.5	87.1	59.5	71.0	70.0	68.0	67.0	65.0	63.0	61.0	61.0	60.0	65.5	0.0	65.5
	13	66.2	81.0	61.1	71.0	70.0	68.0	67.0	66.0	65.0	63.0	62.0	62.0	66.2	0.0	66.2
	14	66.4	89.4	58.3	75.0	69.0	66.0	66.0	64.0	63.0	62.0	61.0	59.0	66.4	0.0	66.4
	15	69.8	91.7	59.0	80.0	77.0	73.0	70.0	66.0	65.0	62.0	61.0	60.0	69.8	0.0	69.8
	16	65.2	82.6	59.4	71.0	70.0	68.0	67.0	65.0	63.0	61.0	61.0	60.0	65.2	0.0	65.2
	17	64.5	79.4	58.4	69.0	68.0	67.0	66.0	65.0	63.0	61.0	61.0	60.0	64.5	0.0	64.5
	18	63.5	72.6	58.7	69.0	68.0	67.0	66.0	63.0	62.0	61.0	60.0	60.0	63.5	0.0	63.5
Evening	19	65.4	77.4	61.3	70.0	69.0	68.0	67.0	65.0	64.0	63.0	63.0	62.0	65.4	5.0	70.4
	20	64.6	81.7	60.5	70.0	68.0	65.0	65.0	64.0	63.0	62.0	61.0	61.0	64.6	5.0	69.6
	21	62.9	77.1	58.3	67.0	66.0	65.0	64.0	63.0	62.0	60.0	59.0	59.0	62.9	5.0	67.9
Night	22	63.1	68.8	59.2	66.0	65.0	65.0	64.0	63.0	62.0	61.0	61.0	60.0	63.1	10.0	73.1
	23	64.2	74.5	59.8	69.0	68.0	67.0	66.0	64.0	63.0	61.0	61.0	61.0	64.2	10.0	74.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	63.5	72.6	58.3	69.0	68.0	66.0	66.0	63.0	62.0	61.0	60.0	59.0
	Max	74.4	97.7	65.6	83.0	78.0	73.0	70.0	69.0	68.0	67.0	66.0	66.0
Energy Average		68.8	Average:		74.1	71.4	68.8	67.8	65.9	64.6	62.9	62.4	61.7
Evening	Min	62.9	77.1	58.3	67.0	66.0	65.0	64.0	63.0	62.0	60.0	59.0	59.0
	Max	65.4	81.7	61.3	70.0	69.0	68.0	67.0	65.0	64.0	63.0	63.0	62.0
Energy Average		64.4	Average:		69.0	67.7	66.0	65.3	64.0	63.0	61.7	61.0	60.7
Night	Min	63.1	68.8	59.2	66.0	65.0	65.0	64.0	63.0	62.0	61.0	60.0	60.0
	Max	73.4	96.9	67.0	83.0	79.0	73.0	72.0	71.0	70.0	68.0	68.0	68.0
Energy Average		68.3	Average:		71.9	70.1	68.6	67.8	66.6	65.4	63.9	63.6	63.1

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
68.2	68.2	68.3

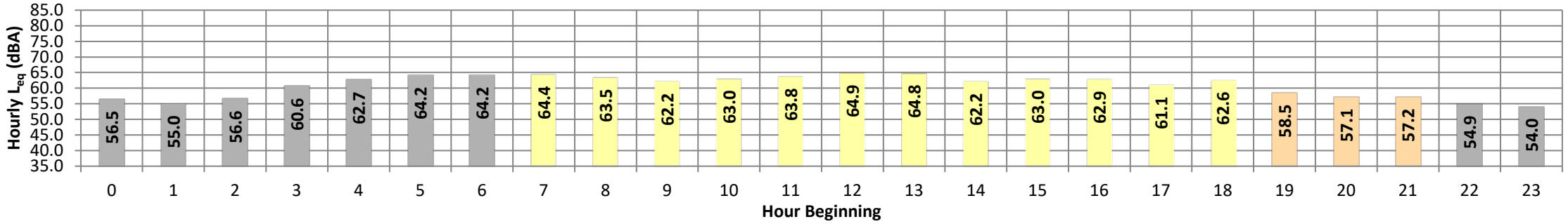
24-Hour CNEL (dBA)
74.8

24-Hour Noise Level Measurement Summary

Date: Wednesday, February 12, 2020 *Location:* L2 - Located east of the Project site on Avalon Street near Avalon Park. *Meter:* Piccolo I *JN:* 12722

Project: Rubidoux Warehouse *Analyst:* P. Mara

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	56.5	81.4	41.5	70.0	65.0	55.0	51.0	46.0	44.0	43.0	42.0	42.0	56.5	10.0	66.5
	1	55.0	80.2	41.4	68.0	62.0	52.0	48.0	45.0	44.0	42.0	41.0	41.0	55.0	10.0	65.0
	2	56.6	84.3	41.5	68.0	61.0	52.0	50.0	48.0	46.0	43.0	42.0	42.0	56.6	10.0	66.6
	3	60.6	84.6	43.6	74.0	71.0	62.0	57.0	52.0	51.0	45.0	44.0	44.0	60.6	10.0	70.6
	4	62.7	85.7	49.7	74.0	71.0	65.0	61.0	61.0	60.0	51.0	51.0	50.0	62.7	10.0	72.7
	5	64.2	81.4	59.9	74.0	72.0	69.0	65.0	62.0	61.0	61.0	60.0	60.0	64.2	10.0	74.2
	6	64.2	81.3	60.0	75.0	72.0	69.0	65.0	61.0	61.0	60.0	60.0	60.0	64.2	10.0	74.2
Day	7	64.4	83.2	59.3	75.0	73.0	68.0	66.0	61.0	60.0	60.0	59.0	59.0	64.4	0.0	64.4
	8	63.5	81.9	59.1	73.0	72.0	68.0	65.0	61.0	60.0	59.0	59.0	59.0	63.5	0.0	63.5
	9	62.2	79.7	57.3	73.0	70.0	67.0	63.0	59.0	59.0	58.0	58.0	57.0	62.2	0.0	62.2
	10	63.0	85.7	56.7	74.0	72.0	68.0	65.0	58.0	58.0	57.0	57.0	57.0	63.0	0.0	63.0
	11	63.8	81.9	56.0	74.0	73.0	70.0	68.0	60.0	58.0	57.0	57.0	56.0	63.8	0.0	63.8
	12	64.9	87.0	55.7	76.0	73.0	69.0	66.0	60.0	58.0	56.0	56.0	56.0	64.9	0.0	64.9
	13	64.8	88.6	56.7	75.0	73.0	70.0	68.0	60.0	59.0	58.0	58.0	57.0	64.8	0.0	64.8
	14	62.2	80.4	43.9	74.0	72.0	69.0	67.0	57.0	50.0	47.0	46.0	45.0	62.2	0.0	62.2
	15	63.0	80.5	45.0	75.0	73.0	70.0	68.0	57.0	51.0	47.0	46.0	46.0	63.0	0.0	63.0
	16	62.9	83.9	45.1	74.0	72.0	70.0	67.0	58.0	52.0	49.0	48.0	46.0	62.9	0.0	62.9
	17	61.1	81.8	45.4	72.0	71.0	68.0	66.0	56.0	51.0	47.0	47.0	46.0	61.1	0.0	61.1
	18	62.6	89.8	47.3	73.0	70.0	67.0	65.0	55.0	52.0	50.0	49.0	48.0	62.6	0.0	62.6
Evening	19	58.5	80.3	44.8	70.0	68.0	64.0	61.0	52.0	49.0	47.0	47.0	45.0	58.5	5.0	63.5
	20	57.1	79.8	48.0	70.0	66.0	57.0	54.0	51.0	50.0	49.0	49.0	48.0	57.1	5.0	62.1
	21	57.2	79.7	45.5	70.0	66.0	57.0	54.0	52.0	51.0	48.0	47.0	46.0	57.2	5.0	62.2
Night	22	54.9	78.3	41.3	68.0	64.0	55.0	51.0	47.0	46.0	42.0	42.0	41.0	54.9	10.0	64.9
	23	54.0	76.8	40.2	68.0	62.0	53.0	48.0	44.0	43.0	41.0	40.0	40.0	54.0	10.0	64.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	61.1	79.7	43.9	72.0	70.0	67.0	63.0	55.0	50.0	47.0	46.0	45.0
	Max	64.9	89.8	59.3	76.0	73.0	70.0	68.0	61.0	60.0	60.0	59.0	59.0
Energy Average		63.3	Average:		74.0	72.0	68.7	66.2	58.5	55.7	53.8	53.3	52.7
Evening	Min	57.1	79.7	44.8	70.0	66.0	57.0	54.0	51.0	49.0	47.0	47.0	45.0
	Max	58.5	80.3	48.0	70.0	68.0	64.0	61.0	52.0	51.0	49.0	49.0	48.0
Energy Average		57.6	Average:		70.0	66.7	59.3	56.3	51.7	50.0	48.0	47.7	46.3
Night	Min	54.0	76.8	40.2	68.0	61.0	52.0	48.0	44.0	43.0	41.0	40.0	40.0
	Max	64.2	85.7	60.0	75.0	72.0	69.0	65.0	62.0	61.0	61.0	60.0	60.0
Energy Average		60.5	Average:		71.0	66.7	59.1	55.1	51.8	50.7	47.6	46.9	46.7

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
62.0	62.7	60.5

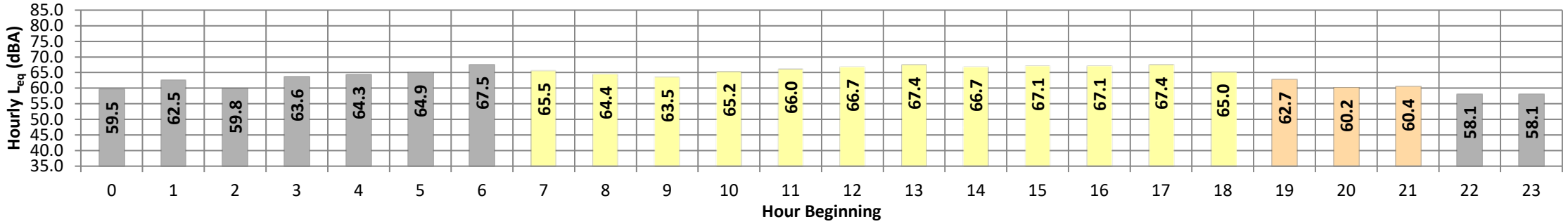
24-Hour CNEL (dBA)
67.4

24-Hour Noise Level Measurement Summary

Date: Wednesday, February 12, 2020 *Location:* L3 - Located east of the Project site near existing single-family home at 2562 Avalon Street. *Meter:* Piccolo I *JN:* 12722

Project: Rubidoux Warehouse *Analyst:* P. Mara

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	59.5	82.7	42.0	74.0	69.0	60.0	55.0	47.0	46.0	43.0	43.0	42.0	59.5	10.0	69.5
	1	62.5	88.5	42.6	76.0	71.0	61.0	56.0	50.0	48.0	45.0	44.0	43.0	62.5	10.0	72.5
	2	59.8	86.0	42.7	72.0	66.0	58.0	53.0	49.0	47.0	44.0	44.0	43.0	59.8	10.0	69.8
	3	63.6	86.1	45.1	77.0	74.0	67.0	63.0	52.0	50.0	47.0	46.0	45.0	63.6	10.0	73.6
	4	64.3	86.0	47.4	77.0	75.0	69.0	65.0	54.0	53.0	49.0	48.0	48.0	64.3	10.0	74.3
	5	64.9	86.3	52.0	77.0	75.0	71.0	68.0	58.0	55.0	53.0	53.0	52.0	64.9	10.0	74.9
	6	67.5	90.6	51.0	79.0	78.0	74.0	72.0	60.0	54.0	52.0	52.0	51.0	67.5	10.0	77.5
Day	7	65.5	87.2	49.8	78.0	75.0	72.0	68.0	57.0	52.0	51.0	50.0	50.0	65.5	0.0	65.5
	8	64.4	85.7	49.8	77.0	75.0	71.0	67.0	56.0	52.0	51.0	50.0	50.0	64.4	0.0	64.4
	9	63.5	82.8	48.4	76.0	74.0	70.0	66.0	54.0	51.0	49.0	49.0	49.0	63.5	0.0	63.5
	10	65.2	86.6	47.9	77.0	76.0	72.0	69.0	55.0	51.0	49.0	49.0	48.0	65.2	0.0	65.2
	11	66.0	85.1	48.0	78.0	76.0	73.0	71.0	59.0	52.0	50.0	49.0	49.0	66.0	0.0	66.0
	12	66.7	87.3	48.1	78.0	77.0	73.0	71.0	59.0	53.0	49.0	49.0	49.0	66.7	0.0	66.7
	13	67.4	85.6	48.6	79.0	77.0	75.0	72.0	61.0	53.0	50.0	50.0	49.0	67.4	0.0	67.4
	14	66.7	83.6	43.0	78.0	77.0	74.0	72.0	61.0	50.0	45.0	45.0	44.0	66.7	0.0	66.7
	15	67.1	85.4	44.3	79.0	77.0	74.0	72.0	62.0	52.0	46.0	45.0	44.0	67.1	0.0	67.1
	16	67.1	86.7	44.5	78.0	77.0	74.0	72.0	61.0	52.0	47.0	46.0	45.0	67.1	0.0	67.1
	17	67.4	94.1	44.8	77.0	76.0	73.0	71.0	60.0	51.0	47.0	46.0	46.0	67.4	0.0	67.4
	18	65.0	87.4	45.5	76.0	74.0	72.0	70.0	58.0	50.0	47.0	47.0	46.0	65.0	0.0	65.0
Evening	19	62.7	82.7	43.9	75.0	73.0	69.0	65.0	53.0	49.0	45.0	45.0	44.0	62.7	5.0	67.7
	20	60.2	81.3	43.3	74.0	71.0	61.0	57.0	50.0	48.0	45.0	45.0	44.0	60.2	5.0	65.2
	21	60.4	81.6	44.2	74.0	71.0	62.0	58.0	51.0	48.0	46.0	45.0	44.0	60.4	5.0	65.4
Night	22	58.1	80.0	41.2	72.0	68.0	58.0	53.0	47.0	45.0	43.0	43.0	42.0	58.1	10.0	68.1
	23	58.1	80.8	40.7	73.0	67.0	57.0	51.0	47.0	44.0	42.0	41.0	41.0	58.1	10.0	68.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	63.5	82.8	43.0	76.0	74.0	70.0	66.0	54.0	50.0	45.0	45.0	44.0
	Max	67.4	94.1	49.8	79.0	77.0	75.0	72.0	62.0	53.0	51.0	50.0	50.0
Energy Average		66.2	Average:		77.6	75.9	72.8	70.1	58.6	51.6	48.4	47.9	47.4
Evening	Min	60.2	81.3	43.3	74.0	71.0	61.0	57.0	50.0	48.0	45.0	45.0	44.0
	Max	62.7	82.7	44.2	75.0	73.0	69.0	65.0	53.0	49.0	46.0	45.0	44.0
Energy Average		61.3	Average:		74.3	71.7	64.0	60.0	51.3	48.3	45.3	45.0	44.0
Night	Min	58.1	80.0	40.7	72.0	66.0	57.0	51.0	47.0	44.0	42.0	41.0	41.0
	Max	67.5	90.6	52.0	79.0	78.0	74.0	72.0	60.0	55.0	53.0	53.0	52.0
Energy Average		63.2	Average:		75.2	71.4	63.9	59.6	51.6	49.1	46.4	46.0	45.2

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
64.8	65.5	63.2

24-Hour CNEL (dBA)
70.1

24-Hour Noise Level Measurement Summary

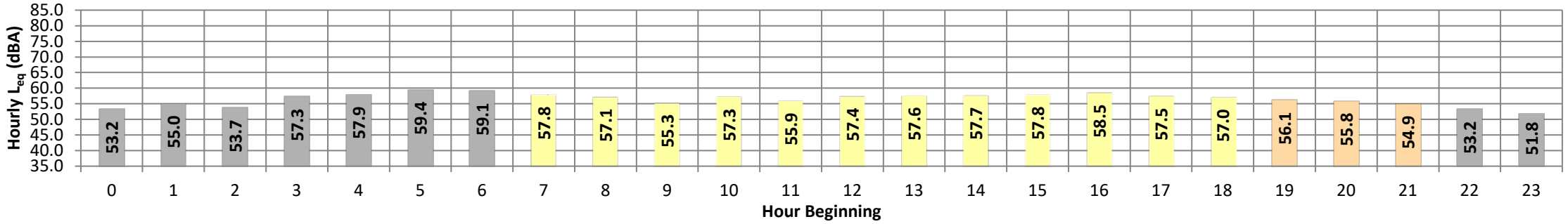
Date: Wednesday, February 12, 2020
Project: Rubidoux Warehouse

Location: L4 - Located southeast of the Project site on 26th Street near existing single-family homes at 5638 26th Street.

Meter: Piccolo I

JN: 12722
Analyst: P. Mara

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	53.2	73.9	45.2	64.0	59.0	56.0	54.0	51.0	49.0	47.0	46.0	45.0	53.2	10.0	63.2
	1	55.0	76.8	45.0	67.0	63.0	56.0	54.0	51.0	49.0	46.0	46.0	45.0	55.0	10.0	65.0
	2	53.7	74.1	44.7	65.0	60.0	55.0	54.0	52.0	50.0	46.0	46.0	45.0	53.7	10.0	63.7
	3	57.3	80.1	46.7	69.0	66.0	60.0	57.0	53.0	51.0	49.0	48.0	47.0	57.3	10.0	67.3
	4	57.9	82.1	49.0	70.0	67.0	62.0	59.0	53.0	52.0	50.0	50.0	49.0	57.9	10.0	67.9
	5	59.4	78.9	50.5	71.0	68.0	64.0	61.0	56.0	54.0	52.0	52.0	51.0	59.4	10.0	69.4
	6	59.1	82.3	50.4	70.0	68.0	64.0	60.0	55.0	53.0	51.0	51.0	51.0	59.1	10.0	69.1
Day	7	57.8	80.0	46.5	68.0	67.0	63.0	60.0	53.0	50.0	48.0	48.0	47.0	57.8	0.0	57.8
	8	57.1	81.1	44.4	68.0	66.0	62.0	60.0	51.0	48.0	46.0	45.0	45.0	57.1	0.0	57.1
	9	55.3	74.3	44.1	67.0	65.0	61.0	58.0	51.0	48.0	45.0	45.0	44.0	55.3	0.0	55.3
	10	57.3	82.1	44.1	68.0	66.0	62.0	60.0	52.0	49.0	46.0	46.0	45.0	57.3	0.0	57.3
	11	55.9	74.9	43.7	67.0	65.0	61.0	59.0	53.0	50.0	46.0	46.0	45.0	55.9	0.0	55.9
	12	57.4	80.3	43.1	68.0	65.0	62.0	60.0	53.0	49.0	45.0	45.0	43.0	57.4	0.0	57.4
	13	57.6	77.7	43.8	69.0	67.0	64.0	61.0	53.0	50.0	46.0	46.0	44.0	57.6	0.0	57.6
	14	57.7	77.4	41.5	68.0	67.0	64.0	62.0	55.0	49.0	45.0	44.0	42.0	57.7	0.0	57.7
	15	57.8	76.2	42.8	69.0	67.0	64.0	62.0	54.0	50.0	46.0	46.0	44.0	57.8	0.0	57.8
	16	58.5	78.5	44.2	69.0	67.0	65.0	62.0	55.0	51.0	48.0	47.0	45.0	58.5	0.0	58.5
	17	57.5	81.4	43.8	68.0	66.0	63.0	61.0	53.0	49.0	46.0	46.0	45.0	57.5	0.0	57.5
	18	57.0	85.0	43.1	67.0	65.0	62.0	59.0	51.0	48.0	45.0	45.0	44.0	57.0	0.0	57.0
Evening	19	56.1	76.3	44.4	67.0	65.0	60.0	58.0	54.0	52.0	48.0	47.0	45.0	56.1	5.0	61.1
	20	55.8	77.2	45.5	66.0	63.0	59.0	57.0	54.0	52.0	48.0	48.0	46.0	55.8	5.0	60.8
	21	54.9	74.2	45.9	66.0	63.0	58.0	56.0	53.0	51.0	48.0	48.0	46.0	54.9	5.0	59.9
Night	22	53.2	74.6	44.4	64.0	59.0	55.0	53.0	51.0	49.0	46.0	45.0	45.0	53.2	10.0	63.2
	23	51.8	72.0	42.8	64.0	59.0	54.0	52.0	49.0	47.0	45.0	44.0	43.0	51.8	10.0	61.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	55.3	74.3	41.5	67.0	65.0	61.0	58.0	51.0	48.0	45.0	44.0	42.0
	Max	58.5	85.0	46.5	69.0	67.0	65.0	62.0	55.0	51.0	48.0	48.0	47.0
Energy Average		57.3	Average:		68.0	66.1	62.8	60.3	52.8	49.3	46.0	45.8	44.4
Evening	Min	54.9	74.2	44.4	66.0	63.0	58.0	56.0	53.0	51.0	48.0	47.0	45.0
	Max	56.1	77.2	45.9	67.0	65.0	60.0	58.0	54.0	52.0	48.0	48.0	46.0
Energy Average		55.6	Average:		66.3	63.7	59.0	57.0	53.7	51.7	48.0	47.7	45.7
Night	Min	51.8	72.0	42.8	64.0	59.0	54.0	52.0	49.0	47.0	45.0	44.0	43.0
	Max	59.4	82.3	50.5	71.0	68.0	64.0	61.0	56.0	54.0	52.0	52.0	51.0
Energy Average		56.4	Average:		67.1	63.2	58.4	56.0	52.3	50.4	48.0	47.6	46.8

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
56.8	57.0	56.4

24-Hour CNEL (dBA)
63.1

24-Hour Noise Level Measurement Summary

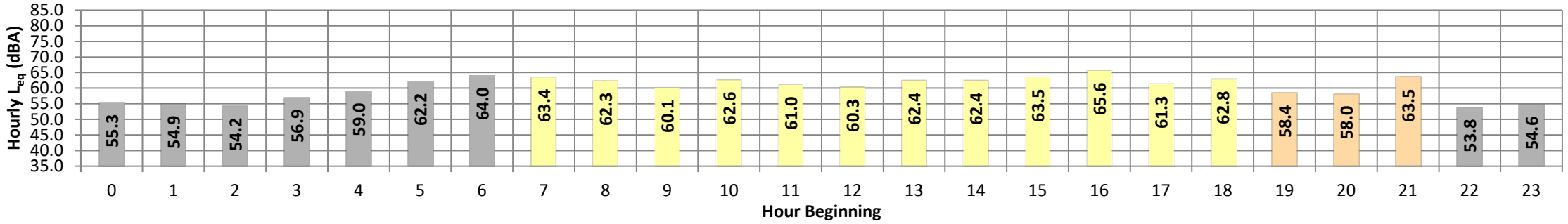
Date: Wednesday, February 12, 2020
Project: Rubidoux Warehouse

Location: L5 - Located south of the Project site on 28th Street near existing single-family homes at 5769 28th Street.

