Appendix H Noise Impact Analysis

FONTANA FOOTHILLS COMMERCE CENTER DRAFT EIR



Fontana Foothills Commerce Center

NOISE IMPACT ANALYSIS CITY OF FONTANA

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April 18, 2020

12980-07 Noise Study



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LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
I-10	Interstate 10
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
PPV	Peak Particle Velocity
Project	Fontana Foothills Commerce Center
RMS	Root-mean-square
VdB	Vibration Decibels

12980-07 Noise Study



EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures, if any, for the proposed Fontana Foothills Commerce Center development ("Project"). The Project site is located east of Juniper Avenue and north of Jurupa Avenue in the City of Fontana. The proposed Project is to consist of 754,408 square feet of warehouse/distribution center use across two buildings:

- Building 1: 432,569 square feet of high-cube transload and short-term warehouse use;
- Building 2:321,839 square feet of high-cube transload and short-term warehouse use.

This study has been prepared consistent with applicable City of Fontana noise standards, and significance criteria based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the potential noise sources within Fontana Foothills Commerce Center site, this analysis estimates the Project-related operational (stationary-source) noise levels at the nearby receiver locations. The Project-related operational noise sources are expected to include cold storage loading dock activity, entry gate & truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity. The analysis shows that the unmitigated Project-related operational noise levels will satisfy the City of Fontana 70 dBA L_{eq} daytime and 65 dBA L_{eq} nighttime exterior noise level standards at all the off-site noise-sensitive receiver locations. Project operational noise levels at all receiver locations, therefore, will result in *less than significant* noise impacts.

CONSTRUCTION NOISE ANALYSIS

Construction activities are expected to create short-term and intermittent high-level noise conditions at receivers surrounding the Project site. Using sample reference noise levels to represent the construction activities of the Fontana Foothills Commerce Center site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays.

If Project construction activity occurs outside of the hours specified in the Municipal Code, noise levels shall satisfy the City of Fontana construction noise level thresholds of 70 dBA L_{eq} during the daytime hours and 65 dBA L_{eq} during the nighttime hours.



CONSTRUCTION VIBRATION ANALYSIS

Based on the vibration standards used in this report, the unmitigated Project construction vibration levels will satisfy the 0.2 in/sec PPV threshold at all of the nearby sensitive receiver locations. Therefore, the vibration impacts due to Project construction are considered *less than significant*. Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating simultaneously adjacent to the Project site perimeter.

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Fontana Foothills Commerce Center Noise Impact 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 described below.

Anghais	Report	Significance Findings		
Analysis	Section	Unmitigated	Mitigated	
Off-Site Traffic Noise	7	Less Than Significant	-	
Operational Noise	9	Less Than Significant	-	
Construction Noise	10	Less Than Significant	-	
Construction Vibration	10	Less Than Significant	-	

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS



1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Fontana Foothills Commerce Center ("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 analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source hourly average L_{eq} operational noise and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Fontana Foothills Commerce Center Project is located is located east of Juniper Avenue and north of Jurupa Avenue in the City of Fontana, as shown on Exhibit 1-A. The Project site is currently occupied with residential homes. Existing residential uses are located east of the Project site at the northwest corner of Jurupa Avenue and Sierra Avenue are planned to be developed in the future as commercial retail land use. The vacant site to the west of Juniper Avenue is planned for development as part of the Goodman Industrial Park Fontana III.

The Project site is designated for Residential Planned Community (R-PC) and Walkable Mixed-Use Corridor and Downtown (WMXU-1) uses. The applicant requests the project site to be annexed into the Southwest Industrial Park (SWIP Specific Plan) and to be designated "Slover East Industrial District". The site's General Plan land use designation would be amended to General Industrial (I-G). The site would be zoned Specific Plan (SWIP Specific Plan).

1.2 PROJECT DESCRIPTION

Exhibit 1-B illustrates the site plan for the Project. As indicated on Exhibit 1-B, the proposed Project is to consist of 754,408 square feet of warehouse/distribution center use across two buildings:

- Building 1: 432,569 square feet of high-cube transload and short-term warehouse use;
- Building 2: 321,839 square feet of high-cube transload and short-term warehouse use.

To present the potential worst-case conditions, the Project is assumed to be operational 24 hours per day, seven days per week. It is expected that 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. 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: cold storage loading dock activity, entry gate & truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity. This noise analysis is intended to describe noise level impacts associated with the expected typical 24-hour, seven days per week operational activities at the Project site

Per the Fontana Foothills Commerce Center Traffic Impact Analysis (TIA) prepared by Urban Crossroads, Inc., the Project is expected to generate a total of approximately 1,058 two-way



vehicular trips per day (529 inbound and 529 outbound) which includes 342 two-way truck trips per day (171 inbound and 171 outbound) (2). 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. Analyzing actual Project trips results in a conservative worst-case scenario to describe the off-site Project traffic noise level impacts.



EXHIBIT 1-A: LOCATION MAP