Meter: Piccolo I

JN: 12722
Analyst: P. Mara

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	55.3	81.9	44.5	67.0	61.0	55.0	54.0	50.0	48.0	46.0	46.0	45.0	55.3	10.0	65.3
	1	54.9	81.0	44.6	66.0	61.0	55.0	53.0	50.0	48.0	46.0	46.0	45.0	54.9	10.0	64.9
	2	54.2	77.3	43.8	66.0	59.0	53.0	52.0	50.0	49.0	46.0	45.0	44.0	54.2	10.0	64.2
	3	56.9	79.0	45.3	71.0	66.0	55.0	53.0	51.0	49.0	47.0	47.0	46.0	56.9	10.0	66.9
	4	59.0	81.4	46.1	72.0	70.0	61.0	56.0	51.0	49.0	48.0	47.0	47.0	59.0	10.0	69.0
	5	62.2	83.9	47.7	74.0	72.0	68.0	64.0	55.0	53.0	51.0	50.0	49.0	62.2	10.0	72.2
	6	64.0	88.4	49.4	75.0	73.0	70.0	68.0	60.0	54.0	51.0	51.0	50.0	64.0	10.0	74.0
Day	7	63.4	80.5	45.1	74.0	73.0	70.0	68.0	61.0	54.0	47.0	47.0	46.0	63.4	0.0	63.4
	8	62.3	79.0	42.1	73.0	72.0	69.0	67.0	60.0	52.0	46.0	45.0	43.0	62.3	0.0	62.3
	9	60.1	86.7	41.0	72.0	69.0	63.0	58.0	50.0	46.0	43.0	42.0	42.0	60.1	0.0	60.1
	10	62.6	83.2	36.2	73.0	72.0	69.0	67.0	59.0	54.0	41.0	40.0	39.0	62.6	0.0	62.6
	11	61.0	83.9	40.7	73.0	71.0	68.0	64.0	51.0	46.0	42.0	42.0	41.0	61.0	0.0	61.0
	12	60.3	76.4	42.1	72.0	71.0	67.0	64.0	56.0	48.0	44.0	44.0	43.0	60.3	0.0	60.3
	13	62.4	86.0	42.0	74.0	72.0	69.0	65.0	54.0	48.0	44.0	43.0	42.0	62.4	0.0	62.4
	14	62.4	83.9	42.0	74.0	72.0	69.0	67.0	56.0	48.0	44.0	43.0	42.0	62.4	0.0	62.4
	15	63.5	83.4	42.7	74.0	73.0	70.0	68.0	59.0	52.0	46.0	45.0	43.0	63.5	0.0	63.5
	16	65.6	89.0	43.6	76.0	74.0	72.0	70.0	63.0	55.0	47.0	46.0	45.0	65.6	0.0	65.6
	17	61.3	83.8	41.6	73.0	71.0	68.0	65.0	51.0	47.0	44.0	43.0	43.0	61.3	0.0	61.3
	18	62.8	91.4	40.9	73.0	71.0	66.0	61.0	49.0	45.0	43.0	42.0	42.0	62.8	0.0	62.8
Evening	19	58.4	81.7	44.0	71.0	69.0	63.0	59.0	52.0	49.0	46.0	46.0	44.0	58.4	5.0	63.4
	20	58.0	80.2	44.7	71.0	68.0	62.0	58.0	52.0	50.0	47.0	47.0	45.0	58.0	5.0	63.0
	21	63.5	93.9	44.9	73.0	69.0	60.0	56.0	52.0	50.0	48.0	47.0	46.0	63.5	5.0	68.5
Night	22	53.8	76.6	44.0	64.0	58.0	54.0	53.0	50.0	48.0	46.0	45.0	44.0	53.8	10.0	63.8
	23	54.6	78.5	43.8	66.0	61.0	53.0	51.0	49.0	47.0	45.0	45.0	44.0	54.6	10.0	64.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	60.1	76.4	36.2	72.0	69.0	63.0	58.0	49.0	45.0	41.0	40.0	39.0
	Max	65.6	91.4	45.1	76.0	74.0	72.0	70.0	63.0	55.0	47.0	47.0	46.0
Energy Average		62.6	Average:		73.4	71.8	68.3	65.3	55.8	49.6	44.3	43.5	42.6
Evening	Min	58.0	80.2	44.0	71.0	68.0	60.0	56.0	52.0	49.0	46.0	46.0	44.0
	Max	63.5	93.9	44.9	73.0	69.0	63.0	59.0	52.0	50.0	48.0	47.0	46.0
Energy Average		60.7	Average:		71.7	68.7	61.7	57.7	52.0	49.7	47.0	46.7	45.0
Night	Min	53.8	76.6	43.8	64.0	58.0	53.0	51.0	49.0	47.0	45.0	45.0	44.0
	Max	64.0	88.4	49.4	75.0	73.0	70.0	68.0	60.0	54.0	51.0	51.0	50.0
Energy Average		58.8	Average:		69.0	64.6	58.2	56.0	51.8	49.4	47.3	46.9	46.0

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
61.3	62.3	58.8

24-Hour CNEL (dBA)
66.3

24-Hour Noise Level Measurement Summary

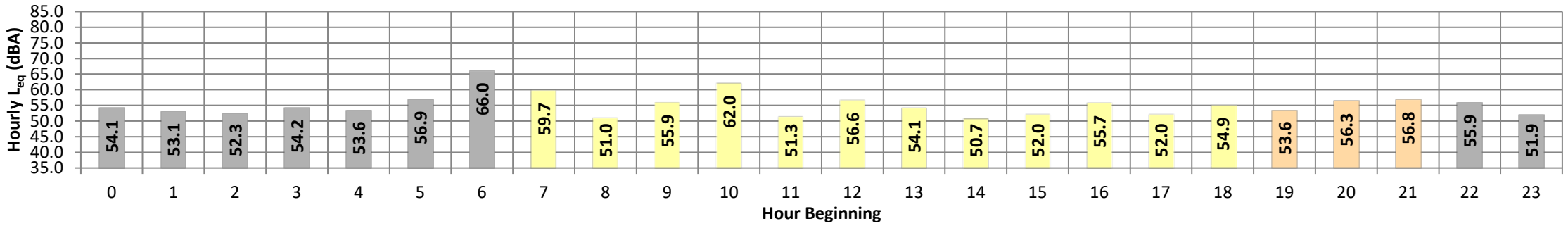
Date: Wednesday, February 12, 2020
Project: Rubidoux Warehouse

Location: L6 - Located near the southern boundary of the Project site on the intersection of Canal Street and 28th Street.

Meter: Piccolo I

JN: 12722
Analyst: P. Mara

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	54.1	73.3	46.2	65.0	62.0	58.0	56.0	52.0	50.0	48.0	47.0	47.0	54.1	10.0	64.1
	1	53.1	73.5	46.8	62.0	59.0	55.0	54.0	52.0	50.0	48.0	48.0	47.0	53.1	10.0	63.1
	2	52.3	63.9	45.8	58.0	57.0	55.0	54.0	53.0	51.0	48.0	48.0	46.0	52.3	10.0	62.3
	3	54.2	72.6	49.2	60.0	59.0	57.0	56.0	54.0	52.0	51.0	50.0	50.0	54.2	10.0	64.2
	4	53.6	70.3	48.7	60.0	59.0	57.0	56.0	53.0	52.0	50.0	50.0	49.0	53.6	10.0	63.6
	5	56.9	71.2	50.8	64.0	63.0	60.0	59.0	56.0	55.0	53.0	52.0	52.0	56.9	10.0	66.9
	6	66.0	97.3	50.7	75.0	69.0	61.0	59.0	56.0	54.0	52.0	52.0	51.0	66.0	10.0	76.0
Day	7	59.7	83.7	48.3	71.0	67.0	62.0	59.0	55.0	53.0	50.0	50.0	49.0	59.7	0.0	59.7
	8	51.0	65.0	44.4	58.0	56.0	55.0	54.0	51.0	49.0	46.0	45.0	45.0	51.0	0.0	51.0
	9	55.9	79.2	43.5	67.0	61.0	57.0	55.0	50.0	47.0	45.0	44.0	44.0	55.9	0.0	55.9
	10	62.0	89.5	41.9	74.0	66.0	57.0	55.0	50.0	48.0	45.0	44.0	42.0	62.0	0.0	62.0
	11	51.3	73.5	41.7	62.0	58.0	54.0	53.0	49.0	47.0	43.0	43.0	42.0	51.3	0.0	51.3
	12	56.6	74.3	46.1	65.0	63.0	61.0	60.0	56.0	53.0	49.0	48.0	47.0	56.6	0.0	56.6
	13	54.1	78.0	42.7	63.0	60.0	58.0	56.0	52.0	49.0	45.0	44.0	43.0	54.1	0.0	54.1
	14	50.7	69.7	42.1	60.0	57.0	55.0	53.0	50.0	47.0	44.0	44.0	43.0	50.7	0.0	50.7
	15	52.0	72.9	41.9	60.0	57.0	55.0	54.0	51.0	49.0	45.0	45.0	43.0	52.0	0.0	52.0
	16	55.7	79.5	42.7	66.0	62.0	57.0	55.0	52.0	49.0	46.0	45.0	44.0	55.7	0.0	55.7
	17	52.0	70.1	42.9	62.0	59.0	56.0	54.0	51.0	48.0	45.0	45.0	43.0	52.0	0.0	52.0
	18	54.9	80.5	41.7	65.0	60.0	56.0	54.0	49.0	46.0	44.0	43.0	42.0	54.9	0.0	54.9
Evening	19	53.6	70.3	46.5	61.0	59.0	57.0	56.0	53.0	52.0	49.0	48.0	47.0	53.6	5.0	58.6
	20	56.3	81.3	46.4	62.0	59.0	56.0	55.0	53.0	51.0	48.0	48.0	47.0	56.3	5.0	61.3
	21	56.8	82.9	47.1	64.0	61.0	56.0	55.0	53.0	51.0	49.0	49.0	48.0	56.8	5.0	61.8
Night	22	55.9	86.1	47.2	61.0	58.0	55.0	54.0	52.0	50.0	48.0	48.0	48.0	55.9	10.0	65.9
	23	51.9	73.2	45.8	59.0	57.0	55.0	53.0	51.0	49.0	48.0	47.0	46.0	51.9	10.0	61.9

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	50.7	65.0	41.7	58.0	56.0	54.0	53.0	49.0	46.0	43.0	43.0	42.0
	Max	62.0	89.5	48.3	74.0	67.0	62.0	60.0	56.0	53.0	50.0	50.0	49.0
Energy Average		56.2	Average:		64.4	60.5	56.9	55.2	51.3	48.8	45.6	45.0	43.9
Evening	Min	53.6	70.3	46.4	61.0	59.0	56.0	55.0	53.0	51.0	48.0	48.0	47.0
	Max	56.8	82.9	47.1	64.0	61.0	57.0	56.0	53.0	52.0	49.0	49.0	48.0
Energy Average		55.8	Average:		62.3	59.7	56.3	55.3	53.0	51.3	48.7	48.3	47.3
Night	Min	51.9	63.9	45.8	58.0	57.0	55.0	53.0	51.0	49.0	48.0	47.0	46.0
	Max	66.0	97.3	50.8	75.0	69.0	61.0	59.0	56.0	55.0	53.0	52.0	52.0
Energy Average		58.3	Average:		62.7	60.3	57.0	55.7	53.2	51.4	49.6	49.1	48.4

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
57.1	56.1	58.3

24-Hour CNEL (dBA)
64.6

APPENDIX 6.1:

UPDATED PROJECT TRIP GENERATION

This page intentionally left blank

Table 2

Project Trip Generation Summary (General Light Industrial & Manufacturing Alternative)

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles:									
General Light Industrial	597.085	TSF							
Passenger Cars:			385	51	436	51	331	382	2,760
2-axle Trucks:			1	0	1	1	0	1	26
3-axle Trucks:			1	1	2	1	1	2	32
4+-axle Trucks:			2	1	3	2	2	4	94
Total Truck Trips (Actual Vehicles):			4	2	6	4	3	7	152
Total Trips (Actual Vehicles)[2]			389	53	442	55	334	389	2,912
Manufacturing	597.085	TSF							
Passenger Cars:			298	90	388	130	294	424	2,568
2-axle Trucks:			2	1	3	1	2	3	46
3-axle Trucks:			2	2	4	2	2	4	56
4+-axle Trucks:			7	5	12	5	7	12	168
Total Truck Trips (Actual Vehicles):			11	8	19	8	11	19	270
Total Trips (Actual Vehicles)[2]			309	98	407	138	305	443	2,838
Passenger Cars			683	141	824	181	625	806	5,328
Trucks			15	10	25	12	14	26	422
Total Trips (Actual Vehicles)[2]			**698**	**151**	**849**	**193**	**639**	**832**	**5,750**
Passenger Car Equivalent (PCE):									
General Light Industrial	597.085	TSF							
Passenger Cars:			385	51	436	51	331	382	2,760
2-axle Trucks:			1	1	2	1	1	2	38
3-axle Trucks:			1	1	2	1	1	2	62
4+-axle Trucks:			7	4	11	5	6	11	280
Total Truck Trips (PCE):			9	6	15	7	8	15	380
Total Trips (PCE)[2]			394	57	451	58	339	397	3,140
Manufacturing	597.085	TSF							
Passenger Cars:			298	90	388	130	294	424	2,568
2-axle Trucks:			3	2	5	2	3	5	68
3-axle Trucks:			4	4	8	3	4	7	112
4+-axle Trucks:			20	14	34	14	20	34	506
Total Truck Trips (PCE):			27	20	47	19	27	46	686
Total Trips (PCE)[2]			325	110	435	149	321	470	3,254
Passenger Cars			683	141	824	181	625	806	5,328
Trucks			36	26	62	26	35	61	1,066
Total Trips (PCE)[2]			**719**	**167**	**886**	**207**	**660**	**867**	**6,394**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

This page intentionally left blank

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

This page intentionally left blank

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: n/o I-10 WB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,858 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,150 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.45	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-6.29	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-4.84	0.41	-1.20	-5.41	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	66.3	63.7	61.8	69.1	69.4
Medium Trucks:	70.6	69.2	64.4	63.6	71.2	71.4
Heavy Trucks:	77.4	75.3	72.6	71.8	78.8	79.1
Vehicle Noise:	78.6	76.7	73.7	72.8	79.9	80.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	238	513	1,105	2,380
CNEL:	248	534	1,152	2,481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o I-10 EB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,005 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,350 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.67	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.07	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.63	0.41	-1.20	-5.41	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:	68.3	66.5	63.9	62.0	69.3	69.6
Medium Trucks:	70.6	69.1	64.4	63.6	71.1	71.4
Heavy Trucks:	76.8	74.8	72.1	71.3	78.3	78.6
Vehicle Noise:	78.2	76.3	73.3	72.4	79.5	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	224	482	1,039	2,239
CNEL:	233	503	1,083	2,334

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: n/o Santa Ana Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,754 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,056 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.09	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.65	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.21	0.41	-1.20	-5.41	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	65.9	63.3	61.4	68.7	69.0
Medium Trucks:	70.0	68.5	63.8	63.0	70.6	70.8
Heavy Trucks:	76.3	74.2	71.5	70.7	77.7	78.0
Vehicle Noise:	77.6	75.7	72.7	71.8	78.9	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	205	441	951	2,048
CNEL:	214	460	991	2,135

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Santa Ana Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,203 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,645 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.88	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.62	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.18	0.41	-1.20	-5.41	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	64.9	62.3	60.4	67.7	68.0
Medium Trucks:	69.0	67.6	62.8	62.0	69.6	69.8
Heavy Trucks:	75.3	73.3	70.5	69.8	76.8	77.0
Vehicle Noise:	76.7	74.8	71.7	70.9	78.0	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	177	380	819	1,765
CNEL:	184	396	854	1,840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cedar Ave.
Road Segment: s/o Jurupa Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,303 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,654 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.86	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-9.60	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-8.15	0.41	-1.20	*-5.41*	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	65.0	62.4	60.4	67.7	68.1
Medium Trucks:	69.1	67.6	62.9	62.1	69.6	69.9
Heavy Trucks:	75.3	73.3	70.5	69.8	76.8	77.1
Vehicle Noise:	76.7	74.8	71.7	70.9	78.0	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	177	382	822	1,772
CNEL:	185	398	857	1,847

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cedar Ave.
Road Segment: s/o 7th Street
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,144 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,730 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.12	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-9.86	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-8.41	0.41	-1.20	*-5.41*	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:	68.3	66.4	63.9	61.9	69.2	69.5
Medium Trucks:	70.4	68.9	64.1	63.4	70.9	71.1
Heavy Trucks:	76.2	74.2	71.4	70.7	77.7	77.9
Vehicle Noise:	77.7	75.8	72.7	71.9	79.0	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	206	444	957	2,062
CNEL:	215	463	998	2,150

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rubidoux Bl.
Road Segment: s/o El Rivino Rd
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,484 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,580 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.51	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-10.25	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-8.81	-0.60	-1.20	*-5.35*	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	65.0	62.5	60.5	67.8	68.2
Medium Trucks:	68.9	67.5	62.7	62.0	69.5	69.7
Heavy Trucks:	74.8	72.8	70.0	69.2	76.3	76.5
Vehicle Noise:	76.3	74.4	71.3	70.5	77.6	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	189	406	876	1,886
CNEL:	197	424	913	1,966

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Rubidoux Bl.
Road Segment: s/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,043 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,269 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.47	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-11.21	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-9.76	-0.60	-1.20	*-5.35*	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	64.1	61.5	59.6	66.9	67.2
Medium Trucks:	68.0	66.5	61.8	61.0	68.5	68.8
Heavy Trucks:	73.8	71.8	69.0	68.3	75.3	75.6
Vehicle Noise:	75.4	73.5	70.4	69.5	76.6	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	351	756	1,630
CNEL:	170	366	789	1,699

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 24th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,921 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,258 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.50	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-11.24	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.80	-0.60	-1.20	-5.35	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	64.1	61.5	59.5	66.8	67.2
Medium Trucks:	68.0	66.5	61.8	61.0	68.5	68.7
Heavy Trucks:	73.8	71.8	69.0	68.3	75.3	75.5
Vehicle Noise:	75.3	73.4	70.4	69.5	76.6	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	162	349	752	1,620
CNEL:	169	364	784	1,689

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 26th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,954 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,261 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.49	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-11.23	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.79	-0.60	-1.20	-5.35	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	64.1	61.5	59.6	66.8	67.2
Medium Trucks:	68.0	66.5	61.8	61.0	68.5	68.8
Heavy Trucks:	73.8	71.8	69.0	68.3	75.3	75.5
Vehicle Noise:	75.3	73.4	70.4	69.5	76.6	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	162	350	753	1,623
CNEL:	169	365	785	1,692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 34th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,351 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,568 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.55	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.29	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.84	-0.60	-1.20	-5.35	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	65.0	62.4	60.5	67.8	68.1
Medium Trucks:	68.9	67.4	62.7	61.9	69.5	69.7
Heavy Trucks:	74.7	72.7	70.0	69.2	76.2	76.5
Vehicle Noise:	76.3	74.4	71.3	70.4	77.5	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	188	404	871	1,877
CNEL:	196	421	908	1,956

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: n/o Rivera St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,529 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,765 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.58	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-9.32	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.87	-0.60	-1.20	-5.35	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:	66.1	64.2	61.7	59.7	67.0	67.3
Medium Trucks:	68.3	66.9	62.1	61.3	68.9	69.1
Heavy Trucks:	74.6	72.6	69.8	69.1	76.1	76.3
Vehicle Noise:	76.0	74.1	71.0	70.2	77.3	77.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	180	387	834	1,798
CNEL:	187	404	870	1,874

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Market St.
Road Segment: s/o SR-60 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,169 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,913 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.23	1.63	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-8.96	1.67	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-7.52	1.66	-1.20	*-5.43*	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	66.8	64.2	62.3	69.6	69.9
Medium Trucks:	71.0	69.5	64.7	64.0	71.5	71.7
Heavy Trucks:	77.2	75.2	72.4	71.7	78.7	79.0
Vehicle Noise:	78.6	76.7	73.6	72.8	79.9	80.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	228	490	1,057	2,276
CNEL:	237	511	1,101	2,373

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Riverside Av.
Road Segment: n/o Agua Mansa Rd.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,365 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,027 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.80	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	82.40	-12.54	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	86.40	-11.09	0.41	-1.20	*-5.41*	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	65.3	62.8	60.8	68.1	68.4
Medium Trucks:	69.1	67.6	62.9	62.1	69.6	69.9
Heavy Trucks:	74.5	72.5	69.7	69.0	76.0	76.3
Vehicle Noise:	76.2	74.3	71.2	70.3	77.4	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	351	756	1,629
CNEL:	170	366	788	1,698

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Agua Mansa Rd.
Road Segment: n/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,897 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	804 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.99	0.31	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.73	0.34	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-11.28	0.34	-1.20	*-5.43*	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:	63.6	61.8	59.2	57.2	64.5	64.9
Medium Trucks:	65.9	64.4	59.7	58.9	66.4	66.6
Heavy Trucks:	72.1	70.1	67.3	66.6	73.6	73.9
Vehicle Noise:	73.5	71.6	68.5	67.7	74.8	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,042
CNEL:	109	234	504	1,086

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Slover Av.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,834 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	979 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.59	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-12.33	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-10.89	0.41	-1.20	*-5.41*	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:	65.8	64.0	61.4	59.5	66.7	67.1
Medium Trucks:	67.9	66.4	61.7	60.9	68.4	68.7
Heavy Trucks:	73.7	71.7	68.9	68.2	75.2	75.5
Vehicle Noise:	75.2	73.3	70.3	69.4	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	655	1,411
CNEL:	147	317	683	1,471

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Slover Av.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,133 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	735 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.84	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-13.58	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-12.13	0.41	-1.20	*-5.41*	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:	64.5	62.7	60.1	58.2	65.5	65.8
Medium Trucks:	66.6	65.2	60.4	59.6	67.2	67.4
Heavy Trucks:	72.5	70.4	67.7	66.9	73.9	74.2
Vehicle Noise:	74.0	72.1	69.0	68.1	75.3	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	117	251	541	1,165
CNEL:	121	262	564	1,215

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Santa Ana Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,673 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	603 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-4.73	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	77.72	-13.47	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-12.02	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:	61.9	60.0	57.4	55.5	62.8	63.1
Medium Trucks:	64.4	62.9	58.2	57.4	64.9	65.2
Heavy Trucks:	71.1	69.1	66.3	65.6	72.6	72.8
Vehicle Noise:	72.3	70.4	67.4	66.5	73.6	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	768
CNEL:	80	172	372	800

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Santa Ana Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,692 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	424 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-6.26	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	77.72	-15.00	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.55	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:	60.3	58.5	55.9	54.0	61.3	61.6
Medium Trucks:	62.8	61.4	56.6	55.8	63.4	63.6
Heavy Trucks:	69.5	67.5	64.8	64.0	71.0	71.3
Vehicle Noise:	70.8	68.9	65.9	65.0	72.1	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	607
CNEL:	63	136	294	633

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Jurupa Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,980 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	450 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.00	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-14.74	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.29	0.41	-1.20	*-5.41*	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:	59.7	57.9	55.3	53.4	60.6	61.0
Medium Trucks:	62.2	60.7	56.0	55.2	62.7	63.0
Heavy Trucks:	68.9	66.9	64.1	63.4	70.4	70.7
Vehicle Noise:	70.2	68.2	65.2	64.4	71.5	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	650
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Jurupa Ave. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,776 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	522 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.36	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-14.09	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.65	0.41	-1.20	-5.41	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:	60.3	58.5	55.9	54.0	61.3	61.6
Medium Trucks:	62.8	61.4	56.6	55.8	63.4	63.6
Heavy Trucks:	69.6	67.5	64.8	64.0	71.0	71.3
Vehicle Noise:	70.8	68.9	65.9	65.0	72.1	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	155	333	718
CNEL:	75	161	347	748

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: 7th St. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,367 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	485 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.19	5.10	-1.20	-4.41	0.000	0.000
Medium Trucks:	79.45	-14.92	5.22	-1.20	-4.85	0.000	0.000
Heavy Trucks:	84.25	-13.48	5.20	-1.20	-5.94	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:	66.2	64.4	61.8	59.8	67.1	67.5
Medium Trucks:	68.5	67.1	62.3	61.5	69.1	69.3
Heavy Trucks:	74.8	72.8	70.0	69.3	76.3	76.5
Vehicle Noise:	76.2	74.3	71.2	70.3	77.4	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	169	364	784
CNEL:	82	176	379	818

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: e/o Rubidoux Bl.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,514 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,402 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.58	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-10.31	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-8.87	-0.60	-1.20	-5.35	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:	65.1	63.2	60.7	58.7	66.0	66.3
Medium Trucks:	67.3	65.9	61.1	60.3	67.9	68.1
Heavy Trucks:	73.6	71.6	68.8	68.1	75.1	75.3
Vehicle Noise:	75.0	73.1	70.0	69.2	76.3	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	154	332	716	1,542
CNEL:	161	346	746	1,607

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Rubidoux
Road Name: Agua Mansa Rd. | Job Number: 15001
Road Segment: e/o Riverside Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,521 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	770 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.18	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-12.92	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.47	0.41	-1.20	-5.41	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	61.6	59.1	57.1	64.4	64.7
Medium Trucks:	65.7	64.3	59.5	58.7	66.3	66.5
Heavy Trucks:	72.0	70.0	67.2	66.5	73.5	73.7
Vehicle Noise:	73.4	71.5	68.4	67.6	74.7	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	494	1,064
CNEL:	111	239	515	1,109

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: n/o I-10 WB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,070 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,169 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.89%
Medium Trucks:	77.3%	6.5%	16.2%	10.07%
Heavy Trucks:	68.2%	9.0%	22.8%	14.04%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.49	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-6.29	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-4.84	0.41	-1.20	-5.41	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	66.4	63.8	61.8	69.1	69.5
Medium Trucks:	70.6	69.2	64.4	63.6	71.2	71.4
Heavy Trucks:	77.4	75.3	72.6	71.8	78.8	79.1
Vehicle Noise:	78.6	76.7	73.7	72.8	79.9	80.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	238	513	1,105	2,381
CNEL:	248	535	1,152	2,482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o I-10 EB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,925 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,524 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.19%
Medium Trucks:	77.3%	6.5%	16.2%	9.47%
Heavy Trucks:	68.2%	9.0%	22.8%	13.34%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.06	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.05	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.56	0.41	-1.20	-5.41	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	66.9	64.3	62.4	69.7	70.0
Medium Trucks:	70.6	69.1	64.4	63.6	71.2	71.4
Heavy Trucks:	76.9	74.9	72.1	71.4	78.4	78.7
Vehicle Noise:	78.3	76.4	73.4	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	227	489	1,053	2,269
CNEL:	237	510	1,098	2,366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: n/o Santa Ana Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,939 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.62%
Medium Trucks:	77.3%	6.5%	16.2%	9.28%
Heavy Trucks:	68.2%	9.0%	22.8%	13.10%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.59	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.63	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.14	0.41	-1.20	-5.41	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	66.4	63.8	61.9	69.2	69.5
Medium Trucks:	70.0	68.6	63.8	63.0	70.6	70.8
Heavy Trucks:	76.3	74.3	71.5	70.8	77.8	78.1
Vehicle Noise:	77.8	75.9	72.8	71.9	79.0	79.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	208	449	966	2,082
CNEL:	217	468	1,008	2,171

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Santa Ana Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,547 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,857 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.20%
Medium Trucks:	77.3%	6.5%	16.2%	9.03%
Heavy Trucks:	68.2%	9.0%	22.8%	12.77%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.22	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.59	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.09	0.41	-1.20	-5.41	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:	67.4	65.6	63.0	61.1	68.4	68.7
Medium Trucks:	69.1	67.6	62.9	62.1	69.6	69.9
Heavy Trucks:	75.4	73.4	70.6	69.9	76.9	77.1
Vehicle Noise:	76.8	74.9	71.9	71.0	78.1	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	180	388	837	1,803
CNEL:	188	405	872	1,880

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Jurupa Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,806 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,880 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.36%
Medium Trucks:	77.3%	6.5%	16.2%	8.96%
Heavy Trucks:	68.2%	9.0%	22.8%	12.68%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.15	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.57	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.06	0.41	-1.20	-5.41	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	65.7	63.1	61.2	68.4	68.8
Medium Trucks:	69.1	67.6	62.9	62.1	69.6	69.9
Heavy Trucks:	75.4	73.4	70.6	69.9	76.9	77.2
Vehicle Noise:	76.8	74.9	71.9	71.0	78.1	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	181	390	840	1,810
CNEL:	189	407	876	1,888

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o 7th Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,700 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,961 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.31%
Medium Trucks:	77.3%	6.5%	16.2%	8.99%
Heavy Trucks:	68.2%	9.0%	22.8%	12.71%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.43	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-9.83	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-8.33	0.41	-1.20	-5.41	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:	69.0	67.1	64.5	62.6	69.9	70.2
Medium Trucks:	70.4	68.9	64.2	63.4	70.9	71.2
Heavy Trucks:	76.3	74.2	71.5	70.7	77.7	78.0
Vehicle Noise:	77.9	76.0	72.9	72.0	79.1	79.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	211	454	978	2,108
CNEL:	220	474	1,020	2,198

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o El Rivino Rd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,040 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,811 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.52%
Medium Trucks:	77.3%	6.5%	16.2%	8.89%
Heavy Trucks:	68.2%	9.0%	22.8%	12.59%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.77	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.23	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.72	-0.60	-1.20	-5.35	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	65.8	63.2	61.3	68.6	68.9
Medium Trucks:	69.0	67.5	62.8	62.0	69.5	69.8
Heavy Trucks:	74.9	72.8	70.1	69.3	76.3	76.6
Vehicle Noise:	76.5	74.6	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	193	416	897	1,932
CNEL:	201	434	935	2,015

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,088 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,454 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.65%
Medium Trucks:	77.3%	6.5%	16.2%	9.04%
Heavy Trucks:	68.2%	9.0%	22.8%	13.31%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.77	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-11.11	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.43	-0.60	-1.20	-5.35	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	64.8	62.2	60.3	67.6	67.9
Medium Trucks:	68.1	66.6	61.9	61.1	68.6	68.9
Heavy Trucks:	74.1	72.1	69.4	68.6	75.6	75.9
Vehicle Noise:	75.7	73.8	70.7	69.8	77.0	77.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	172	370	797	1,716
CNEL:	179	386	831	1,790

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 24th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,967 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,443 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.66%
Medium Trucks:	77.3%	6.5%	16.2%	9.03%
Heavy Trucks:	68.2%	9.0%	22.8%	13.30%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.80	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-11.15	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.46	-0.60	-1.20	-5.35	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	64.8	62.2	60.2	67.5	67.9
Medium Trucks:	68.1	66.6	61.9	61.1	68.6	68.8
Heavy Trucks:	74.1	72.1	69.3	68.6	75.6	75.9
Vehicle Noise:	75.6	73.8	70.7	69.8	76.9	77.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	171	368	792	1,707
CNEL:	178	383	826	1,780

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 26th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,364 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,388 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.74%
Medium Trucks:	77.3%	6.5%	16.2%	9.41%
Heavy Trucks:	68.2%	9.0%	22.8%	13.86%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.02	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-11.14	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.45	-0.60	-1.20	-5.35	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	64.5	62.0	60.0	67.3	67.6
Medium Trucks:	68.1	66.6	61.9	61.1	68.6	68.9
Heavy Trucks:	74.1	72.1	69.3	68.6	75.6	75.9
Vehicle Noise:	75.6	73.7	70.7	69.8	76.9	77.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	170	367	790	1,703
CNEL:	178	383	824	1,775

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 34th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,563 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,587 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.04%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.95%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.48	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.29	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.84	-0.60	-1.20	-5.35	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	65.1	62.5	60.6	67.9	68.2
Medium Trucks:	68.9	67.4	62.7	61.9	69.5	69.7
Heavy Trucks:	74.7	72.7	70.0	69.2	76.2	76.5
Vehicle Noise:	76.3	74.4	71.3	70.4	77.5	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	188	405	872	1,879
CNEL:	196	422	909	1,959

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: n/o Rivera St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,716 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,872 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.52%
Medium Trucks:	77.3%	6.5%	16.2%	9.65%
Heavy Trucks:	68.2%	9.0%	22.8%	13.82%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.28	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-9.27	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.71	-0.60	-1.20	-5.35	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	64.5	62.0	60.0	67.3	67.6
Medium Trucks:	68.4	66.9	62.2	61.4	68.9	69.2
Heavy Trucks:	74.7	72.7	70.0	69.2	76.2	76.5
Vehicle Noise:	76.1	74.2	71.2	70.3	77.4	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	184	397	855	1,842
CNEL:	192	414	891	1,920

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Market St.
Road Segment: s/o SR-60 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,529 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,946 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.47%
Medium Trucks:	77.3%	6.5%	16.2%	10.07%
Heavy Trucks:	68.2%	9.0%	22.8%	14.46%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.17	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-8.91	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.35	1.66	-1.20	-5.43	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	66.9	64.3	62.4	69.7	70.0
Medium Trucks:	71.0	69.5	64.8	64.0	71.6	71.8
Heavy Trucks:	77.4	75.4	72.6	71.9	78.9	79.1
Vehicle Noise:	78.7	76.8	73.8	72.9	80.0	80.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	233	502	1,080	2,328
CNEL:	243	523	1,126	2,427

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Riverside Av.
Road Segment: n/o Agua Mansa Rd.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,652 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,053 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.16%
Medium Trucks:	77.3%	6.5%	16.2%	9.91%
Heavy Trucks:	68.2%	9.0%	22.8%	13.93%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.67	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-12.52	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-11.04	0.41	-1.20	-5.41	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	65.5	62.9	61.0	68.3	68.6
Medium Trucks:	69.1	67.6	62.9	62.1	69.6	69.9
Heavy Trucks:	74.6	72.5	69.8	69.0	76.0	76.3
Vehicle Noise:	76.2	74.4	71.3	70.4	77.5	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	164	354	762	1,642
CNEL:	171	369	795	1,712

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Agua Mansa Rd.
Road Segment: n/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,469 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	856 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.77%
Medium Trucks:	77.3%	6.5%	16.2%	9.59%
Heavy Trucks:	68.2%	9.0%	22.8%	13.64%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.66	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.70	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.17	0.34	-1.20	-5.43	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:	63.9	62.1	59.5	57.6	64.9	65.2
Medium Trucks:	65.9	64.4	59.7	58.9	66.4	66.7
Heavy Trucks:	72.2	70.2	67.4	66.7	73.7	74.0
Vehicle Noise:	73.6	71.7	68.7	67.8	74.9	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	493	1,062
CNEL:	111	239	514	1,107

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Slover Av.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,993 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	993 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.10%
Medium Trucks:	77.3%	6.5%	16.2%	9.98%
Heavy Trucks:	68.2%	9.0%	22.8%	13.92%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.51	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-12.33	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.89	0.41	-1.20	-5.41	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	64.1	61.5	59.5	66.8	67.2
Medium Trucks:	67.9	66.4	61.7	60.9	68.4	68.7
Heavy Trucks:	73.7	71.7	68.9	68.2	75.2	75.5
Vehicle Noise:	75.2	73.4	70.3	69.4	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	141	304	656	1,413
CNEL:	147	317	684	1,473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Slover Av.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,239 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	745 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.06%
Medium Trucks:	77.3%	6.5%	16.2%	10.00%
Heavy Trucks:	68.2%	9.0%	22.8%	13.94%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.76	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-13.58	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-12.13	0.41	-1.20	*-5.41*	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	62.8	60.2	58.3	65.6	65.9
Medium Trucks:	66.6	65.2	60.4	59.6	67.2	67.4
Heavy Trucks:	72.5	70.4	67.7	66.9	73.9	74.2
Vehicle Noise:	74.0	72.1	69.0	68.1	75.3	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	117	251	542	1,167
CNEL:	122	262	565	1,216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Santa Ana Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,779 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	613 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.13%
Medium Trucks:	77.3%	6.5%	16.2%	9.97%
Heavy Trucks:	68.2%	9.0%	22.8%	13.90%

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	-4.64	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	77.72	-13.47	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-12.02	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:	61.9	60.1	57.5	55.6	62.9	63.2
Medium Trucks:	64.4	62.9	58.2	57.4	64.9	65.2
Heavy Trucks:	71.1	69.1	66.3	65.6	72.6	72.8
Vehicle Noise:	72.3	70.4	67.4	66.5	73.6	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	357	769
CNEL:	80	173	372	801

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Santa Ana Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,745 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	429 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.02%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.97%

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	-6.19	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	77.72	-15.00	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.55	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:	60.4	58.6	56.0	54.1	61.3	61.7
Medium Trucks:	62.8	61.4	56.6	55.8	63.4	63.6
Heavy Trucks:	69.5	67.5	64.8	64.0	71.0	71.3
Vehicle Noise:	70.8	68.9	65.9	65.0	72.1	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	282	608
CNEL:	63	136	294	634

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Jurupa Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,033 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	455 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.00%
Medium Trucks:	77.3%	6.5%	16.2%	10.02%
Heavy Trucks:	68.2%	9.0%	22.8%	13.98%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.94	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-14.74	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.29	0.41	-1.20	*-5.41*	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:	59.8	57.9	55.3	53.4	60.7	61.0
Medium Trucks:	62.2	60.7	56.0	55.2	62.7	63.0
Heavy Trucks:	68.9	66.9	64.1	63.4	70.4	70.7
Vehicle Noise:	70.2	68.3	65.2	64.4	71.5	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	140	302	651
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,882 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	532 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.18%
Medium Trucks:	77.3%	6.5%	16.2%	9.95%
Heavy Trucks:	68.2%	9.0%	22.8%	13.87%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.25	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-14.09	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-12.65	0.41	-1.20	*-5.41*	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:	60.4	58.6	56.0	54.1	61.4	61.7
Medium Trucks:	62.8	61.4	56.6	55.8	63.4	63.6
Heavy Trucks:	69.6	67.5	64.8	64.0	71.0	71.3
Vehicle Noise:	70.8	68.9	65.9	65.0	72.1	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	334	719
CNEL:	75	161	348	749

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: 7th St.
Road Segment: w/o Cedar Ave.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,420 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	490 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.98%
Medium Trucks:	77.3%	6.5%	16.2%	10.03%
Heavy Trucks:	68.2%	9.0%	22.8%	13.99%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.13	5.10	-1.20	*-4.41*	0.000	0.000
Medium Trucks:	79.45	-14.92	5.22	-1.20	*-4.85*	0.000	0.000
Heavy Trucks:	84.25	-13.48	5.20	-1.20	*-5.94*	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:	66.2	64.4	61.8	59.9	67.2	67.5
Medium Trucks:	68.5	67.1	62.3	61.5	69.1	69.3
Heavy Trucks:	74.8	72.8	70.0	69.3	76.3	76.5
Vehicle Noise:	76.2	74.3	71.2	70.3	77.5	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	169	364	785
CNEL:	82	176	380	818

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,744 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,513 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.52%
Medium Trucks:	77.3%	6.5%	16.2%	9.56%
Heavy Trucks:	68.2%	9.0%	22.8%	13.92%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-10.24	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-8.60	-0.60	-1.20	*-5.35*	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:	65.4	63.6	61.0	59.1	66.4	66.7
Medium Trucks:	67.4	65.9	61.2	60.4	68.0	68.2
Heavy Trucks:	73.8	71.8	69.1	68.3	75.3	75.6
Vehicle Noise:	75.2	73.3	70.3	69.4	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	160	345	744	1,603
CNEL:	167	360	776	1,671

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,808 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	796 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.29%
Medium Trucks:	77.3%	6.5%	16.2%	9.84%
Heavy Trucks:	68.2%	9.0%	22.8%	13.87%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.00	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-12.90	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-11.41	0.41	-1.20	*-5.41*	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:	63.6	61.8	59.2	57.3	64.6	64.9
Medium Trucks:	65.8	64.3	59.6	58.8	66.3	66.6
Heavy Trucks:	72.1	70.0	67.3	66.5	73.5	73.8
Vehicle Noise:	73.4	71.5	68.5	67.6	74.7	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	232	499	1,075
CNEL:	112	242	520	1,121

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Cedar Ave.
Road Segment: n/o I-10 WB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,991 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,343 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.71	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-6.03	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-4.58	0.41	-1.20	*-5.41*	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:	68.4	66.6	64.0	62.1	69.4	69.7
Medium Trucks:	70.9	69.4	64.7	63.9	71.4	71.7
Heavy Trucks:	77.6	75.6	72.8	72.1	79.1	79.4
Vehicle Noise:	78.9	77.0	73.9	73.1	80.2	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	248	533	1,149	2,476
CNEL:	258	556	1,198	2,581

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Cedar Ave.
Road Segment: s/o I-10 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,597 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.92	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-7.81	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-6.37	0.41	-1.20	*-5.41*	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	66.7	64.2	62.2	69.5	69.9
Medium Trucks:	70.8	69.4	64.6	63.9	71.4	71.6
Heavy Trucks:	77.1	75.1	72.3	71.6	78.6	78.8
Vehicle Noise:	78.5	76.6	73.5	72.7	79.8	80.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	233	502	1,081	2,329
CNEL:	243	523	1,127	2,428

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Cedar Ave.
Road Segment: n/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,147 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,182 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.35	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-8.39	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-6.95	0.41	-1.20	*-5.41*	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	66.2	63.6	61.7	68.9	69.3
Medium Trucks:	70.3	68.8	64.1	63.3	70.8	71.1
Heavy Trucks:	76.5	74.5	71.7	71.0	78.0	78.3
Vehicle Noise:	77.9	76.0	73.0	72.1	79.2	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	459	989	2,131
CNEL:	222	479	1,031	2,221

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Cedar Ave.
Road Segment: s/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,318 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,746 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.62	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-9.36	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-7.92	0.41	-1.20	*-5.41*	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:	67.0	65.2	62.6	60.7	68.0	68.3
Medium Trucks:	69.3	67.8	63.1	62.3	69.8	70.1
Heavy Trucks:	75.5	73.5	70.8	70.0	77.0	77.3
Vehicle Noise:	76.9	75.0	72.0	71.1	78.2	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	184	396	852	1,837
CNEL:	191	412	889	1,914

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Cedar Ave.
Road Segment: s/o Jurupa Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,423 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,755 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.60	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.34	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.89	0.41	-1.20	-5.41	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:	67.0	65.2	62.6	60.7	68.0	68.3
Medium Trucks:	69.3	67.8	63.1	62.3	69.9	70.1
Heavy Trucks:	75.6	73.5	70.8	70.0	77.1	77.3
Vehicle Noise:	77.0	75.1	72.0	71.1	78.2	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	184	397	856	1,843
CNEL:	192	414	892	1,921

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Cedar Ave.
Road Segment: s/o 7th Street
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,316 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,836 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.86	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-9.60	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-8.16	0.41	-1.20	-5.41	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	66.7	64.1	62.2	69.5	69.8
Medium Trucks:	70.6	69.1	64.4	63.6	71.2	71.4
Heavy Trucks:	76.4	74.4	71.7	70.9	77.9	78.2
Vehicle Noise:	78.0	76.1	73.0	72.1	79.2	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	215	462	996	2,145
CNEL:	224	482	1,038	2,237

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Rubidoux Bl.
Road Segment: s/o El Rivino Rd
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,554 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,677 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.26	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.00	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.55	-0.60	-1.20	-5.35	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:	67.1	65.3	62.7	60.8	68.1	68.4
Medium Trucks:	69.2	67.7	63.0	62.2	69.8	70.0
Heavy Trucks:	75.0	73.0	70.2	69.5	76.5	76.8
Vehicle Noise:	76.6	74.7	71.6	70.7	77.8	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	196	423	911	1,962
CNEL:	205	441	950	2,046

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Rubidoux Bl.
Road Segment: s/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,902 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,347 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.21	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.95	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.50	-0.60	-1.20	-5.35	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:	66.2	64.4	61.8	59.8	67.1	67.5
Medium Trucks:	68.3	66.8	62.0	61.3	68.8	69.0
Heavy Trucks:	74.1	72.1	69.3	68.6	75.6	75.8
Vehicle Noise:	75.6	73.7	70.6	69.8	76.9	77.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	170	365	787	1,696
CNEL:	177	381	820	1,768

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Rubidoux Bl.
Road Segment: s/o 24th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,773 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,335 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.25	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.98	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.54	-0.60	-1.20	-5.35	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:	66.1	64.3	61.7	59.8	67.1	67.4
Medium Trucks:	68.2	66.7	62.0	61.2	68.8	69.0
Heavy Trucks:	74.0	72.0	69.3	68.5	75.5	75.8
Vehicle Noise:	75.6	73.7	70.6	69.7	76.8	77.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	169	363	782	1,686
CNEL:	176	379	816	1,757

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Rubidoux Bl.
Road Segment: s/o 26th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,808 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,338 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.24	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.97	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.53	-0.60	-1.20	-5.35	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:	66.1	64.3	61.7	59.8	67.1	67.4
Medium Trucks:	68.2	66.8	62.0	61.2	68.8	69.0
Heavy Trucks:	74.0	72.0	69.3	68.5	75.5	75.8
Vehicle Noise:	75.6	73.7	70.6	69.7	76.8	77.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	169	364	784	1,689
CNEL:	176	379	817	1,760

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Rubidoux Bl.
Road Segment: s/o 34th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,413 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,664 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.29	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.03	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.58	-0.60	-1.20	-5.35	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:	67.1	65.3	62.7	60.8	68.0	68.4
Medium Trucks:	69.2	67.7	63.0	62.2	69.7	70.0
Heavy Trucks:	75.0	73.0	70.2	69.5	76.5	76.7
Vehicle Noise:	76.5	74.6	71.6	70.7	77.8	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	195	421	906	1,952
CNEL:	204	439	945	2,035

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Market St.
Road Segment: n/o Rivera St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,724 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,873 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.32	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-9.06	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.61	-0.60	-1.20	-5.35	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	64.5	61.9	60.0	67.3	67.6
Medium Trucks:	68.6	67.1	62.4	61.6	69.1	69.4
Heavy Trucks:	74.8	72.8	70.1	69.3	76.3	76.6
Vehicle Noise:	76.2	74.3	71.3	70.4	77.5	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	187	403	868	1,870
CNEL:	195	420	905	1,950

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Market St.
Road Segment: s/o SR-60 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,465 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,030 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.03	1.63	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-8.71	1.67	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-7.26	1.66	-1.20	*-5.43*	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	67.1	64.5	62.6	69.9	70.2
Medium Trucks:	71.2	69.7	65.0	64.2	71.8	72.0
Heavy Trucks:	77.5	75.4	72.7	71.9	78.9	79.2
Vehicle Noise:	78.8	76.9	73.9	73.0	80.1	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	237	510	1,099	2,368
CNEL:	247	532	1,146	2,469

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Riverside Av.
Road Segment: n/o Agua Mansa Rd.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,060 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.54	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	82.40	-12.28	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	86.40	-10.84	0.41	-1.20	*-5.41*	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:	67.4	65.6	63.0	61.1	68.4	68.7
Medium Trucks:	69.3	67.9	63.1	62.3	69.9	70.1
Heavy Trucks:	74.8	72.8	70.0	69.2	76.3	76.5
Vehicle Noise:	76.4	74.6	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	169	365	787	1,695
CNEL:	177	381	820	1,767

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Agua Mansa Rd.
Road Segment: n/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,442 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	853 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.73	0.31	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	79.45	-12.47	0.34	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-11.03	0.34	-1.20	*-5.43*	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:	63.8	62.0	59.4	57.5	64.8	65.1
Medium Trucks:	66.1	64.6	59.9	59.1	66.7	66.9
Heavy Trucks:	72.4	70.3	67.6	66.8	73.8	74.1
Vehicle Noise:	73.8	71.9	68.8	67.9	75.0	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,084
CNEL:	113	243	524	1,130

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Slover Av.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,497 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.34	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-12.07	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-10.63	0.41	-1.20	*-5.41*	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:	66.1	64.2	61.6	59.7	67.0	67.3
Medium Trucks:	68.1	66.7	61.9	61.1	68.7	68.9
Heavy Trucks:	74.0	71.9	69.2	68.4	75.4	75.7
Vehicle Noise:	75.5	73.6	70.5	69.6	76.8	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	147	316	681	1,468
CNEL:	153	330	710	1,530

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Slover Av.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,631 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-4.58	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-13.32	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-11.87	0.41	-1.20	-5.41	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:	64.8	63.0	60.4	58.5	65.8	66.1
Medium Trucks:	66.9	65.4	60.7	59.9	67.4	67.7
Heavy Trucks:	72.7	70.7	67.9	67.2	74.2	74.5
Vehicle Noise:	74.2	72.4	69.3	68.4	75.5	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	121	261	563	1,212
CNEL:	126	272	587	1,264

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Santa Ana Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,081 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	640 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-4.47	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-13.21	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.76	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:	62.1	60.3	57.7	55.8	63.1	63.4
Medium Trucks:	64.6	63.1	58.4	57.6	65.2	65.4
Heavy Trucks:	71.3	69.3	66.6	65.8	72.8	73.1
Vehicle Noise:	72.6	70.7	67.6	66.8	73.9	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	172	371	799
CNEL:	83	179	387	833

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Santa Ana Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,979 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	450 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-6.00	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-14.74	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.29	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:	60.6	58.8	56.2	54.3	61.5	61.9
Medium Trucks:	63.1	61.6	56.9	56.1	63.6	63.9
Heavy Trucks:	69.8	67.8	65.0	64.3	71.3	71.6
Vehicle Noise:	71.1	69.1	66.1	65.3	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Jurupa Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,284 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	478 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.74	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-14.48	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.04	0.41	-1.20	-5.41	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:	60.0	58.1	55.5	53.6	60.9	61.2
Medium Trucks:	62.4	61.0	56.2	55.4	63.0	63.2
Heavy Trucks:	69.2	67.1	64.4	63.6	70.7	70.9
Vehicle Noise:	70.4	68.5	65.5	64.6	71.7	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	314	677
CNEL:	71	152	327	705

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,130 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	554 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-5.10	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-13.84	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-12.39	0.41	-1.20	*-5.41*	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:	60.6	58.8	56.2	54.3	61.6	61.9
Medium Trucks:	63.1	61.6	56.9	56.1	63.6	63.9
Heavy Trucks:	69.8	67.8	65.0	64.3	71.3	71.6
Vehicle Noise:	71.1	69.1	66.1	65.3	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	78	168	361	779

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: 7th St.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,695 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	515 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.93	5.10	-1.20	*-4.41*	0.000	0.000
Medium Trucks:	79.45	-14.67	5.22	-1.20	*-4.85*	0.000	0.000
Heavy Trucks:	84.25	-13.22	5.20	-1.20	*-5.94*	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	64.6	62.0	60.1	67.4	67.7
Medium Trucks:	68.8	67.3	62.6	61.8	69.3	69.6
Heavy Trucks:	75.0	73.0	70.3	69.5	76.5	76.8
Vehicle Noise:	76.4	74.5	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,464 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,488 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.32	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-10.06	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-8.61	-0.60	-1.20	*-5.35*	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:	65.3	63.5	60.9	59.0	66.3	66.6
Medium Trucks:	67.6	66.1	61.4	60.6	68.1	68.4
Heavy Trucks:	73.8	71.8	69.1	68.3	75.3	75.6
Vehicle Noise:	75.2	73.3	70.3	69.4	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	160	346	745	1,604
CNEL:	167	360	776	1,672

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,042 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	817 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.92	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-12.66	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-11.21	0.41	-1.20	*-5.41*	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:	63.7	61.9	59.3	57.4	64.7	65.0
Medium Trucks:	66.0	64.5	59.8	59.0	66.6	66.8
Heavy Trucks:	72.2	70.2	67.5	66.7	73.7	74.0
Vehicle Noise:	73.6	71.7	68.7	67.8	74.9	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	514	1,107
CNEL:	115	249	536	1,154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: n/o I-10 WB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,203 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,362 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.89%
Medium Trucks:	77.3%	6.5%	16.2%	10.07%
Heavy Trucks:	68.2%	9.0%	22.8%	14.04%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.74	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-6.03	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-4.58	0.41	-1.20	-5.41	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:	68.4	66.6	64.0	62.1	69.4	69.7
Medium Trucks:	70.9	69.4	64.7	63.9	71.4	71.7
Heavy Trucks:	77.6	75.6	72.8	72.1	79.1	79.4
Vehicle Noise:	78.9	77.0	73.9	73.1	80.2	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	248	534	1,150	2,477
CNEL:	258	556	1,199	2,582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o I-10 EB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,516 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,667 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.11%
Medium Trucks:	77.3%	6.5%	16.2%	9.51%
Heavy Trucks:	68.2%	9.0%	22.8%	13.39%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.29	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-7.80	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.31	0.41	-1.20	-5.41	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	67.1	64.5	62.6	69.9	70.2
Medium Trucks:	70.9	69.4	64.7	63.9	71.4	71.7
Heavy Trucks:	77.1	75.1	72.4	71.6	78.6	78.9
Vehicle Noise:	78.6	76.7	73.6	72.7	79.9	80.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	236	508	1,095	2,359
CNEL:	246	530	1,142	2,460

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: n/o Santa Ana Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,332 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.52%
Medium Trucks:	77.3%	6.5%	16.2%	9.33%
Heavy Trucks:	68.2%	9.0%	22.8%	13.15%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.82	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.37	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.88	0.41	-1.20	-5.41	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	66.6	64.1	62.1	69.4	69.7
Medium Trucks:	70.3	68.8	64.1	63.3	70.8	71.1
Heavy Trucks:	76.6	74.6	71.8	71.1	78.1	78.3
Vehicle Noise:	78.0	76.1	73.1	72.2	79.3	79.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	216	466	1,005	2,164
CNEL:	226	486	1,047	2,256

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Santa Ana Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,661 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,958 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.08%
Medium Trucks:	77.3%	6.5%	16.2%	9.08%
Heavy Trucks:	68.2%	9.0%	22.8%	12.84%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.00	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.34	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.83	0.41	-1.20	-5.41	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	65.8	63.2	61.3	68.6	68.9
Medium Trucks:	69.3	67.8	63.1	62.3	69.9	70.1
Heavy Trucks:	75.6	73.6	70.8	70.1	77.1	77.4
Vehicle Noise:	77.1	75.2	72.1	71.2	78.3	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	187	404	870	1,873
CNEL:	195	421	907	1,953

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Jurupa Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,926 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.22%
Medium Trucks:	77.3%	6.5%	16.2%	9.02%
Heavy Trucks:	68.2%	9.0%	22.8%	12.75%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.07	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.31	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.81	0.41	-1.20	-5.41	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	65.9	63.3	61.4	68.7	69.0
Medium Trucks:	69.3	67.9	63.1	62.3	69.9	70.1
Heavy Trucks:	75.6	73.6	70.9	70.1	77.1	77.4
Vehicle Noise:	77.1	75.2	72.2	71.3	78.4	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	188	405	873	1,881
CNEL:	196	423	910	1,961

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o 7th Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,872 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,067 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.18%
Medium Trucks:	77.3%	6.5%	16.2%	9.04%
Heavy Trucks:	68.2%	9.0%	22.8%	12.78%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.21	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-9.58	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-8.08	0.41	-1.20	-5.41	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:	69.2	67.4	64.8	62.8	70.1	70.5
Medium Trucks:	70.6	69.2	64.4	63.6	71.2	71.4
Heavy Trucks:	76.5	74.5	71.7	71.0	78.0	78.3
Vehicle Noise:	78.1	76.2	73.2	72.3	79.4	79.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	219	472	1,017	2,190
CNEL:	228	492	1,060	2,284

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o El Rivino Rd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,110 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,908 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.38%
Medium Trucks:	77.3%	6.5%	16.2%	8.95%
Heavy Trucks:	68.2%	9.0%	22.8%	12.67%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.55	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-9.97	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.46	-0.60	-1.20	-5.35	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	66.0	63.4	61.5	68.8	69.1
Medium Trucks:	69.2	67.8	63.0	62.2	69.8	70.0
Heavy Trucks:	75.1	73.1	70.3	69.6	76.6	76.9
Vehicle Noise:	76.7	74.8	71.8	70.9	78.0	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	201	433	932	2,007
CNEL:	209	451	972	2,093

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,948 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,532 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.55%
Medium Trucks:	77.3%	6.5%	16.2%	9.09%
Heavy Trucks:	68.2%	9.0%	22.8%	13.35%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.55	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.86	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.19	-0.60	-1.20	-5.35	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	65.0	62.4	60.5	67.8	68.1
Medium Trucks:	68.3	66.9	62.1	61.3	68.9	69.1
Heavy Trucks:	74.4	72.4	69.6	68.9	75.9	76.1
Vehicle Noise:	75.9	74.0	71.0	70.1	77.2	77.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	178	384	827	1,781
CNEL:	186	400	862	1,856

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Rubidoux Bl.
Road Segment: s/o 24th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,819 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,520 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	77.57%
Medium Trucks:	77.3%	6.5%	16.2%	9.09%
Heavy Trucks:	68.2%	9.0%	22.8%	13.35%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.58	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-10.89	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-9.22	-0.60	-1.20	*-5.35*	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	65.0	62.4	60.5	67.8	68.1
Medium Trucks:	68.3	66.8	62.1	61.3	68.9	69.1
Heavy Trucks:	74.4	72.3	69.6	68.8	75.8	76.1
Vehicle Noise:	75.9	74.0	70.9	70.0	77.2	77.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	177	382	822	1,771
CNEL:	185	398	857	1,847

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Rubidoux Bl.
Road Segment: s/o 26th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,218 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,466 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.68%
Medium Trucks:	77.3%	6.5%	16.2%	9.45%
Heavy Trucks:	68.2%	9.0%	22.8%	13.87%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.79	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-10.88	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-9.21	-0.60	-1.20	*-5.35*	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	64.8	62.2	60.3	67.5	67.9
Medium Trucks:	68.3	66.8	62.1	61.3	68.9	69.1
Heavy Trucks:	74.4	72.3	69.6	68.8	75.8	76.1
Vehicle Noise:	75.9	74.0	70.9	70.0	77.1	77.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	177	381	820	1,767
CNEL:	184	397	855	1,842

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Rubidoux Bl.
Road Segment: s/o 34th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,625 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,683 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.02%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.96%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.22	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-10.03	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-8.58	-0.60	-1.20	*-5.35*	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	65.3	62.7	60.8	68.1	68.4
Medium Trucks:	69.2	67.7	63.0	62.2	69.7	70.0
Heavy Trucks:	75.0	73.0	70.2	69.5	76.5	76.7
Vehicle Noise:	76.5	74.6	71.6	70.7	77.8	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	195	421	907	1,955
CNEL:	204	439	946	2,038

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Market St.
Road Segment: n/o Rivera St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,912 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.48%
Medium Trucks:	77.3%	6.5%	16.2%	9.68%
Heavy Trucks:	68.2%	9.0%	22.8%	13.84%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.03	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-9.01	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-7.46	-0.60	-1.20	*-5.35*	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	64.8	62.2	60.3	67.6	67.9
Medium Trucks:	68.6	67.2	62.4	61.6	69.2	69.4
Heavy Trucks:	75.0	73.0	70.2	69.5	76.5	76.7
Vehicle Noise:	76.4	74.5	71.4	70.6	77.7	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	191	412	888	1,914
CNEL:	200	430	926	1,995

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Market St.
Road Segment: s/o SR-60 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,825 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,063 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.48%
Medium Trucks:	77.3%	6.5%	16.2%	10.08%
Heavy Trucks:	68.2%	9.0%	22.8%	14.44%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.09	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-8.66	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.10	1.66	-1.20	-5.43	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:	69.0	67.2	64.6	62.6	69.9	70.3
Medium Trucks:	71.3	69.8	65.1	64.3	71.8	72.1
Heavy Trucks:	77.6	75.6	72.8	72.1	79.1	79.4
Vehicle Noise:	79.0	77.1	74.0	73.2	80.3	80.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	242	521	1,123	2,419
CNEL:	252	543	1,170	2,521

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Riverside Av.
Road Segment: n/o Agua Mansa Rd.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,347 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,116 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.13%
Medium Trucks:	77.3%	6.5%	16.2%	9.92%
Heavy Trucks:	68.2%	9.0%	22.8%	13.94%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.42	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-12.27	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-10.79	0.41	-1.20	-5.41	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	65.7	63.1	61.2	68.5	68.8
Medium Trucks:	69.3	67.9	63.1	62.4	69.9	70.1
Heavy Trucks:	74.8	72.8	70.0	69.3	76.3	76.6
Vehicle Noise:	76.5	74.6	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	171	368	793	1,708
CNEL:	178	384	826	1,780

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Agua Mansa Rd.
Road Segment: n/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,014 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	905 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.71%
Medium Trucks:	77.3%	6.5%	16.2%	9.62%
Heavy Trucks:	68.2%	9.0%	22.8%	13.67%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.42	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-12.44	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-10.91	0.34	-1.20	-5.43	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:	64.1	62.3	59.7	57.8	65.1	65.4
Medium Trucks:	66.1	64.7	59.9	59.2	66.7	66.9
Heavy Trucks:	72.5	70.5	67.7	67.0	74.0	74.2
Vehicle Noise:	73.9	72.0	68.9	68.1	75.2	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	110	238	512	1,104
CNEL:	115	248	534	1,151

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Slover Av.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,656 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,053 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.08%
Medium Trucks:	77.3%	6.5%	16.2%	9.99%
Heavy Trucks:	68.2%	9.0%	22.8%	13.93%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.26	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-12.07	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.63	0.41	-1.20	-5.41	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:	66.1	64.3	61.7	59.8	67.1	67.4
Medium Trucks:	68.1	66.7	61.9	61.1	68.7	68.9
Heavy Trucks:	74.0	71.9	69.2	68.4	75.4	75.7
Vehicle Noise:	75.5	73.6	70.5	69.7	76.8	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	147	317	682	1,470
CNEL:	153	330	711	1,532

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Slover Av. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,737 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	790 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.04%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.95%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-4.51	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-13.32	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-11.87	0.41	-1.20	-5.41	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	63.1	60.5	58.5	65.8	66.2
Medium Trucks:	66.9	65.4	60.7	59.9	67.4	67.7
Heavy Trucks:	72.7	70.7	67.9	67.2	74.2	74.5
Vehicle Noise:	74.3	72.4	69.3	68.4	75.5	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	121	262	563	1,214
CNEL:	127	273	587	1,265

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Santa Ana Ave. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,187 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	650 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.10%
Medium Trucks:	77.3%	6.5%	16.2%	9.98%
Heavy Trucks:	68.2%	9.0%	22.8%	13.92%

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	-4.39	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-13.21	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.76	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:	62.2	60.4	57.8	55.9	63.2	63.5
Medium Trucks:	64.6	63.1	58.4	57.6	65.2	65.4
Heavy Trucks:	71.3	69.3	66.6	65.8	72.8	73.1
Vehicle Noise:	72.6	70.7	67.7	66.8	73.9	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	172	371	800
CNEL:	83	180	387	834

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Santa Ana Ave. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,032 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	455 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.00%
Medium Trucks:	77.3%	6.5%	16.2%	10.02%
Heavy Trucks:	68.2%	9.0%	22.8%	13.98%

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	-5.94	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-14.74	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.29	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:	60.6	58.8	56.2	54.3	61.6	61.9
Medium Trucks:	63.1	61.6	56.9	56.1	63.6	63.9
Heavy Trucks:	69.8	67.8	65.0	64.3	71.3	71.6
Vehicle Noise:	71.1	69.2	66.1	65.3	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	66	142	306	659

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP | Project Name: Rubidoux
Road Name: Jurupa Ave. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,337 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	482 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.99%
Medium Trucks:	77.3%	6.5%	16.2%	10.03%
Heavy Trucks:	68.2%	9.0%	22.8%	13.98%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.68	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-14.48	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.04	0.41	-1.20	-5.41	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:	60.0	58.2	55.6	53.7	61.0	61.3
Medium Trucks:	62.4	61.0	56.2	55.4	63.0	63.2
Heavy Trucks:	69.2	67.1	64.4	63.6	70.7	70.9
Vehicle Noise:	70.4	68.5	65.5	64.6	71.7	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	314	677
CNEL:	71	152	328	706

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,236 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	564 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.16%
Medium Trucks:	77.3%	6.5%	16.2%	9.96%
Heavy Trucks:	68.2%	9.0%	22.8%	13.88%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.00	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-13.84	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.39	0.41	-1.20	-5.41	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	58.9	56.3	54.4	61.6	62.0
Medium Trucks:	63.1	61.6	56.9	56.1	63.6	63.9
Heavy Trucks:	69.8	67.8	65.0	64.3	71.3	71.6
Vehicle Noise:	71.1	69.2	66.1	65.3	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	161	347	748
CNEL:	78	168	362	780

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: 7th St.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,748 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	519 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.97%
Medium Trucks:	77.3%	6.5%	16.2%	10.03%
Heavy Trucks:	68.2%	9.0%	22.8%	13.99%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.88	5.10	-1.20	-4.41	0.000	0.000
Medium Trucks:	79.45	-14.67	5.22	-1.20	-4.85	0.000	0.000
Heavy Trucks:	84.25	-13.22	5.20	-1.20	-5.94	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:	66.5	64.7	62.1	60.1	67.4	67.8
Medium Trucks:	68.8	67.3	62.6	61.8	69.3	69.6
Heavy Trucks:	75.0	73.0	70.3	69.5	76.5	76.8
Vehicle Noise:	76.4	74.5	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	817
CNEL:	85	183	395	851

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,693 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,599 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.48%
Medium Trucks:	77.3%	6.5%	16.2%	9.59%
Heavy Trucks:	68.2%	9.0%	22.8%	13.93%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.96	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-9.98	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-8.36	-0.60	-1.20	-5.35	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:	65.7	63.9	61.3	59.3	66.6	67.0
Medium Trucks:	67.7	66.2	61.5	60.7	68.2	68.5
Heavy Trucks:	74.1	72.1	69.3	68.6	75.6	75.8
Vehicle Noise:	75.5	73.6	70.5	69.6	76.8	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	166	358	772	1,664
CNEL:	173	374	805	1,735

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,329 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	843 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.26%
Medium Trucks:	77.3%	6.5%	16.2%	9.86%
Heavy Trucks:	68.2%	9.0%	22.8%	13.88%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.76	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-12.64	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-11.15	0.41	-1.20	-5.41	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:	63.9	62.1	59.5	57.6	64.8	65.2
Medium Trucks:	66.0	64.5	59.8	59.0	66.6	66.8
Heavy Trucks:	72.3	70.3	67.5	66.8	73.8	74.1
Vehicle Noise:	73.7	71.8	68.8	67.9	75.0	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	112	241	519	1,118
CNEL:	117	251	541	1,166

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Cedar Ave.
Road Segment: n/o I-10 WB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,990 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	4,246 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.75	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-4.99	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-3.55	0.41	-1.20	*-5.41*	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:	69.4	67.6	65.0	63.1	70.4	70.7
Medium Trucks:	71.9	70.5	65.7	64.9	72.5	72.7
Heavy Trucks:	78.7	76.6	73.9	73.1	80.1	80.4
Vehicle Noise:	79.9	78.0	75.0	74.1	81.2	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	290	626	1,348	2,904
CNEL:	303	652	1,405	3,027

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Cedar Ave.
Road Segment: s/o I-10 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,432 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,925 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.89	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-5.84	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-4.40	0.41	-1.20	*-5.41*	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:	70.5	68.7	66.1	64.2	71.5	71.8
Medium Trucks:	72.8	71.3	66.6	65.8	73.4	73.6
Heavy Trucks:	79.1	77.0	74.3	73.5	80.5	80.8
Vehicle Noise:	80.5	78.6	75.5	74.6	81.7	82.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	315	679	1,463	3,152
CNEL:	329	708	1,525	3,285

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Cedar Ave.
Road Segment: n/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,323 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,463 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.35	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-6.39	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-4.94	0.41	-1.20	*-5.41*	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:	70.0	68.2	65.6	63.7	70.9	71.3
Medium Trucks:	72.3	70.8	66.1	65.3	72.8	73.1
Heavy Trucks:	78.5	76.5	73.7	73.0	80.0	80.3
Vehicle Noise:	79.9	78.0	75.0	74.1	81.2	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	290	625	1,346	2,900
CNEL:	302	651	1,403	3,023

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Cedar Ave.
Road Segment: s/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,303 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.87	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-6.87	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-5.42	0.41	-1.20	*-5.41*	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:	69.5	67.7	65.1	63.2	70.5	70.8
Medium Trucks:	71.8	70.3	65.6	64.8	72.3	72.6
Heavy Trucks:	78.0	76.0	73.3	72.5	79.5	79.8
Vehicle Noise:	79.4	77.5	74.5	73.6	80.7	81.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	269	580	1,250	2,693
CNEL:	281	605	1,303	2,807

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Jurupa Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,970 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,708 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.28	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-7.46	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.01	0.41	-1.20	-5.41	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	67.1	64.5	62.6	69.9	70.2
Medium Trucks:	71.2	69.7	65.0	64.2	71.8	72.0
Heavy Trucks:	77.4	75.4	72.7	71.9	78.9	79.2
Vehicle Noise:	78.8	76.9	73.9	73.0	80.1	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	246	530	1,142	2,461
CNEL:	257	553	1,191	2,566

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o 7th Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,841 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,697 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.81	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-7.93	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-6.49	0.41	-1.20	-5.41	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:	70.2	68.4	65.8	63.9	71.1	71.5
Medium Trucks:	72.3	70.8	66.1	65.3	72.8	73.1
Heavy Trucks:	78.1	76.1	73.3	72.6	79.6	79.9
Vehicle Noise:	79.6	77.7	74.7	73.8	80.9	81.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	277	597	1,287	2,772
CNEL:	289	623	1,341	2,890

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o El Rivino Rd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,761 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,509 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.49	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.25	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.80	-0.60	-1.20	-5.35	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	67.1	64.5	62.5	69.8	70.2
Medium Trucks:	71.0	69.5	64.8	64.0	71.5	71.7
Heavy Trucks:	76.8	74.8	72.0	71.3	78.3	78.5
Vehicle Noise:	78.3	76.4	73.3	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	257	553	1,192	2,567
CNEL:	268	577	1,242	2,676

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,025 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,442 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.38	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.36	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.92	-0.60	-1.20	-5.35	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:	68.8	66.9	64.3	62.4	69.7	70.0
Medium Trucks:	70.8	69.4	64.6	63.8	71.4	71.6
Heavy Trucks:	76.7	74.6	71.9	71.1	78.1	78.4
Vehicle Noise:	78.2	76.3	73.2	72.3	79.5	79.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	252	543	1,170	2,522
CNEL:	263	566	1,220	2,629

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Rubidoux Bl.
Road Segment: s/o 24th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,991 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,439 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.37	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.37	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.92	-0.60	-1.20	-5.35	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:	68.8	66.9	64.3	62.4	69.7	70.0
Medium Trucks:	70.8	69.4	64.6	63.8	71.4	71.6
Heavy Trucks:	76.7	74.6	71.9	71.1	78.1	78.4
Vehicle Noise:	78.2	76.3	73.2	72.3	79.5	79.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	252	543	1,169	2,519
CNEL:	263	566	1,219	2,627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Rubidoux Bl.
Road Segment: s/o 26th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,954 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,436 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.36	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.37	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.93	-0.60	-1.20	-5.35	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	66.9	64.3	62.4	69.7	70.0
Medium Trucks:	70.8	69.4	64.6	63.8	71.4	71.6
Heavy Trucks:	76.6	74.6	71.9	71.1	78.1	78.4
Vehicle Noise:	78.2	76.3	73.2	72.3	79.5	79.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	252	542	1,168	2,517
CNEL:	262	565	1,218	2,624

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Rubidoux Bl.
Road Segment: s/o 34th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,480 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,303 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.12	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.62	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.17	-0.60	-1.20	-5.35	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	66.7	64.1	62.2	69.5	69.8
Medium Trucks:	70.6	69.1	64.4	63.6	71.1	71.4
Heavy Trucks:	76.4	74.4	71.6	70.9	77.9	78.2
Vehicle Noise:	77.9	76.0	73.0	72.1	79.2	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	242	522	1,125	2,425
CNEL:	253	545	1,173	2,528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Market St.
Road Segment: n/o Rivera St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,080 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,538 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.00	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-7.74	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-6.29	-0.60	-1.20	-5.35	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	65.8	63.2	61.3	68.6	68.9
Medium Trucks:	69.9	68.4	63.7	62.9	70.5	70.7
Heavy Trucks:	76.2	74.1	71.4	70.6	77.6	77.9
Vehicle Noise:	77.5	75.7	72.6	71.7	78.8	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	229	493	1,063	2,290
CNEL:	239	514	1,108	2,387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: s/o SR-60 EB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,258 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.32	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-7.41	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-5.97	1.66	-1.20	-5.43	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:	70.2	68.4	65.8	63.9	71.2	71.5
Medium Trucks:	72.5	71.0	66.3	65.5	73.1	73.3
Heavy Trucks:	78.7	76.7	74.0	73.2	80.2	80.5
Vehicle Noise:	80.1	78.2	75.2	74.3	81.4	81.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	289	622	1,341	2,888
CNEL:	301	649	1,397	3,011

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Riverside Av. | Job Number: 15001
Road Segment: n/o Agua Mansa Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,667 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,410 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.10	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-8.83	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-7.39	0.41	-1.20	-5.41	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:	70.9	69.0	66.5	64.5	71.8	72.2
Medium Trucks:	72.8	71.3	66.6	65.8	73.3	73.6
Heavy Trucks:	78.2	76.2	73.4	72.7	79.7	80.0
Vehicle Noise:	79.9	78.0	74.9	74.0	81.1	81.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	288	620	1,335	2,876
CNEL:	300	646	1,392	2,999

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Agua Mansa Rd. | Job Number: 15001
Road Segment: n/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,934 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,621 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.95	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-9.69	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.24	0.34	-1.20	-5.43	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	64.8	62.2	60.3	67.6	67.9
Medium Trucks:	68.9	67.4	62.7	61.9	69.5	69.7
Heavy Trucks:	75.1	73.1	70.4	69.6	76.6	76.9
Vehicle Noise:	76.5	74.6	71.6	70.7	77.8	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	166	358	771	1,662
CNEL:	173	373	804	1,732

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC | Project Name: Rubidoux
Road Name: Slover Av. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,572 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,588 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.49	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-10.23	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-8.79	0.41	-1.20	-5.41	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	66.1	63.5	61.6	68.8	69.2
Medium Trucks:	70.0	68.5	63.8	63.0	70.5	70.8
Heavy Trucks:	75.8	73.8	71.0	70.3	77.3	77.6
Vehicle Noise:	77.3	75.4	72.4	71.5	78.6	78.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	195	420	904	1,948
CNEL:	203	437	942	2,030

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Slover Av.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,380 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,119 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.01	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-11.75	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.31	0.41	-1.20	-5.41	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	64.6	62.0	60.0	67.3	67.7
Medium Trucks:	68.5	67.0	62.3	61.5	69.0	69.3
Heavy Trucks:	74.3	72.3	69.5	68.8	75.8	76.0
Vehicle Noise:	75.8	73.9	70.9	70.0	77.1	77.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	154	332	716	1,542
CNEL:	161	346	746	1,608

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Santa Ana Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,051 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	728 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-3.91	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-12.65	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.21	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:	62.7	60.9	58.3	56.3	63.6	64.0
Medium Trucks:	65.2	63.7	59.0	58.2	65.7	66.0
Heavy Trucks:	71.9	69.9	67.1	66.4	73.4	73.6
Vehicle Noise:	73.1	71.2	68.2	67.3	74.4	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	188	404	870
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Santa Ana Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,556 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	592 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-4.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-13.54	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.10	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:	61.8	60.0	57.4	55.4	62.7	63.1
Medium Trucks:	64.3	62.8	58.1	57.3	64.8	65.1
Heavy Trucks:	71.0	69.0	66.2	65.5	72.5	72.8
Vehicle Noise:	72.2	70.3	67.3	66.5	73.6	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	352	759
CNEL:	79	170	367	791

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Jurupa Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,280 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,471 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.86	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-9.59	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-8.15	0.41	-1.20	-5.41	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:	64.8	63.0	60.4	58.5	65.8	66.1
Medium Trucks:	67.3	65.9	61.1	60.3	67.9	68.1
Heavy Trucks:	74.1	72.0	69.3	68.5	75.5	75.8
Vehicle Noise:	75.3	73.4	70.4	69.5	76.6	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	143	309	665	1,433
CNEL:	149	322	693	1,493

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,010 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	724 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.94	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-12.67	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.23	0.41	-1.20	-5.41	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:	61.8	59.9	57.3	55.4	62.7	63.0
Medium Trucks:	64.3	62.8	58.0	57.3	64.8	65.0
Heavy Trucks:	71.0	69.0	66.2	65.5	72.5	72.7
Vehicle Noise:	72.2	70.3	67.3	66.4	73.5	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	192	414	893
CNEL:	93	201	432	931

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: 7th St.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,705 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	787 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.09	5.10	-1.20	-4.41	0.000	0.000
Medium Trucks:	79.45	-12.82	5.22	-1.20	-4.85	0.000	0.000
Heavy Trucks:	84.25	-11.38	5.20	-1.20	-5.94	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:	68.3	66.5	63.9	61.9	69.2	69.6
Medium Trucks:	70.6	69.2	64.4	63.6	71.2	71.4
Heavy Trucks:	76.9	74.9	72.1	71.4	78.4	78.6
Vehicle Noise:	78.3	76.4	73.3	72.4	79.5	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	233	503	1,083
CNEL:	113	243	524	1,129

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,848 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,426 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.81	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-7.93	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-6.49	-0.60	-1.20	-5.35	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:	67.4	65.6	63.0	61.1	68.4	68.7
Medium Trucks:	69.7	68.2	63.5	62.7	70.3	70.5
Heavy Trucks:	76.0	73.9	71.2	70.4	77.4	77.7
Vehicle Noise:	77.4	75.5	72.4	71.5	78.6	78.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	222	479	1,032	2,223
CNEL:	232	499	1,075	2,317

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,848 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,426 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.81	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-7.93	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.49	0.41	-1.20	-5.41	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:	68.4	66.6	64.0	62.1	69.4	69.7
Medium Trucks:	70.7	69.3	64.5	63.7	71.3	71.5
Heavy Trucks:	77.0	75.0	72.2	71.5	78.5	78.7
Vehicle Noise:	78.4	76.5	73.4	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	229	493	1,062	2,287
CNEL:	238	514	1,107	2,384

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Cedar Ave.
Road Segment: n/o I-10 WB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,203 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	4,266 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.86%
Medium Trucks:	77.3%	6.5%	16.2%	10.08%
Heavy Trucks:	68.2%	9.0%	22.8%	14.06%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.77	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-4.99	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-3.55	0.41	-1.20	*-5.41*	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:	69.5	67.6	65.1	63.1	70.4	70.8
Medium Trucks:	71.9	70.5	65.7	64.9	72.5	72.7
Heavy Trucks:	78.7	76.6	73.9	73.1	80.1	80.4
Vehicle Noise:	79.9	78.0	75.0	74.1	81.2	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	291	626	1,349	2,905
CNEL:	303	652	1,406	3,028

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Cedar Ave.
Road Segment: s/o I-10 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,361 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	4,099 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.64%
Medium Trucks:	77.3%	6.5%	16.2%	9.72%
Heavy Trucks:	68.2%	9.0%	22.8%	13.64%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.13	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-5.83	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-4.36	0.41	-1.20	*-5.41*	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:	70.8	69.0	66.4	64.4	71.7	72.1
Medium Trucks:	72.8	71.4	66.6	65.8	73.4	73.6
Heavy Trucks:	79.1	77.1	74.3	73.6	80.6	80.9
Vehicle Noise:	80.5	78.6	75.6	74.7	81.8	82.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	318	685	1,475	3,178
CNEL:	331	714	1,538	3,313

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Cedar Ave.
Road Segment: n/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,518 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,662 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.90%
Medium Trucks:	77.3%	6.5%	16.2%	9.61%
Heavy Trucks:	68.2%	9.0%	22.8%	13.49%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.66	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-6.38	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-4.90	0.41	-1.20	*-5.41*	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:	70.3	68.5	65.9	64.0	71.3	71.6
Medium Trucks:	72.3	70.8	66.1	65.3	72.8	73.1
Heavy Trucks:	78.6	76.5	73.8	73.0	80.0	80.3
Vehicle Noise:	80.0	78.1	75.0	74.2	81.3	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	293	631	1,359	2,928
CNEL:	305	658	1,417	3,052

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Cedar Ave.
Road Segment: s/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,658 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,313 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	77.13%
Medium Trucks:	77.3%	6.5%	16.2%	9.51%
Heavy Trucks:	68.2%	9.0%	22.8%	13.36%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.24	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-6.86	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-5.38	0.41	-1.20	*-5.41*	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:	69.9	68.1	65.5	63.5	70.8	71.2
Medium Trucks:	71.8	70.3	65.6	64.8	72.4	72.6
Heavy Trucks:	78.1	76.1	73.3	72.6	79.6	79.8
Vehicle Noise:	79.5	77.6	74.6	73.7	80.8	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	272	587	1,264	2,724
CNEL:	284	612	1,318	2,839

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Jurupa Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,485 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,936 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.43%
Medium Trucks:	77.3%	6.5%	16.2%	9.38%
Heavy Trucks:	68.2%	9.0%	22.8%	13.19%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.73	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-7.44	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-5.96	0.41	-1.20	-5.41	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:	69.4	67.6	65.0	63.0	70.3	70.7
Medium Trucks:	71.2	69.7	65.0	64.2	71.8	72.0
Heavy Trucks:	77.5	75.5	72.7	72.0	79.0	79.3
Vehicle Noise:	78.9	77.0	74.0	73.1	80.2	80.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	249	537	1,158	2,494
CNEL:	260	560	1,207	2,600

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o 7th Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,409 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,929 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.47%
Medium Trucks:	77.3%	6.5%	16.2%	9.36%
Heavy Trucks:	68.2%	9.0%	22.8%	13.17%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.26	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-7.92	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-6.43	0.41	-1.20	-5.41	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:	70.7	68.8	66.2	64.3	71.6	71.9
Medium Trucks:	72.3	70.8	66.1	65.3	72.8	73.1
Heavy Trucks:	78.2	76.1	73.4	72.6	79.6	79.9
Vehicle Noise:	79.7	77.8	74.8	73.9	81.0	81.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	281	606	1,305	2,812
CNEL:	293	632	1,361	2,932

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o El Rivino Rd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,329 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,741 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.59%
Medium Trucks:	77.3%	6.5%	16.2%	9.31%
Heavy Trucks:	68.2%	9.0%	22.8%	13.10%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.98	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.23	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.74	-0.60	-1.20	-5.35	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:	69.4	67.5	65.0	63.0	70.3	70.6
Medium Trucks:	71.0	69.5	64.8	64.0	71.5	71.8
Heavy Trucks:	76.8	74.8	72.1	71.3	78.3	78.6
Vehicle Noise:	78.4	76.5	73.5	72.6	79.7	80.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	261	562	1,210	2,607
CNEL:	272	586	1,261	2,718

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,080 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,628 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.81%
Medium Trucks:	77.3%	6.5%	16.2%	9.52%
Heavy Trucks:	68.2%	9.0%	22.8%	13.67%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.76	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.31	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.74	-0.60	-1.20	-5.35	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:	69.1	67.3	64.7	62.8	70.1	70.4
Medium Trucks:	70.9	69.4	64.7	63.9	71.4	71.7
Heavy Trucks:	76.8	74.8	72.1	71.3	78.3	78.6
Vehicle Noise:	78.4	76.5	73.4	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	259	558	1,203	2,592
CNEL:	270	582	1,254	2,702

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 24th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,046 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,625 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.81%
Medium Trucks:	77.3%	6.5%	16.2%	9.52%
Heavy Trucks:	68.2%	9.0%	22.8%	13.67%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.75	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.32	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.75	-0.60	-1.20	-5.35	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:	69.1	67.3	64.7	62.8	70.1	70.4
Medium Trucks:	70.9	69.4	64.7	63.9	71.4	71.7
Heavy Trucks:	76.8	74.8	72.1	71.3	78.3	78.6
Vehicle Noise:	78.4	76.5	73.4	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	259	558	1,202	2,590
CNEL:	270	582	1,253	2,700

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 26th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,369 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,564 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.29%
Medium Trucks:	77.3%	6.5%	16.2%	9.74%
Heavy Trucks:	68.2%	9.0%	22.8%	13.98%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.62	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.32	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.75	-0.60	-1.20	-5.35	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:	69.0	67.2	64.6	62.7	70.0	70.3
Medium Trucks:	70.9	69.4	64.7	63.9	71.4	71.7
Heavy Trucks:	76.8	74.8	72.0	71.3	78.3	78.6
Vehicle Noise:	78.3	76.5	73.4	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	258	556	1,198	2,582
CNEL:	269	580	1,249	2,692

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 34th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,694 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,322 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.95%
Medium Trucks:	77.3%	6.5%	16.2%	10.04%
Heavy Trucks:	68.2%	9.0%	22.8%	14.01%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.17	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-8.62	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.17	-0.60	-1.20	-5.35	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	66.7	64.1	62.2	69.5	69.8
Medium Trucks:	70.6	69.1	64.4	63.6	71.1	71.4
Heavy Trucks:	76.4	74.4	71.6	70.9	77.9	78.2
Vehicle Noise:	77.9	76.1	73.0	72.1	79.2	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	243	523	1,126	2,426
CNEL:	253	545	1,174	2,530

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: n/o Rivera St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,273 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,645 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.30%
Medium Trucks:	77.3%	6.5%	16.2%	9.79%
Heavy Trucks:	68.2%	9.0%	22.8%	13.91%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.21	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-7.70	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-6.18	-0.60	-1.20	-5.35	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	66.0	63.4	61.5	68.8	69.1
Medium Trucks:	69.9	68.5	63.7	62.9	70.5	70.7
Heavy Trucks:	76.3	74.3	71.5	70.8	77.8	78.0
Vehicle Noise:	77.7	75.8	72.7	71.8	78.9	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	233	502	1,081	2,329
CNEL:	243	523	1,127	2,428

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: s/o SR-60 EB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,619 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,767 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.55%
Medium Trucks:	77.3%	6.5%	16.2%	10.09%
Heavy Trucks:	68.2%	9.0%	22.8%	14.36%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.36	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-7.38	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-5.85	1.66	-1.20	-5.43	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:	70.3	68.4	65.8	63.9	71.2	71.5
Medium Trucks:	72.5	71.1	66.3	65.5	73.1	73.3
Heavy Trucks:	78.9	76.9	74.1	73.4	80.4	80.6
Vehicle Noise:	80.2	78.3	75.3	74.4	81.5	81.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	293	632	1,362	2,934
CNEL:	306	659	1,420	3,059

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Riverside Av. | Job Number: 15001
Road Segment: n/o Agua Mansa Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,955 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,436 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.92%
Medium Trucks:	77.3%	6.5%	16.2%	10.03%
Heavy Trucks:	68.2%	9.0%	22.8%	14.04%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.04	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-8.83	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-7.37	0.41	-1.20	-5.41	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:	70.9	69.1	66.5	64.6	71.9	72.2
Medium Trucks:	72.8	71.3	66.6	65.8	73.3	73.6
Heavy Trucks:	78.2	76.2	73.5	72.7	79.7	80.0
Vehicle Noise:	79.9	78.0	74.9	74.0	81.2	81.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	289	622	1,340	2,886
CNEL:	301	648	1,397	3,009

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Agua Mansa Rd. | Job Number: 15001
Road Segment: n/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,509 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,673 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.27%
Medium Trucks:	77.3%	6.5%	16.2%	9.85%
Heavy Trucks:	68.2%	9.0%	22.8%	13.88%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.78	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-9.67	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.18	0.34	-1.20	-5.43	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	65.0	62.4	60.5	67.7	68.1
Medium Trucks:	68.9	67.4	62.7	61.9	69.5	69.7
Heavy Trucks:	75.2	73.2	70.4	69.7	76.7	77.0
Vehicle Noise:	76.6	74.7	71.7	70.8	77.9	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	168	362	779	1,678
CNEL:	175	377	812	1,750

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Slover Av. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,731 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,602 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.97%
Medium Trucks:	77.3%	6.5%	16.2%	10.04%
Heavy Trucks:	68.2%	9.0%	22.8%	14.00%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.44	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-10.23	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-8.79	0.41	-1.20	-5.41	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	66.1	63.5	61.6	68.9	69.2
Medium Trucks:	70.0	68.5	63.8	63.0	70.5	70.8
Heavy Trucks:	75.8	73.8	71.0	70.3	77.3	77.6
Vehicle Noise:	77.3	75.5	72.4	71.5	78.6	78.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	195	420	905	1,949
CNEL:	203	438	943	2,032

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Slover Av. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,487 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,128 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.95%
Medium Trucks:	77.3%	6.5%	16.2%	10.04%
Heavy Trucks:	68.2%	9.0%	22.8%	14.00%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.96	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-11.75	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.31	0.41	-1.20	-5.41	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	64.6	62.0	60.1	67.4	67.7
Medium Trucks:	68.5	67.0	62.3	61.5	69.0	69.3
Heavy Trucks:	74.3	72.3	69.5	68.8	75.8	76.0
Vehicle Noise:	75.8	73.9	70.9	70.0	77.1	77.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	154	333	716	1,543
CNEL:	161	347	747	1,609

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Santa Ana Ave. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,158 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	737 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.06%
Medium Trucks:	77.3%	6.5%	16.2%	10.00%
Heavy Trucks:	68.2%	9.0%	22.8%	13.94%

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	-3.84	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-12.65	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.21	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:	62.7	60.9	58.3	56.4	63.7	64.0
Medium Trucks:	65.2	63.7	59.0	58.2	65.7	66.0
Heavy Trucks:	71.9	69.9	67.1	66.4	73.4	73.6
Vehicle Noise:	73.1	71.2	68.2	67.4	74.5	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	188	404	871
CNEL:	91	196	422	908

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Santa Ana Ave. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,609 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	597 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.94%
Medium Trucks:	77.3%	6.5%	16.2%	10.05%
Heavy Trucks:	68.2%	9.0%	22.8%	14.01%

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	-4.76	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-13.54	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.10	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:	61.8	60.0	57.4	55.5	62.8	63.1
Medium Trucks:	64.3	62.8	58.1	57.3	64.8	65.1
Heavy Trucks:	71.0	69.0	66.2	65.5	72.5	72.8
Vehicle Noise:	72.3	70.3	67.3	66.5	73.6	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	352	759
CNEL:	79	171	367	792

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC | Project Name: Rubidoux
Road Name: Jurupa Ave. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,333 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,476 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.83%
Medium Trucks:	77.3%	6.5%	16.2%	10.09%
Heavy Trucks:	68.2%	9.0%	22.8%	14.08%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.84	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-9.59	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-8.15	0.41	-1.20	-5.41	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	63.0	60.4	58.5	65.8	66.1
Medium Trucks:	67.3	65.9	61.1	60.3	67.9	68.1
Heavy Trucks:	74.1	72.0	69.3	68.5	75.5	75.8
Vehicle Noise:	75.3	73.4	70.4	69.5	76.6	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	143	309	665	1,433
CNEL:	149	322	693	1,494

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,116 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	733 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.07%
Medium Trucks:	77.3%	6.5%	16.2%	10.00%
Heavy Trucks:	68.2%	9.0%	22.8%	13.94%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.86	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-12.67	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-11.23	0.41	-1.20	*-5.41*	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:	61.8	60.0	57.4	55.5	62.8	63.1
Medium Trucks:	64.3	62.8	58.0	57.3	64.8	65.0
Heavy Trucks:	71.0	69.0	66.2	65.5	72.5	72.7
Vehicle Noise:	72.2	70.3	67.3	66.4	73.5	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	193	415	894
CNEL:	93	201	432	932

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: 7th St.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,758 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	791 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.89%
Medium Trucks:	77.3%	6.5%	16.2%	10.07%
Heavy Trucks:	68.2%	9.0%	22.8%	14.04%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.05	5.10	-1.20	*-4.41*	0.000	0.000
Medium Trucks:	79.45	-12.82	5.22	-1.20	*-4.85*	0.000	0.000
Heavy Trucks:	84.25	-11.38	5.20	-1.20	*-5.94*	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:	68.3	66.5	63.9	62.0	69.3	69.6
Medium Trucks:	70.6	69.2	64.4	63.6	71.2	71.4
Heavy Trucks:	76.9	74.9	72.1	71.4	78.4	78.6
Vehicle Noise:	78.3	76.4	73.3	72.4	79.6	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,083
CNEL:	113	243	524	1,129

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,083 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,538 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.21%
Medium Trucks:	77.3%	6.5%	16.2%	9.79%
Heavy Trucks:	68.2%	9.0%	22.8%	14.00%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.03	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-7.89	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-6.33	-0.60	-1.20	*-5.35*	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	65.8	63.3	61.3	68.6	69.0
Medium Trucks:	69.8	68.3	63.6	62.8	70.3	70.6
Heavy Trucks:	76.1	74.1	71.3	70.6	77.6	77.9
Vehicle Noise:	77.5	75.6	72.6	71.7	78.8	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	227	490	1,055	2,273
CNEL:	237	511	1,100	2,370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,137 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,452 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.92%
Medium Trucks:	77.3%	6.5%	16.2%	10.04%
Heavy Trucks:	68.2%	9.0%	22.8%	14.04%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.86	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-7.93	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-6.47	0.41	-1.20	*-5.41*	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	66.7	64.1	62.2	69.5	69.8
Medium Trucks:	70.7	69.3	64.5	63.7	71.3	71.5
Heavy Trucks:	77.0	75.0	72.2	71.5	78.5	78.7
Vehicle Noise:	78.4	76.5	73.4	72.6	79.7	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	229	494	1,065	2,295
CNEL:	239	515	1,110	2,392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Cedar Ave.
Road Segment: n/o I-10 WB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,504 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,208 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.53	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-6.21	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-4.76	0.41	-1.20	*-5.41*	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	66.4	63.8	61.9	69.2	69.5
Medium Trucks:	70.7	69.2	64.5	63.7	71.3	71.5
Heavy Trucks:	77.4	75.4	72.7	71.9	78.9	79.2
Vehicle Noise:	78.7	76.8	73.7	72.9	80.0	80.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	241	519	1,118	2,409
CNEL:	251	541	1,166	2,511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Cedar Ave.
Road Segment: s/o I-10 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,842 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,787 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.41	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-7.33	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-5.89	0.41	-1.20	*-5.41*	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:	69.1	67.2	64.6	62.7	70.0	70.3
Medium Trucks:	71.3	69.9	65.1	64.3	71.9	72.1
Heavy Trucks:	77.6	75.6	72.8	72.1	79.1	79.3
Vehicle Noise:	79.0	77.1	74.0	73.1	80.3	80.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	251	540	1,164	2,509
CNEL:	262	563	1,214	2,615

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Cedar Ave.
Road Segment: n/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,357 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,292 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.56	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-8.18	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-6.74	0.41	-1.20	*-5.41*	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	66.4	63.8	61.9	69.2	69.5
Medium Trucks:	70.5	69.0	64.3	63.5	71.0	71.3
Heavy Trucks:	76.7	74.7	71.9	71.2	78.2	78.5
Vehicle Noise:	78.1	76.2	73.2	72.3	79.4	79.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	220	474	1,022	2,202
CNEL:	230	494	1,065	2,295

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Cedar Ave.
Road Segment: s/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,315 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,745 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.62	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-9.36	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-7.92	0.41	-1.20	*-5.41*	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:	67.0	65.2	62.6	60.7	68.0	68.3
Medium Trucks:	69.3	67.8	63.1	62.3	69.8	70.1
Heavy Trucks:	75.5	73.5	70.8	70.0	77.0	77.3
Vehicle Noise:	76.9	75.0	72.0	71.1	78.2	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	184	396	852	1,836
CNEL:	191	412	889	1,914

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o Jurupa Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,803 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,061 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.10	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.64	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.20	0.41	-1.20	-5.41	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	65.9	63.3	61.4	68.7	69.0
Medium Trucks:	70.0	68.5	63.8	63.0	70.6	70.8
Heavy Trucks:	76.3	74.2	71.5	70.7	77.7	78.0
Vehicle Noise:	77.7	75.8	72.7	71.8	78.9	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	205	442	952	2,051
CNEL:	214	461	992	2,138

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Cedar Ave. | Job Number: 15001
Road Segment: s/o 7th Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,978 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,438 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.37	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-8.37	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-6.92	0.41	-1.20	-5.41	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:	69.8	67.9	65.3	63.4	70.7	71.0
Medium Trucks:	71.8	70.4	65.6	64.8	72.4	72.6
Heavy Trucks:	77.7	75.6	72.9	72.1	79.1	79.4
Vehicle Noise:	79.2	77.3	74.2	73.3	80.5	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	259	558	1,203	2,592
CNEL:	270	582	1,254	2,702

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o El Rivino Rd

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,288 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,833 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.87	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-9.61	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.16	-0.60	-1.20	-5.35	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	65.7	63.1	61.2	68.5	68.8
Medium Trucks:	69.6	68.1	63.4	62.6	70.1	70.4
Heavy Trucks:	75.4	73.4	70.6	69.9	76.9	77.2
Vehicle Noise:	76.9	75.1	72.0	71.1	78.2	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	208	449	967	2,083
CNEL:	217	468	1,008	2,171

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,959 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,533 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.65	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.39	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.94	-0.60	-1.20	-5.35	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	64.9	62.3	60.4	67.7	68.0
Medium Trucks:	68.8	67.3	62.6	61.8	69.4	69.6
Heavy Trucks:	74.6	72.6	69.9	69.1	76.1	76.4
Vehicle Noise:	76.2	74.3	71.2	70.3	77.4	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	185	398	858	1,848
CNEL:	193	415	894	1,927

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 24th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,059 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,542 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.62	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.36	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.92	-0.60	-1.20	-5.35	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	64.9	62.3	60.4	67.7	68.0
Medium Trucks:	68.8	67.4	62.6	61.8	69.4	69.6
Heavy Trucks:	74.7	72.6	69.9	69.1	76.1	76.4
Vehicle Noise:	76.2	74.3	71.2	70.3	77.5	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	186	400	861	1,856
CNEL:	193	417	898	1,934

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 26th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,168 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,551 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.59	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.33	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.89	-0.60	-1.20	-5.35	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	65.0	62.4	60.5	67.7	68.1
Medium Trucks:	68.9	67.4	62.7	61.9	69.4	69.7
Heavy Trucks:	74.7	72.7	69.9	69.2	76.2	76.4
Vehicle Noise:	76.2	74.3	71.3	70.4	77.5	77.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	186	401	865	1,863
CNEL:	194	419	902	1,943

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Rubidoux Bl. | Job Number: 15001
Road Segment: s/o 34th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,794 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,698 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.20	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-9.94	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.49	-0.60	-1.20	-5.35	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	65.4	62.8	60.8	68.1	68.5
Medium Trucks:	69.3	67.8	63.1	62.3	69.8	70.1
Heavy Trucks:	75.1	73.1	70.3	69.6	76.6	76.8
Vehicle Noise:	76.6	74.7	71.7	70.8	77.9	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	198	426	919	1,979
CNEL:	206	445	958	2,063

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: n/o Rivera St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,771 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,058 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.09	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-8.65	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.20	-0.60	-1.20	-5.35	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	64.9	62.3	60.4	67.7	68.0
Medium Trucks:	69.0	67.5	62.8	62.0	69.6	69.8
Heavy Trucks:	75.2	73.2	70.5	69.7	76.7	77.0
Vehicle Noise:	76.6	74.7	71.7	70.8	77.9	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	199	429	924	1,991
CNEL:	208	447	964	2,076

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Market St.
Road Segment: s/o SR-60 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,253 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,372 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.71	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-8.03	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.59	1.66	-1.20	-5.43	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:	69.6	67.8	65.2	63.3	70.6	70.9
Medium Trucks:	71.9	70.4	65.7	64.9	72.4	72.7
Heavy Trucks:	78.1	76.1	73.4	72.6	79.6	79.9
Vehicle Noise:	79.5	77.6	74.6	73.7	80.8	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	263	566	1,220	2,627
CNEL:	274	590	1,271	2,739

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Riverside Av.
Road Segment: n/o Agua Mansa Rd.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,434 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,395 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.47	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-11.21	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-9.76	0.41	-1.20	-5.41	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	66.7	64.1	62.2	69.4	69.8
Medium Trucks:	70.4	68.9	64.2	63.4	71.0	71.2
Heavy Trucks:	75.8	73.8	71.1	70.3	77.3	77.6
Vehicle Noise:	77.5	75.6	72.5	71.6	78.8	79.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	200	430	927	1,998
CNEL:	208	449	967	2,083

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Agua Mansa Rd.
Road Segment: n/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,861 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,433 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.48	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-10.22	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.77	0.34	-1.20	-5.43	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:	66.1	64.3	61.7	59.8	67.0	67.4
Medium Trucks:	68.4	66.9	62.2	61.4	68.9	69.2
Heavy Trucks:	74.6	72.6	69.8	69.1	76.1	76.4
Vehicle Noise:	76.0	74.1	71.1	70.2	77.3	77.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	153	330	711	1,531
CNEL:	160	344	741	1,596

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Slover Av.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,904 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	985 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.57	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-12.30	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.86	0.41	-1.20	-5.41	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:	65.8	64.0	61.4	59.5	66.8	67.1
Medium Trucks:	67.9	66.4	61.7	60.9	68.5	68.7
Heavy Trucks:	73.7	71.7	68.9	68.2	75.2	75.5
Vehicle Noise:	75.3	73.4	70.3	69.4	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	142	305	658	1,417
CNEL:	148	318	686	1,477

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Slover Av.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,775 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,335 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.25	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-10.98	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-9.54	0.41	-1.20	*-5.41*	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:	67.1	65.3	62.7	60.8	68.1	68.4
Medium Trucks:	69.2	67.8	63.0	62.2	69.8	70.0
Heavy Trucks:	75.0	73.0	70.3	69.5	76.5	76.8
Vehicle Noise:	76.6	74.7	71.6	70.7	77.8	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	174	374	805	1,735
CNEL:	181	390	840	1,809

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Santa Ana Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,185 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	830 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-3.34	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	77.72	-12.08	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-10.64	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:	63.2	61.4	58.8	56.9	64.2	64.5
Medium Trucks:	65.7	64.3	59.5	58.8	66.3	66.5
Heavy Trucks:	72.5	70.5	67.7	66.9	74.0	74.2
Vehicle Noise:	73.7	71.8	68.8	67.9	75.0	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	205	441	950
CNEL:	99	213	460	991

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Santa Ana Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,420 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	580 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-4.90	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	77.72	-13.63	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-12.19	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:	61.7	59.9	57.3	55.4	62.6	63.0
Medium Trucks:	64.2	62.7	58.0	57.2	64.7	65.0
Heavy Trucks:	70.9	68.9	66.1	65.4	72.4	72.7
Vehicle Noise:	72.2	70.3	67.2	66.4	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	748
CNEL:	78	168	362	780

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Jurupa Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,181 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	739 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.84	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-12.58	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-11.14	0.41	-1.20	*-5.41*	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:	61.9	60.0	57.4	55.5	62.8	63.1
Medium Trucks:	64.3	62.9	58.1	57.3	64.9	65.1
Heavy Trucks:	71.1	69.0	66.3	65.5	72.5	72.8
Vehicle Noise:	72.3	70.4	67.4	66.5	73.6	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	91	195	420	906
CNEL:	94	203	438	944

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,285 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	839 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.29	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-12.03	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-10.59	0.41	-1.20	*-5.41*	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	60.6	58.0	56.1	63.4	63.7
Medium Trucks:	64.9	63.4	58.7	57.9	65.4	65.7
Heavy Trucks:	71.6	69.6	66.8	66.1	73.1	73.4
Vehicle Noise:	72.9	71.0	67.9	67.1	74.2	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	212	457	985
CNEL:	103	221	477	1,027

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: 7th St.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,870 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.39	5.10	-1.20	*-4.41*	0.000	0.000
Medium Trucks:	79.45	-11.13	5.22	-1.20	*-4.85*	0.000	0.000
Heavy Trucks:	84.25	-9.68	5.20	-1.20	*-5.94*	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:	70.0	68.2	65.6	63.6	70.9	71.3
Medium Trucks:	72.3	70.9	66.1	65.3	72.9	73.1
Heavy Trucks:	78.6	76.6	73.8	73.1	80.1	80.3
Vehicle Noise:	80.0	78.1	75.0	74.1	81.2	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	652	1,405
CNEL:	146	316	680	1,465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,044 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,173 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.33	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-8.41	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-6.97	-0.60	-1.20	*-5.35*	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:	67.0	65.1	62.6	60.6	67.9	68.2
Medium Trucks:	69.2	67.8	63.0	62.2	69.8	70.0
Heavy Trucks:	75.5	73.5	70.7	70.0	77.0	77.2
Vehicle Noise:	76.9	75.0	71.9	71.1	78.2	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	206	445	958	2,065
CNEL:	215	464	999	2,152

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HY
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,212 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,104 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.62	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-11.35	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-9.91	0.41	-1.20	*-5.41*	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	63.2	60.6	58.7	66.0	66.3
Medium Trucks:	67.3	65.8	61.1	60.3	67.9	68.1
Heavy Trucks:	73.6	71.5	68.8	68.0	75.0	75.3
Vehicle Noise:	74.9	73.0	70.0	69.1	76.2	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	135	291	628	1,353
CNEL:	141	304	655	1,410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Cedar Ave.
Road Segment: n/o I-10 WB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,716 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	3,228 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.89%
Medium Trucks:	77.3%	6.5%	16.2%	10.07%
Heavy Trucks:	68.2%	9.0%	22.8%	14.04%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.56	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-6.21	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-4.76	0.41	-1.20	-5.41	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:	68.3	66.4	63.8	61.9	69.2	69.5
Medium Trucks:	70.7	69.2	64.5	63.7	71.3	71.5
Heavy Trucks:	77.4	75.4	72.7	71.9	78.9	79.2
Vehicle Noise:	78.7	76.8	73.7	72.9	80.0	80.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	241	519	1,119	2,410
CNEL:	251	541	1,166	2,513

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Cedar Ave.
Road Segment: s/o I-10 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,762 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,961 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.97%
Medium Trucks:	77.3%	6.5%	16.2%	9.57%
Heavy Trucks:	68.2%	9.0%	22.8%	13.46%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.74	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-7.32	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-5.83	0.41	-1.20	-5.41	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:	69.4	67.6	65.0	63.0	70.3	70.7
Medium Trucks:	71.3	69.9	65.1	64.3	71.9	72.1
Heavy Trucks:	77.6	75.6	72.8	72.1	79.1	79.4
Vehicle Noise:	79.0	77.1	74.1	73.2	80.3	80.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	254	547	1,178	2,538
CNEL:	265	570	1,228	2,645

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Cedar Ave.
Road Segment: n/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,542 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,489 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.44%
Medium Trucks:	77.3%	6.5%	16.2%	9.36%
Heavy Trucks:	68.2%	9.0%	22.8%	13.20%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.01	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-8.16	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.67	0.41	-1.20	-5.41	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	66.8	64.2	62.3	69.6	69.9
Medium Trucks:	70.5	69.0	64.3	63.5	71.0	71.3
Heavy Trucks:	76.8	74.8	72.0	71.3	78.3	78.5
Vehicle Noise:	78.2	76.3	73.3	72.4	79.5	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	223	481	1,037	2,234
CNEL:	233	502	1,081	2,329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Cedar Ave.
Road Segment: s/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,659 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,957 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	78.08%
Medium Trucks:	77.3%	6.5%	16.2%	9.08%
Heavy Trucks:	68.2%	9.0%	22.8%	12.84%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.00	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-9.34	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-7.83	0.41	-1.20	-5.41	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	65.8	63.2	61.3	68.6	68.9
Medium Trucks:	69.3	67.8	63.1	62.3	69.9	70.1
Heavy Trucks:	75.6	73.6	70.8	70.1	77.1	77.4
Vehicle Noise:	77.1	75.2	72.1	71.2	78.3	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	187	404	869	1,873
CNEL:	195	421	906	1,953

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Cedar Ave.
Road Segment: s/o Jurupa Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,306 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,287 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	77.89%
Medium Trucks:	77.3%	6.5%	16.2%	9.17%
Heavy Trucks:	68.2%	9.0%	22.8%	12.94%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.67	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-8.62	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-7.13	0.41	-1.20	*-5.41*	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:	68.3	66.5	63.9	62.0	69.3	69.6
Medium Trucks:	70.0	68.6	63.8	63.0	70.6	70.8
Heavy Trucks:	76.3	74.3	71.6	70.8	77.8	78.1
Vehicle Noise:	77.8	75.9	72.8	71.9	79.1	79.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	209	450	969	2,087
CNEL:	218	469	1,010	2,176

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Cedar Ave.
Road Segment: s/o 7th Street
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,534 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,669 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	77.63%
Medium Trucks:	77.3%	6.5%	16.2%	9.29%
Heavy Trucks:	68.2%	9.0%	22.8%	13.08%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.87	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	81.00	-8.35	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-6.86	0.41	-1.20	*-5.41*	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:	70.3	68.4	65.8	63.9	71.2	71.5
Medium Trucks:	71.9	70.4	65.7	64.9	72.4	72.7
Heavy Trucks:	77.7	75.7	72.9	72.2	79.2	79.5
Vehicle Noise:	79.3	77.4	74.3	73.4	80.6	80.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	263	567	1,222	2,633
CNEL:	275	591	1,274	2,745

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Rubidoux Bl.
Road Segment: s/o El Rivino Rd
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,844 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,064 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	78.18%
Medium Trucks:	77.3%	6.5%	16.2%	9.04%
Heavy Trucks:	68.2%	9.0%	22.8%	12.78%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.22	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-9.58	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-8.08	-0.60	-1.20	*-5.35*	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	66.3	63.8	61.8	69.1	69.5
Medium Trucks:	69.6	68.1	63.4	62.6	70.2	70.4
Heavy Trucks:	75.5	73.5	70.7	70.0	77.0	77.2
Vehicle Noise:	77.1	75.2	72.1	71.2	78.4	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	213	458	987	2,127
CNEL:	222	478	1,029	2,217

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Rubidoux Bl.
Road Segment: s/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,005 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,717 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	77.36%
Medium Trucks:	77.3%	6.5%	16.2%	9.21%
Heavy Trucks:	68.2%	9.0%	22.8%	13.44%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.06	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-10.31	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-8.66	-0.60	-1.20	*-5.35*	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	65.5	62.9	61.0	68.3	68.6
Medium Trucks:	68.9	67.4	62.7	61.9	69.4	69.7
Heavy Trucks:	74.9	72.9	70.1	69.4	76.4	76.7
Vehicle Noise:	76.4	74.6	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	193	416	896	1,930
CNEL:	201	433	934	2,012

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Rubidoux Bl.
Road Segment: s/o 24th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,105 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,726 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	77.35%
Medium Trucks:	77.3%	6.5%	16.2%	9.21%
Heavy Trucks:	68.2%	9.0%	22.8%	13.44%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.04	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.28	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.64	-0.60	-1.20	-5.35	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	65.5	62.9	61.0	68.3	68.6
Medium Trucks:	68.9	67.4	62.7	61.9	69.5	69.7
Heavy Trucks:	74.9	72.9	70.2	69.4	76.4	76.7
Vehicle Noise:	76.5	74.6	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	194	417	899	1,937
CNEL:	202	435	937	2,019

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Rubidoux Bl.
Road Segment: s/o 26th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,577 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,679 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.56%
Medium Trucks:	77.3%	6.5%	16.2%	9.53%
Heavy Trucks:	68.2%	9.0%	22.8%	13.90%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.20	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-10.25	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.61	-0.60	-1.20	-5.35	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	65.4	62.8	60.8	68.1	68.5
Medium Trucks:	68.9	67.5	62.7	62.0	69.5	69.7
Heavy Trucks:	75.0	72.9	70.2	69.4	76.4	76.7
Vehicle Noise:	76.5	74.6	71.5	70.6	77.7	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	194	418	900	1,938
CNEL:	202	435	938	2,021

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Rubidoux Bl.
Road Segment: s/o 34th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,006 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,718 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.02%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.97%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.14	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-9.94	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-8.49	-0.60	-1.20	-5.35	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	65.4	62.8	60.9	68.2	68.5
Medium Trucks:	69.3	67.8	63.1	62.3	69.8	70.1
Heavy Trucks:	75.1	73.1	70.3	69.6	76.6	76.8
Vehicle Noise:	76.6	74.7	71.7	70.8	77.9	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	198	427	920	1,981
CNEL:	207	445	959	2,066

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Market St.
Road Segment: n/o Rivera St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,958 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.42%
Medium Trucks:	77.3%	6.5%	16.2%	9.72%
Heavy Trucks:	68.2%	9.0%	22.8%	13.86%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.35	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-8.61	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-7.06	-0.60	-1.20	-5.35	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:	67.0	65.2	62.6	60.7	67.9	68.3
Medium Trucks:	69.0	67.6	62.8	62.0	69.6	69.8
Heavy Trucks:	75.4	73.4	70.6	69.9	76.9	77.1
Vehicle Noise:	76.8	74.9	71.8	71.0	78.1	78.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	203	438	944	2,034
CNEL:	212	457	984	2,120

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Market St.
Road Segment: s/o SR-60 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,613 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,405 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.52%
Medium Trucks:	77.3%	6.5%	16.2%	10.08%
Heavy Trucks:	68.2%	9.0%	22.8%	14.40%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.75	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-7.99	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-6.44	1.66	-1.20	-5.43	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:	69.6	67.8	65.2	63.3	70.6	70.9
Medium Trucks:	71.9	70.5	65.7	64.9	72.5	72.7
Heavy Trucks:	78.3	76.3	73.5	72.8	79.8	80.0
Vehicle Noise:	79.6	77.7	74.7	73.8	80.9	81.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	268	576	1,242	2,675
CNEL:	279	601	1,295	2,789

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Riverside Av.
Road Segment: n/o Agua Mansa Rd.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,721 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,421 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.05%
Medium Trucks:	77.3%	6.5%	16.2%	9.97%
Heavy Trucks:	68.2%	9.0%	22.8%	13.98%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.37	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-11.20	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-9.73	0.41	-1.20	-5.41	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	66.8	64.2	62.3	69.5	69.9
Medium Trucks:	70.4	68.9	64.2	63.4	71.0	71.2
Heavy Trucks:	75.9	73.9	71.1	70.4	77.4	77.6
Vehicle Noise:	77.6	75.7	72.6	71.7	78.8	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	201	433	933	2,010
CNEL:	210	451	972	2,095

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Agua Mansa Rd.
Road Segment: n/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,433 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,485 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.34%
Medium Trucks:	77.3%	6.5%	16.2%	9.82%
Heavy Trucks:	68.2%	9.0%	22.8%	13.85%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.29	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-10.20	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-8.71	0.34	-1.20	-5.43	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	64.5	61.9	59.9	67.2	67.6
Medium Trucks:	68.4	66.9	62.2	61.4	68.9	69.2
Heavy Trucks:	74.7	72.7	69.9	69.2	76.2	76.4
Vehicle Noise:	76.1	74.2	71.1	70.3	77.4	77.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	155	334	719	1,548
CNEL:	161	348	749	1,614

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Slover Av.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,063 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.10%
Medium Trucks:	77.3%	6.5%	16.2%	9.98%
Heavy Trucks:	68.2%	9.0%	22.8%	13.92%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.48	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-12.30	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.86	0.41	-1.20	-5.41	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	64.1	61.5	59.6	66.9	67.2
Medium Trucks:	67.9	66.4	61.7	60.9	68.5	68.7
Heavy Trucks:	73.7	71.7	68.9	68.2	75.2	75.5
Vehicle Noise:	75.3	73.4	70.3	69.4	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	142	306	659	1,419
CNEL:	148	319	687	1,479

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP | Project Name: Rubidoux
Road Name: Slover Av. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,881 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,345 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.92%
Medium Trucks:	77.3%	6.5%	16.2%	10.06%
Heavy Trucks:	68.2%	9.0%	22.8%	14.02%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.20	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-10.98	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-9.54	0.41	-1.20	-5.41	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	65.4	62.8	60.8	68.1	68.5
Medium Trucks:	69.2	67.8	63.0	62.2	69.8	70.0
Heavy Trucks:	75.0	73.0	70.3	69.5	76.5	76.8
Vehicle Noise:	76.6	74.7	71.6	70.7	77.9	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	174	374	806	1,736
CNEL:	181	390	840	1,810

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP | Project Name: Rubidoux
Road Name: Santa Ana Ave. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,291 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	840 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	76.02%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.96%

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	-3.28	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-12.08	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-10.64	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:	63.3	61.5	58.9	57.0	64.3	64.6
Medium Trucks:	65.7	64.3	59.5	58.8	66.3	66.5
Heavy Trucks:	72.5	70.5	67.7	66.9	74.0	74.2
Vehicle Noise:	73.7	71.8	68.8	67.9	75.0	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	205	441	951
CNEL:	99	214	460	991

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP | Project Name: Rubidoux
Road Name: Santa Ana Ave. | Job Number: 15001
Road Segment: e/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,473 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.95%
Medium Trucks:	77.3%	6.5%	16.2%	10.05%
Heavy Trucks:	68.2%	9.0%	22.8%	14.01%

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	-4.85	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-13.63	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.19	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:	61.7	59.9	57.3	55.4	62.7	63.0
Medium Trucks:	64.2	62.7	58.0	57.2	64.7	65.0
Heavy Trucks:	70.9	68.9	66.1	65.4	72.4	72.7
Vehicle Noise:	72.2	70.3	67.2	66.4	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	161	348	749
CNEL:	78	168	362	781

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP | Project Name: Rubidoux
Road Name: Jurupa Ave. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,234 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	744 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.90%
Medium Trucks:	77.3%	6.5%	16.2%	10.06%
Heavy Trucks:	68.2%	9.0%	22.8%	14.03%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.81	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-12.58	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.14	0.41	-1.20	-5.41	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:	61.9	60.1	57.5	55.6	62.8	63.2
Medium Trucks:	64.3	62.9	58.1	57.3	64.9	65.1
Heavy Trucks:	71.1	69.0	66.3	65.5	72.5	72.8
Vehicle Noise:	72.3	70.4	67.4	66.5	73.6	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	195	421	906
CNEL:	94	203	438	944

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,391 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	849 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.02%
Medium Trucks:	77.3%	6.5%	16.2%	10.01%
Heavy Trucks:	68.2%	9.0%	22.8%	13.97%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.23	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-12.03	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-10.59	0.41	-1.20	*-5.41*	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	60.6	58.1	56.1	63.4	63.7
Medium Trucks:	64.9	63.4	58.7	57.9	65.4	65.7
Heavy Trucks:	71.6	69.6	66.8	66.1	73.1	73.4
Vehicle Noise:	72.9	71.0	67.9	67.1	74.2	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	99	212	458	986
CNEL:	103	221	477	1,028

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: 7th St.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,923 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,168 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.85%
Medium Trucks:	77.3%	6.5%	16.2%	10.09%
Heavy Trucks:	68.2%	9.0%	22.8%	14.07%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.36	5.10	-1.20	*-4.41*	0.000	0.000
Medium Trucks:	79.45	-11.13	5.22	-1.20	*-4.85*	0.000	0.000
Heavy Trucks:	84.25	-9.68	5.20	-1.20	*-5.94*	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:	70.0	68.2	65.6	63.7	71.0	71.3
Medium Trucks:	72.3	70.9	66.1	65.3	72.9	73.1
Heavy Trucks:	78.6	76.6	73.8	73.1	80.1	80.3
Vehicle Noise:	80.0	78.1	75.0	74.1	81.2	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	652	1,406
CNEL:	147	316	680	1,465

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,273 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	2,284 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.26%
Medium Trucks:	77.3%	6.5%	16.2%	9.75%
Heavy Trucks:	68.2%	9.0%	22.8%	13.99%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.57	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-8.36	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-6.79	-0.60	-1.20	*-5.35*	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	65.4	62.8	60.9	68.2	68.5
Medium Trucks:	69.3	67.8	63.1	62.3	69.8	70.1
Heavy Trucks:	75.7	73.6	70.9	70.1	77.1	77.4
Vehicle Noise:	77.0	75.1	72.1	71.2	78.3	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	212	456	983	2,118
CNEL:	221	476	1,025	2,208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: HYP
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,499 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	1,130 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	76.13%
Medium Trucks:	77.3%	6.5%	16.2%	9.93%
Heavy Trucks:	68.2%	9.0%	22.8%	13.94%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.49	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-11.34	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-9.86	0.41	-1.20	*-5.41*	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	63.3	60.7	58.8	66.1	66.4
Medium Trucks:	67.3	65.8	61.1	60.3	67.9	68.1
Heavy Trucks:	73.6	71.6	68.8	68.1	75.1	75.4
Vehicle Noise:	75.0	73.1	70.0	69.2	76.3	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	136	294	633	1,363
CNEL:	142	306	659	1,421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Cedar Ave.
Road Segment: n/o I-10 WB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-42.97	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-51.71	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-50.27	0.41	-1.20	-5.41	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:	22.7	20.9	18.3	16.4	23.7	24.0
Medium Trucks:	25.2	23.7	19.0	18.2	25.8	26.0
Heavy Trucks:	31.9	29.9	27.2	26.4	33.4	33.7
Vehicle Noise:	33.2	31.3	28.2	27.4	34.5	34.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	1	2
CNEL:	0	1	1	2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Cedar Ave.
Road Segment: s/o I-10 EB Ramps
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-52.22	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-50.78	0.41	-1.20	-5.41	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:	24.2	22.3	19.7	17.8	25.1	25.4
Medium Trucks:	26.4	25.0	20.2	19.4	27.0	27.2
Heavy Trucks:	32.7	30.7	27.9	27.2	34.2	34.4
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Cedar Ave.
Road Segment: n/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-52.22	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-50.78	0.41	-1.20	-5.41	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:	24.2	22.3	19.7	17.8	25.1	25.4
Medium Trucks:	26.4	25.0	20.2	19.4	27.0	27.2
Heavy Trucks:	32.7	30.7	27.9	27.2	34.2	34.4
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Cedar Ave.
Road Segment: s/o Santa Ana Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-52.22	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-50.78	0.41	-1.20	-5.41	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:	24.2	22.3	19.7	17.8	25.1	25.4
Medium Trucks:	26.4	25.0	20.2	19.4	27.0	27.2
Heavy Trucks:	32.7	30.7	27.9	27.2	34.2	34.4
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Cedar Ave.
Road Segment: s/o Jurupa Av.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	79.45	-52.22	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-50.78	0.41	-1.20	-5.41	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:	24.2	22.3	19.7	17.8	25.1	25.4
Medium Trucks:	26.4	25.0	20.2	19.4	27.0	27.2
Heavy Trucks:	32.7	30.7	27.9	27.2	34.2	34.4
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Cedar Ave.
Road Segment: s/o 7th Street
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-52.68	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-51.23	0.41	-1.20	-5.41	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:	25.4	23.6	21.0	19.1	26.4	26.7
Medium Trucks:	27.5	26.1	21.3	20.5	28.1	28.3
Heavy Trucks:	33.4	31.3	28.6	27.8	34.8	35.1
Vehicle Noise:	34.9	33.0	29.9	29.0	36.2	36.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Rubidoux Bl.
Road Segment: s/o El Rivino Rd
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-52.68	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-51.23	-0.60	-1.20	-5.35	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:	24.4	22.6	20.0	18.1	25.4	25.7
Medium Trucks:	26.5	25.0	20.3	19.5	27.1	27.3
Heavy Trucks:	32.3	30.3	27.6	26.8	33.8	34.1
Vehicle Noise:	33.9	32.0	28.9	28.0	35.1	35.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Rubidoux Bl.
Road Segment: s/o Market St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-52.68	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-51.23	-0.60	-1.20	-5.35	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:	24.4	22.6	20.0	18.1	25.4	25.7
Medium Trucks:	26.5	25.0	20.3	19.5	27.1	27.3
Heavy Trucks:	32.3	30.3	27.6	26.8	33.8	34.1
Vehicle Noise:	33.9	32.0	28.9	28.0	35.1	35.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Rubidoux Bl.
Road Segment: s/o 24th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-52.68	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-51.23	-0.60	-1.20	-5.35	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:	24.4	22.6	20.0	18.1	25.4	25.7
Medium Trucks:	26.5	25.0	20.3	19.5	27.1	27.3
Heavy Trucks:	32.3	30.3	27.6	26.8	33.8	34.1
Vehicle Noise:	33.9	32.0	28.9	28.0	35.1	35.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Rubidoux Bl.
Road Segment: s/o 26th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-52.68	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-51.23	-0.60	-1.20	-5.35	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:	24.4	22.6	20.0	18.1	25.4	25.7
Medium Trucks:	26.5	25.0	20.3	19.5	27.1	27.3
Heavy Trucks:	32.3	30.3	27.6	26.8	33.8	34.1
Vehicle Noise:	33.9	32.0	28.9	28.0	35.1	35.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Rubidoux Bl.
Road Segment: s/o 34th St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-52.68	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-51.23	-0.60	-1.20	-5.35	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:	24.4	22.6	20.0	18.1	25.4	25.7
Medium Trucks:	26.5	25.0	20.3	19.5	27.1	27.3
Heavy Trucks:	32.3	30.3	27.6	26.8	33.8	34.1
Vehicle Noise:	33.9	32.0	28.9	28.0	35.1	35.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Market St.
Road Segment: n/o Rivera St.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-52.22	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-50.78	-0.60	-1.20	-5.35	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:	23.2	21.3	18.7	16.8	24.1	24.4
Medium Trucks:	25.4	24.0	19.2	18.4	26.0	26.2
Heavy Trucks:	31.7	29.7	26.9	26.2	33.2	33.4
Vehicle Noise:	33.1	31.2	28.1	27.2	34.4	34.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	2
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a | Project Name: Rubidoux
Road Name: Market St. | Job Number: 15001
Road Segment: s/o SR-60 EB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	65 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	38.324
Medium Trucks:	38.093
Heavy Trucks:	38.115

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	1.63	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-52.22	1.67	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-50.78	1.66	-1.20	-5.43	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:	25.4	23.6	21.0	19.1	26.4	26.7
Medium Trucks:	27.7	26.2	21.5	20.7	28.2	28.5
Heavy Trucks:	33.9	31.9	29.2	28.4	35.4	35.7
Vehicle Noise:	35.3	33.4	30.4	29.5	36.6	36.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a | Project Name: Rubidoux
Road Name: Riverside Av. | Job Number: 15001
Road Segment: n/o Agua Mansa Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-44.36	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	82.40	-53.09	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	86.40	-51.65	0.41	-1.20	-5.41	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:	26.6	24.8	22.2	20.3	27.6	27.9
Medium Trucks:	28.5	27.0	22.3	21.5	29.1	29.3
Heavy Trucks:	34.0	31.9	29.2	28.4	35.4	35.7
Vehicle Noise:	35.6	33.7	30.7	29.8	36.9	37.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	2	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a | Project Name: Rubidoux
Road Name: Agua Mansa Rd. | Job Number: 15001
Road Segment: n/o Market St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-43.48	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-52.22	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-50.78	0.34	-1.20	-5.43	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:	24.1	22.3	19.7	17.8	25.0	25.4
Medium Trucks:	26.4	24.9	20.2	19.4	26.9	27.2
Heavy Trucks:	32.6	30.6	27.8	27.1	34.1	34.4
Vehicle Noise:	34.0	32.1	29.1	28.2	35.3	35.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	2
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a | Project Name: Rubidoux
Road Name: Slover Av. | Job Number: 15001
Road Segment: w/o Cedar Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-52.68	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-51.23	0.41	-1.20	-5.41	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:	25.4	23.6	21.0	19.1	26.4	26.7
Medium Trucks:	27.5	26.1	21.3	20.5	28.1	28.3
Heavy Trucks:	33.4	31.3	28.6	27.8	34.8	35.1
Vehicle Noise:	34.9	33.0	29.9	29.0	36.2	36.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

Monday, December 5, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Slover Av.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-43.94	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	81.00	-52.68	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-51.23	0.41	-1.20	-5.41	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:	25.4	23.6	21.0	19.1	26.4	26.7
Medium Trucks:	27.5	26.1	21.3	20.5	28.1	28.3
Heavy Trucks:	33.4	31.3	28.6	27.8	34.8	35.1
Vehicle Noise:	34.9	33.0	29.9	29.0	36.2	36.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Santa Ana Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-42.97	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-51.71	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-50.27	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:	23.6	21.8	19.2	17.3	24.6	24.9
Medium Trucks:	26.1	24.6	19.9	19.1	26.7	26.9
Heavy Trucks:	32.8	30.8	28.1	27.3	34.3	34.6
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	1	2
CNEL:	0	0	1	2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Santa Ana Ave.
Road Segment: e/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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	-42.97	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-51.71	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-50.27	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:	23.6	21.8	19.2	17.3	24.6	24.9
Medium Trucks:	26.1	24.6	19.9	19.1	26.7	26.9
Heavy Trucks:	32.8	30.8	28.1	27.3	34.3	34.6
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	1	2
CNEL:	0	0	1	2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Jurupa Ave.
Road Segment: w/o Cedar Ave.
Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-42.97	0.38	-1.20	-4.66	0.000	0.000
Medium Trucks:	77.72	-51.71	0.41	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-50.27	0.41	-1.20	-5.41	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:	22.7	20.9	18.3	16.4	23.7	24.0
Medium Trucks:	25.2	23.7	19.0	18.2	25.8	26.0
Heavy Trucks:	31.9	29.9	27.2	26.4	33.4	33.7
Vehicle Noise:	33.2	31.3	28.2	27.4	34.5	34.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	1	2
CNEL:	0	1	1	2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Jurupa Ave.
Road Segment: e/o Cedar Ave.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-42.97	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	77.72	-51.71	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-50.27	0.41	-1.20	*-5.41*	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:	22.7	20.9	18.3	16.4	23.7	24.0
Medium Trucks:	25.2	23.7	19.0	18.2	25.8	26.0
Heavy Trucks:	31.9	29.9	27.2	26.4	33.4	33.7
Vehicle Noise:	33.2	31.3	28.2	27.4	34.5	34.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	1	2
CNEL:	0	1	1	2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: 7th St.
Road Segment: w/o Cedar Ave.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	25.0 feet
Centerline Dist. to Observer:	25.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	22.494
Medium Trucks:	22.098
Heavy Trucks:	22.136

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-43.48	5.10	-1.20	*-4.41*	0.000	0.000
Medium Trucks:	79.45	-52.22	5.22	-1.20	*-4.85*	0.000	0.000
Heavy Trucks:	84.25	-50.78	5.20	-1.20	*-5.94*	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:	28.9	27.1	24.5	22.5	29.8	30.2
Medium Trucks:	31.2	29.8	25.0	24.2	31.8	32.0
Heavy Trucks:	37.5	35.5	32.7	32.0	39.0	39.2
Vehicle Noise:	38.9	37.0	33.9	33.0	40.2	40.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	1	3
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Market St.
Road Segment: e/o Rubidoux Bl.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-43.48	-0.62	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	79.45	-52.22	-0.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-50.78	-0.60	-1.20	*-5.35*	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:	23.2	21.3	18.7	16.8	24.1	24.4
Medium Trucks:	25.4	24.0	19.2	18.4	26.0	26.2
Heavy Trucks:	31.7	29.7	26.9	26.2	33.2	33.4
Vehicle Noise:	33.1	31.2	28.1	27.2	34.4	34.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	1	2
CNEL:	0	1	1	3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: n/a
Road Name: Agua Mansa Rd.
Road Segment: e/o Riverside Ave.

Project Name: Rubidoux
Job Number: 15001

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	9.04%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	52.0 feet
Centerline Dist. to Observer:	52.0 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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	71.3%	9.8%	18.9%	75.75%
Medium Trucks:	77.3%	6.5%	16.2%	10.13%
Heavy Trucks:	68.2%	9.0%	22.8%	14.13%

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:	46.400
Medium Trucks:	46.209
Heavy Trucks:	46.228

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-43.48	0.38	-1.20	*-4.66*	0.000	0.000
Medium Trucks:	79.45	-52.22	0.41	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-50.78	0.41	-1.20	*-5.41*	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:	24.2	22.3	19.7	17.8	25.1	25.4
Medium Trucks:	26.4	25.0	20.2	19.4	27.0	27.2
Heavy Trucks:	32.7	30.7	27.9	27.2	34.2	34.4
Vehicle Noise:	34.1	32.2	29.1	28.3	35.4	35.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	1	1	3
CNEL:	0	1	1	3

APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

This page intentionally left blank

15001 - Rubidoux

CadnaA Noise Prediction Model: 15001-02f.cna
Date: 16.08.22
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	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
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 Rvcr - 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		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	45.0	44.9	51.6	65.0	45.0	0.0				5.00	r	6213508.39	2316427.43	967.88
RECEIVERS		R2	37.6	37.2	43.9	65.0	45.0	0.0				5.00	r	6215117.34	2315176.99	880.00
RECEIVERS		R3	40.8	40.6	47.3	65.0	45.0	0.0				5.00	r	6214863.86	2314715.19	888.25
RECEIVERS		R4	47.7	47.5	54.2	65.0	45.0	0.0				5.00	r	6214230.53	2314127.51	876.75
RECEIVERS		R5	44.3	44.2	50.9	65.0	45.0	0.0				5.00	r	6213288.76	2313598.39	887.55
RECEIVERS		R6	39.2	39.0	45.6	65.0	45.0	0.0				5.00	r	6213110.04	2313371.13	883.92

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PARK01	81.1	81.1	81.1	Lw	81.1					5.00	r	6214124.61	2314284.65	881.20
POINTSOURCE		PARK02	81.1	81.1	81.1	Lw	81.1					5.00	r	6214190.46	2314290.31	879.60
POINTSOURCE		PARK03	81.1	81.1	81.1	Lw	81.1					5.00	r	6214207.95	2314230.64	878.35
POINTSOURCE		PARK04	81.1	81.1	81.1	Lw	81.1					5.00	r	6214272.25	2314212.12	876.82
POINTSOURCE		PARK05	81.1	81.1	81.1	Lw	81.1					5.00	r	6213753.90	2314860.44	906.99
POINTSOURCE		PARK06	81.1	81.1	81.1	Lw	81.1					5.00	r	6213705.65	2314895.03	908.38
POINTSOURCE		PARK07	81.1	81.1	81.1	Lw	81.1					5.00	r	6213728.41	2314756.66	905.56
POINTSOURCE		PARK08	81.1	81.1	81.1	Lw	81.1					5.00	r	6213682.90	2314700.22	904.58
POINTSOURCE		PARK09	81.1	81.1	81.1	Lw	81.1					5.00	r	6213621.90	2314620.12	902.93
POINTSOURCE		PARK10	81.1	81.1	81.1	Lw	81.1					5.00	r	6213560.91	2314541.83	901.61
POINTSOURCE		PARK11	81.1	81.1	81.1	Lw	81.1					5.00	r	6213499.01	2314464.45	901.59
POINTSOURCE		PARK12	81.1	81.1	81.1	Lw	81.1					5.00	r	6213441.66	2314386.17	901.28

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PARK13	81.1	81.1	81.1	Lw	81.1					5.00	r	6213389.78	2314321.53	902.27
POINTSOURCE		PARK14	81.1	81.1	81.1	Lw	81.1					5.00	r	6213348.81	2314261.45	902.00
POINTSOURCE		PARK15	81.1	81.1	81.1	Lw	81.1					5.00	r	6213247.77	2314014.76	897.80
POINTSOURCE		PARK16	81.1	81.1	81.1	Lw	81.1					5.00	r	6213150.36	2313996.55	900.15
POINTSOURCE		PARK17	81.1	81.1	81.1	Lw	81.1					5.00	r	6213178.58	2313924.64	898.90
POINTSOURCE		PARK18	81.1	81.1	81.1	Lw	81.1					5.00	r	6213096.66	2313923.73	900.94
POINTSOURCE		PARK19	81.1	81.1	81.1	Lw	81.1					5.00	r	6213094.83	2313854.88	900.50
POINTSOURCE		PARK20	81.1	81.1	81.1	Lw	81.1					5.00	r	6213029.29	2313828.15	902.19
POINTSOURCE		PARK21	81.1	81.1	81.1	Lw	81.1					5.00	r	6213035.66	2313736.20	914.53
POINTSOURCE		PARK22	81.1	81.1	81.1	Lw	81.1					5.00	r	6212968.30	2313738.02	902.31
POINTSOURCE		PARK23	81.1	81.1	81.1	Lw	81.1					5.00	r	6212868.17	2313764.42	907.35
POINTSOURCE		PARK24	81.1	81.1	81.1	Lw	81.1					5.00	r	6212791.70	2313825.41	908.39
POINTSOURCE		PARK25	81.1	81.1	81.1	Lw	81.1					5.00	r	6212714.32	2313881.85	909.81
POINTSOURCE		PARK26	81.1	81.1	81.1	Lw	81.1					5.00	r	6212640.59	2313937.38	912.71
POINTSOURCE		PARK27	81.1	81.1	81.1	Lw	81.1					5.00	r	6212564.12	2313999.28	915.02
POINTSOURCE		PARK28	81.1	81.1	81.1	Lw	81.1					5.00	r	6212489.48	2314054.81	917.26
POINTSOURCE		PARK29	81.1	81.1	81.1	Lw	81.1					5.00	r	6212412.10	2314120.36	920.32
POINTSOURCE		PARK30	81.1	81.1	81.1	Lw	81.1					5.00	r	6212621.41	2314546.58	936.24
POINTSOURCE		PARK31	81.1	81.1	81.1	Lw	81.1					5.00	r	6212587.12	2314574.31	938.40
POINTSOURCE		PARK32	81.1	81.1	81.1	Lw	81.1					5.00	r	6212519.99	2314510.10	937.72
POINTSOURCE		PARK33	81.1	81.1	81.1	Lw	81.1					5.00	r	6212485.70	2314461.21	930.61
POINTSOURCE		PARK34	81.1	81.1	81.1	Lw	81.1					5.00	r	6212449.22	2314408.67	932.60
POINTSOURCE		PARK35	81.1	81.1	81.1	Lw	81.1					5.00	r	6212408.35	2314353.95	933.12
POINTSOURCE		PARK36	81.1	81.1	81.1	Lw	81.1					5.00	r	6212422.95	2314528.34	937.26
POINTSOURCE		PARK37	81.1	81.1	81.1	Lw	81.1					5.00	r	6212465.27	2314622.46	937.57
POINTSOURCE		PARK38	81.1	81.1	81.1	Lw	81.1					5.00	r	6212514.15	2314684.49	948.35
POINTSOURCE		PARK39	81.1	81.1	81.1	Lw	81.1					5.00	r	6212576.91	2314764.02	965.04
POINTSOURCE		PARK40	81.1	81.1	81.1	Lw	81.1					5.00	r	6212630.17	2314836.25	962.53
POINTSOURCE		PARK41	81.1	81.1	81.1	Lw	81.1					5.00	r	6212693.65	2314917.98	942.88
POINTSOURCE		PARK42	81.1	81.1	81.1	Lw	81.1					5.00	r	6212751.29	2314992.40	934.15
POINTSOURCE		PARK43	81.1	81.1	81.1	Lw	81.1					5.00	r	6212809.67	2315069.01	937.54
POINTSOURCE		PARK44	81.1	81.1	81.1	Lw	81.1					5.00	r	6212870.23	2315147.09	932.40
POINTSOURCE		PARK45	81.1	81.1	81.1	Lw	81.1					5.00	r	6212929.33	2315225.89	945.54
POINTSOURCE		PARK46	81.1	81.1	81.1	Lw	81.1					5.00	r	6212982.59	2315291.56	940.95
POINTSOURCE		PARK47	81.1	81.1	81.1	Lw	81.1					5.00	r	6213071.61	2315306.15	937.86
POINTSOURCE		PARK48	81.1	81.1	81.1	Lw	81.1					5.00	r	6213023.46	2315348.47	940.35
POINTSOURCE		PARK49	81.1	81.1	81.1	Lw	81.1					5.00	r	6214567.41	2315158.03	904.36
POINTSOURCE		PARK50	81.1	81.1	81.1	Lw	81.1					5.00	r	6214493.72	2315215.68	911.11
POINTSOURCE		PARK51	81.1	81.1	81.1	Lw	81.1					5.00	r	6214422.21	2315270.40	925.29
POINTSOURCE		PARK52	81.1	81.1	81.1	Lw	81.1					5.00	r	6214353.62	2315322.94	927.42
POINTSOURCE		PARK53	81.1	81.1	81.1	Lw	81.1					5.00	r	6214282.84	2315377.66	932.82
POINTSOURCE		PARK54	81.1	81.1	81.1	Lw	81.1					5.00	r	6214214.99	2315428.01	935.65
POINTSOURCE		PARK55	81.1	81.1	81.1	Lw	81.1					5.00	r	6214150.78	2315473.97	928.25
POINTSOURCE		PARK56	81.1	81.1	81.1	Lw	81.1					5.00	r	6214089.48	2315522.13	929.11
POINTSOURCE		PARK57	81.1	81.1	81.1	Lw	81.1					5.00	r	6214025.28	2315568.83	934.54
POINTSOURCE		PARK58	81.1	81.1	81.1	Lw	81.1					5.00	r	6213912.91	2315659.31	940.75
POINTSOURCE		PARK59	81.1	81.1	81.1	Lw	81.1					5.00	r	6213966.17	2315616.99	937.99
POINTSOURCE		PARK60	81.1	81.1	81.1	Lw	81.1					5.00	r	6213925.31	2315559.34	939.11
POINTSOURCE		PARK61	81.1	81.1	81.1	Lw	81.1					5.00	r	6213880.80	2315503.16	938.68
POINTSOURCE		PARK62	81.1	81.1	81.1	Lw	81.1					5.00	r	6213835.56	2315447.71	938.28
POINTSOURCE		PARK63	81.1	81.1	81.1	Lw	81.1					5.00	r	6213793.24	2315394.44	937.88
POINTSOURCE		PARK64	81.1	81.1	81.1	Lw	81.1					5.00	r	6213748.73	2315334.61	937.40
POINTSOURCE		PARK65	81.1	81.1	81.1	Lw	81.1					5.00	r	6213488.98	2315225.89	929.60
POINTSOURCE		PARK66	81.1	81.1	81.1	Lw	81.1					5.00	r	6213529.84	2315274.78	938.62
POINTSOURCE		PARK67	81.1	81.1	81.1	Lw	81.1					5.00	r	6213569.97	2315328.77	939.06
POINTSOURCE		PARK68	81.1	81.1	81.1	Lw	81.1					5.00	r	6213607.91	2315386.42	939.56
POINTSOURCE		PARK69	81.1	81.1	81.1	Lw	81.1					5.00	r	6213653.15	2315446.25	940.04
POINTSOURCE		PARK70	81.1	81.1	81.1	Lw	81.1					5.00	r	6213715.17	2315947.52	936.95
POINTSOURCE		PARK71	81.1	81.1	81.1	Lw	81.1					5.00	r	6213756.03	2315915.42	936.11
POINTSOURCE		PARK72	81.1	81.1	81.1	Lw	81.1					5.00	r	6213791.06	2315870.18	942.74
POINTSOURCE		PARK73	81.1	81.1	81.1	Lw	81.1					5.00	r	6213762.60	2315830.78	943.68
POINTSOURCE		PARK74	81.1	81.1	81.1	Lw	81.1					5.00	r	6213722.47	2315861.42	937.39
POINTSOURCE		PARK75	81.1	81.1	81.1	Lw	81.1					5.00	r	6213680.15	2315894.26	934.41
POINTSOURCE		PARK76	81.1	81.1	81.1	Lw	81.1					5.00	r	6213637.83	2315929.28	939.81
POINTSOURCE		PARK77	81.1	81.1	81.1	Lw	81.1					5.00	r	6213669.20	2315965.76	941.75
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6214302.97	2314264.45	926.97
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213089.43	2314035.28	969.03
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6212568.60	2314432.42	969.03
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6212705.31	2314803.51	1006.58
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213046.46	2315246.22	1006.58
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213300.37	2314337.37	1006.58
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213645.42	2314786.59	1006.58
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213452.71	2315276.17	987.93
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213737.87	2315770.96	987.93
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6213995.68	2315515.75	984.24
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6214510.00	2315123.83	984.24
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89					5.00	r	6213264.97	2315635.23	946.09

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89					5.00	r	6213759.85	2315101.62	933.75
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89					5.00	r	6212685.58	2314681.61	955.09
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89					5.00	r	6212648.62	2314510.83	933.95
POINTSOURCE		TRASH05	89.0	89.0	89.0	Lw	89					5.00	r	6213105.03	2314161.28	905.94
POINTSOURCE		TRASH06	89.0	89.0	89.0	Lw	89					5.00	r	6213187.92	2314294.11	912.03
POINTSOURCE		TRASH07	89.0	89.0	89.0	Lw	89					5.00	r	6213161.31	2315300.44	934.42
POINTSOURCE		TRASH08	89.0	89.0	89.0	Lw	89					5.00	r	6214230.84	2314751.69	903.00
POINTSOURCE		TRASH09	89.0	89.0	89.0	Lw	89					5.00	r	6214092.72	2314300.08	882.34

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	93.2	93.2	93.2	75.3	75.3	75.3	Lw	93.2									8	r
LINESOURCE		TRUCK02	93.2	93.2	93.2	72.1	72.1	72.1	Lw	93.2									8	r
LINESOURCE		TRUCK03	93.2	93.2	93.2	68.8	68.8	68.8	Lw	93.2									8	r
LINESOURCE		TRUCK04	93.2	93.2	93.2	75.5	75.5	75.5	Lw	93.2									8	r
LINESOURCE		TRUCK05	93.2	93.2	93.2	74.4	74.4	74.4	Lw	93.2									8	r
LINESOURCE		TRUCK06	93.2	93.2	93.2	73.5	73.5	73.5	Lw	93.2									8	r
LINESOURCE		TRUCK07	93.2	93.2	93.2	70.9	70.9	70.9	Lw	93.2									8	r
LINESOURCE		TRUCK08	93.2	93.2	93.2	76.2	76.2	76.2	Lw	93.2									8	r
LINESOURCE		TRUCK09	93.2	93.2	93.2	67.2	67.2	67.2	Lw	93.2									8	r
LINESOURCE		TRUCK10	93.2	93.2	93.2	67.6	67.6	67.6	Lw	93.2									8	r
LINESOURCE		TRUCK11	93.2	93.2	93.2	71.8	71.8	71.8	Lw	93.2									8	r

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	r			6213222.28	2314313.65	913.98	905.98
					6213248.78	2314291.67	911.64	903.64
					6213265.09	2314258.04	909.38	901.38
					6213270.19	2314194.86	906.50	898.50
					6213298.43	2314134.09	902.47	894.47
LINESOURCE	8.00	r			6212698.18	2314716.61	960.40	952.40
					6212665.85	2314738.05	963.07	955.07
					6212640.37	2314748.24	964.93	956.93
					6212617.95	2314730.91	963.77	955.77
					6212583.30	2314681.99	956.24	948.24
					6212523.17	2314610.66	944.80	936.80
					6212511.96	2314585.18	944.08	936.08
					6212518.08	2314557.66	942.75	934.75
					6212557.82	2314524.03	940.18	932.18
					6212609.32	2314488.28	937.17	929.17
LINESOURCE	8.00	r			6213281.45	2314124.15	902.96	894.96
					6212570.19	2314666.43	951.93	943.93
LINESOURCE	8.00	r			6213650.15	2314867.61	914.25	906.25
					6213805.77	2314750.77	906.53	898.53
LINESOURCE	8.00	r			6213662.05	2316026.79	951.70	943.70
					6213892.73	2315941.10	950.31	942.31
LINESOURCE	8.00	r			6213135.14	2315282.33	938.10	930.10
					6213083.99	2315321.29	940.65	932.65
					6213099.19	2315371.20	940.89	932.89
					6213213.70	2315520.58	948.51	940.51
LINESOURCE	8.00	r			6213134.97	2315417.88	945.66	937.66
					6213449.55	2315178.30	921.24	913.24
					6213612.27	2315174.94	939.31	931.31
LINESOURCE	8.00	r			6213612.38	2315175.59	939.32	931.32
					6213729.81	2315171.17	938.10	930.10
					6213770.25	2315145.15	937.31	929.31
LINESOURCE	8.00	r			6213885.69	2314861.40	907.29	899.29
					6213655.41	2315038.69	914.81	906.81
					6213617.71	2315112.06	919.38	911.38
					6213611.59	2315171.17	939.29	931.29
					6213623.82	2315239.45	940.17	932.17
					6213734.90	2315451.43	942.32	934.32
					6213810.99	2315581.70	943.56	935.56
					6213821.84	2315628.36	944.17	936.17
					6213834.86	2315762.91	952.98	944.98
					6213907.23	2315985.76	949.00	941.00
LINESOURCE	8.00	r			6213095.01	2314130.12	907.94	899.94
					6213184.58	2314064.41	903.06	895.06
					6213223.31	2314084.79	902.27	894.27
					6213280.38	2314123.52	902.77	894.77
					6213351.72	2314165.30	900.88	892.88
					6213884.07	2314862.65	907.34	899.34
LINESOURCE	8.00	r			6214156.72	2314460.89	887.82	879.82

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6214126.21	2314461.48	888.15	880.15
					6214095.61	2314436.69	887.81	879.81
					6214059.59	2314392.15	887.87	879.87
					6214066.56	2314368.90	887.77	879.77
					6214119.24	2314315.83	885.14	877.14
					6214301.50	2314173.81	878.79	870.79

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		DOCK01	103.4	103.4	103.4	63.3	63.3	63.3	Lw	103.4					8	r
AREASOURCE		DOCK02	103.4	103.4	103.4	62.9	62.9	62.9	Lw	103.4					8	r
AREASOURCE		DOCK03	103.4	103.4	103.4	62.8	62.8	62.8	Lw	103.4					8	r
AREASOURCE		DOCK04	103.4	103.4	103.4	62.8	62.8	62.8	Lw	103.4					8	r
AREASOURCE		DOCK05	103.4	103.4	103.4	63.4	63.4	63.4	Lw	103.4					8	r
AREASOURCE		DOCK06	103.4	103.4	103.4	77.1	77.1	77.1	Lw	103.4					8	r

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	r			6213836.40	2315230.15	937.96	929.96
					6214272.67	2314897.02	912.59	904.59
					6214237.10	2314847.23	908.73	900.73
					6214267.41	2314824.85	904.72	896.72
					6214196.77	2314718.80	901.45	893.45
					6213721.71	2315082.78	936.83	928.83
AREASOURCE	8.00	r			6213251.95	2315489.77	947.65	939.65
					6213197.42	2315533.70	948.88	940.88
					6213269.41	2315626.71	949.16	941.16
					6213254.85	2315637.23	949.01	941.01
					6213334.11	2315738.33	949.25	941.25
					6213303.38	2315759.36	954.73	946.73
					6213365.66	2315838.62	959.60	951.60
					6213323.60	2315871.79	964.98	956.98
					6213508.01	2316108.77	960.31	952.31
					6213673.01	2316041.64	954.21	946.21
					6213528.17	2315845.43	950.02	942.02
					6213574.41	2315811.05	956.40	948.40
					6213298.18	2315453.02	946.62	938.62
AREASOURCE	8.00	r			6213067.01	2315195.77	939.29	931.29
					6213103.76	2315243.19	938.64	930.64
					6213182.09	2315340.87	941.39	933.39
					6213706.84	2314938.28	912.18	904.18
					6213591.00	2314793.88	913.26	905.26
AREASOURCE	8.00	r			6212757.59	2314795.07	950.92	942.92
					6213285.14	2314394.37	914.27	906.27
					6213169.34	2314245.69	914.03	906.03
					6212645.65	2314647.22	954.06	946.06
AREASOURCE	8.00	r			6212586.30	2314458.63	936.62	928.62
					6212662.64	2314556.93	939.30	931.30
					6213141.72	2314191.51	909.11	901.11
					6213029.07	2314043.46	906.98	898.98
					6212591.62	2314380.14	933.20	925.20
					6212628.37	2314427.56	934.09	926.09
AREASOURCE	8.00	r			6214242.43	2314482.27	886.60	878.60
					6214189.40	2314413.27	885.79	877.79
					6214144.86	2314448.39	887.60	879.60
					6214206.37	2314513.23	888.27	880.27

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height				Coordinates			
			left	right		horz.	vert.	Begin		End		x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
BARRIEREXISTING		0						6.00	r			6214270.97	2314137.14	876.35	870.35
												6213917.65	2314423.93	889.57	883.57
BARRIERPLANNED		0						14.00	r			6213672.72	2316041.76	960.22	946.22
												6213508.01	2316108.77	966.31	952.31

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	x	0		45.00	r	6213582.70	2315917.74	982.93	937.93

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
								6213778.31	2315769.55	982.93	944.69
								6213764.09	2315639.15	982.93	936.89
								6213444.00	2315224.22	982.93	914.08
								6213193.86	2315416.27	982.93	927.08
								6213251.95	2315489.77	982.93	939.65
								6213298.18	2315453.02	982.93	938.62
								6213574.41	2315811.05	982.93	948.40
								6213528.17	2315845.43	982.93	942.02
BUILDING		BUILDING00002	x	0		45.00	r	6213971.55	2315562.09	979.24	934.24
								6214561.93	2315110.41	979.24	899.20
								6214314.16	2314790.33	979.24	897.06
								6214237.10	2314847.23	979.24	900.73
								6214272.67	2314897.02	979.24	904.59
								6213836.40	2315230.15	979.24	929.96
								6213798.47	2315182.73	979.24	929.61
								6213723.78	2315244.37	979.24	931.27
BUILDING		BUILDING00003	x	0		45.00	r	6212648.53	2314804.55	1001.58	956.58
								6213030.26	2315296.54	1001.58	934.25
								6213103.76	2315243.19	1001.58	930.64
								6213067.01	2315195.77	1001.58	931.29
								6213591.00	2314793.88	1001.58	905.26
								6213627.75	2314838.93	1001.58	905.76
								6213702.44	2314785.59	1001.58	902.17
								6213321.89	2314291.23	1001.58	899.68
								6213247.21	2314345.76	1001.58	905.96
								6213285.14	2314394.37	1001.58	906.27
								6212757.59	2314795.07	1001.58	942.92
								6212723.21	2314746.46	1001.58	951.29
BUILDING		BUILDING00004	x	0		45.00	r	6212371.12	2314189.28	964.03	919.03
								6212387.72	2314277.00	964.03	924.92
								6212551.32	2314484.47	964.03	930.73
								6212628.37	2314427.56	964.03	926.09
								6212591.62	2314380.14	964.03	925.20
								6213029.07	2314043.46	964.03	898.98
								6213067.01	2314092.07	964.03	899.18
								6213140.51	2314031.60	964.03	895.83
								6212933.05	2313761.31	964.03	898.90
BUILDING		BUILDING00005	x	0		45.00	r	6214141.52	2314350.97	921.97	876.97
								6214242.43	2314482.27	921.97	878.60
								6214403.02	2314357.48	921.97	877.12
								6214303.20	2314226.19	921.97	871.64

This page intentionally left blank

APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

This page intentionally left blank

15001 - Rubidoux

CadnaA Noise Prediction Model: 15001-02f_Construction.cna
Date: 16.08.22
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	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
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 Rvcr - 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		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	67.0	67.0	73.7	65.0	45.0	0.0				5.00	r	6213508.39	2316427.43	5.00
RECEIVERS		R2	66.6	66.6	73.2	65.0	45.0	0.0				5.00	r	6215117.34	2315176.99	5.00
RECEIVERS		R3	69.3	69.3	75.9	65.0	45.0	0.0				5.00	r	6214863.86	2314715.19	5.00
RECEIVERS		R4	71.7	71.7	78.3	65.0	45.0	0.0				5.00	r	6214230.53	2314127.51	5.00
RECEIVERS		R5	69.5	69.5	76.1	65.0	45.0	0.0				5.00	r	6213288.76	2313598.39	5.00
RECEIVERS		R6	67.4	67.4	74.1	65.0	45.0	0.0				5.00	r	6213110.04	2313371.13	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION01	130.2	130.2	130.2	75.3	75.3	75.3	Lw''	75.3					8	r
SITEBOUNDARY		CONSTRUCTION02	115.3	115.3	115.3	75.3	75.3	75.3	Lw''	75.3					8	r
SITEBOUNDARY		CONSTRUCTION03	112.9	112.9	112.9	75.3	75.3	75.3	Lw''	75.3					8	r

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	r			6213388.00	2316228.01	8.00	0.00
					6213647.98	2316094.19	8.00	0.00
					6213819.56	2316013.39	8.00	0.00
					6213944.75	2315973.94	8.00	0.00
					6213874.82	2315766.67	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6214775.81	2315076.43	8.00	0.00
					6214573.98	2314764.21	8.00	0.00
					6214459.13	2314678.34	8.00	0.00
					6214356.54	2314650.47	8.00	0.00
					6214117.91	2314654.93	8.00	0.00
					6214088.37	2314656.84	8.00	0.00
					6214058.77	2314656.31	8.00	0.00
					6214029.31	2314653.32	8.00	0.00
					6214000.20	2314647.91	8.00	0.00
					6213971.64	2314640.11	8.00	0.00
					6213943.83	2314629.97	8.00	0.00
					6213916.95	2314617.56	8.00	0.00
					6213891.19	2314602.97	8.00	0.00
					6213866.72	2314586.30	8.00	0.00
					6213843.72	2314567.66	8.00	0.00
					6213822.34	2314547.18	8.00	0.00
					6213802.72	2314525.01	8.00	0.00
					6213785.01	2314501.28	8.00	0.00
					6213051.94	2313529.93	8.00	0.00
					6212167.82	2314213.52	8.00	0.00
					6212209.49	2314281.23	8.00	0.00
					6212200.38	2314429.67	8.00	0.00
					6212356.63	2314830.71	8.00	0.00
					6212383.97	2314898.42	8.00	0.00
					6212521.99	2315079.41	8.00	0.00
					6212589.70	2315132.79	8.00	0.00
					6212669.13	2315210.92	8.00	0.00
					6212710.79	2315441.39	8.00	0.00
					6212761.57	2315312.48	8.00	0.00
					6212844.91	2315437.48	8.00	0.00
					6213045.43	2315516.91	8.00	0.00
					6213126.16	2315609.36	8.00	0.00
					6213222.51	2315845.03	8.00	0.00
					6213201.68	2315858.05	8.00	0.00
SITEBOUNDARY	8.00	r			6213916.09	2314425.20	8.00	0.00
					6213935.48	2314440.12	8.00	0.00
					6213966.22	2314456.45	8.00	0.00
					6213997.94	2314470.76	8.00	0.00
					6214030.53	2314482.99	8.00	0.00
					6214063.84	2314493.08	8.00	0.00
					6214097.73	2314501.01	8.00	0.00
					6214132.06	2314506.73	8.00	0.00
					6214166.68	2314510.23	8.00	0.00
					6214265.13	2314517.69	8.00	0.00
					6214453.08	2314373.00	8.00	0.00
					6214272.59	2314135.82	8.00	0.00
SITEBOUNDARY	8.00	r			6214379.99	2314535.59	8.00	0.00
					6214484.41	2314565.42	8.00	0.00
					6214499.32	2314565.42	8.00	0.00
					6214632.08	2314644.48	8.00	0.00
					6214599.26	2314669.83	8.00	0.00
					6214700.70	2314793.64	8.00	0.00
					6215058.69	2315345.55	8.00	0.00
					6214825.99	2314839.88	8.00	0.00
					6214658.93	2314625.08	8.00	0.00
					6214654.45	2314631.05	8.00	0.00
					6214526.17	2314461.00	8.00	0.00
					6214487.39	2314455.04	8.00	0.00
					6214432.97	2314494.35	8.00	0.00

APPENDIX 10.2:

CADNAA LMAX CONSTRUCTION NOISE MODEL INPUTS

This page intentionally left blank

15001 - Rubidoux

CadnaA Noise Prediction Model: 15001-02f_Construction_Lmax.cna
Date: 16.08.22
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	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
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 Rvcr - 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		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	75.0	75.0	81.7	65.0	45.0	0.0				5.00	r	6213508.39	2316427.43	5.00
RECEIVERS		R2	74.6	74.6	81.2	65.0	45.0	0.0				5.00	r	6215117.34	2315176.99	5.00
RECEIVERS		R3	77.3	77.3	83.9	65.0	45.0	0.0				5.00	r	6214863.86	2314715.19	5.00
RECEIVERS		R4	79.7	79.7	86.3	65.0	45.0	0.0				5.00	r	6214230.53	2314127.51	5.00
RECEIVERS		R5	77.5	77.5	84.1	65.0	45.0	0.0				5.00	r	6213288.76	2313598.39	5.00
RECEIVERS		R6	75.4	75.4	82.1	65.0	45.0	0.0				5.00	r	6213110.04	2313371.13	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION01	138.2	138.2	138.2	83.3	83.3	83.3	Lw''	83.3					8	r
SITEBOUNDARY		CONSTRUCTION02	123.3	123.3	123.3	83.3	83.3	83.3	Lw''	83.3					8	r
SITEBOUNDARY		CONSTRUCTION03	120.9	120.9	120.9	83.3	83.3	83.3	Lw''	83.3					8	r

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	r			6213388.00	2316228.01	8.00	0.00
					6213647.98	2316094.19	8.00	0.00
					6213819.56	2316013.39	8.00	0.00
					6213944.75	2315973.94	8.00	0.00
					6213874.82	2315766.67	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6214775.81	2315076.43	8.00	0.00
					6214573.98	2314764.21	8.00	0.00
					6214459.13	2314678.34	8.00	0.00
					6214356.54	2314650.47	8.00	0.00
					6214117.91	2314654.93	8.00	0.00
					6214088.37	2314656.84	8.00	0.00
					6214058.77	2314656.31	8.00	0.00
					6214029.31	2314653.32	8.00	0.00
					6214000.20	2314647.91	8.00	0.00
					6213971.64	2314640.11	8.00	0.00
					6213943.83	2314629.97	8.00	0.00
					6213916.95	2314617.56	8.00	0.00
					6213891.19	2314602.97	8.00	0.00
					6213866.72	2314586.30	8.00	0.00
					6213843.72	2314567.66	8.00	0.00
					6213822.34	2314547.18	8.00	0.00
					6213802.72	2314525.01	8.00	0.00
					6213785.01	2314501.28	8.00	0.00
					6213051.94	2313529.93	8.00	0.00
					6212167.82	2314213.52	8.00	0.00
					6212209.49	2314281.23	8.00	0.00
					6212200.38	2314429.67	8.00	0.00
					6212356.63	2314830.71	8.00	0.00
					6212383.97	2314898.42	8.00	0.00
					6212521.99	2315079.41	8.00	0.00
					6212589.70	2315132.79	8.00	0.00
					6212669.13	2315210.92	8.00	0.00
					6212710.79	2315441.39	8.00	0.00
					6212761.57	2315312.48	8.00	0.00
					6212844.91	2315437.48	8.00	0.00
					6213045.43	2315516.91	8.00	0.00
					6213126.16	2315609.36	8.00	0.00
					6213222.51	2315845.03	8.00	0.00
					6213201.68	2315858.05	8.00	0.00
SITEBOUNDARY	8.00	r			6213916.09	2314425.20	8.00	0.00
					6213935.48	2314440.12	8.00	0.00
					6213966.22	2314456.45	8.00	0.00
					6213997.94	2314470.76	8.00	0.00
					6214030.53	2314482.99	8.00	0.00
					6214063.84	2314493.08	8.00	0.00
					6214097.73	2314501.01	8.00	0.00
					6214132.06	2314506.73	8.00	0.00
					6214166.68	2314510.23	8.00	0.00
					6214265.13	2314517.69	8.00	0.00
					6214453.08	2314373.00	8.00	0.00
					6214272.59	2314135.82	8.00	0.00
SITEBOUNDARY	8.00	r			6214379.99	2314535.59	8.00	0.00
					6214484.41	2314565.42	8.00	0.00
					6214499.32	2314565.42	8.00	0.00
					6214632.08	2314644.48	8.00	0.00
					6214599.26	2314669.83	8.00	0.00
					6214700.70	2314793.64	8.00	0.00
					6215058.69	2315345.55	8.00	0.00
					6214825.99	2314839.88	8.00	0.00
					6214658.93	2314625.08	8.00	0.00
					6214654.45	2314631.05	8.00	0.00
					6214526.17	2314461.00	8.00	0.00
					6214487.39	2314455.04	8.00	0.00
					6214432.97	2314494.35	8.00	0.00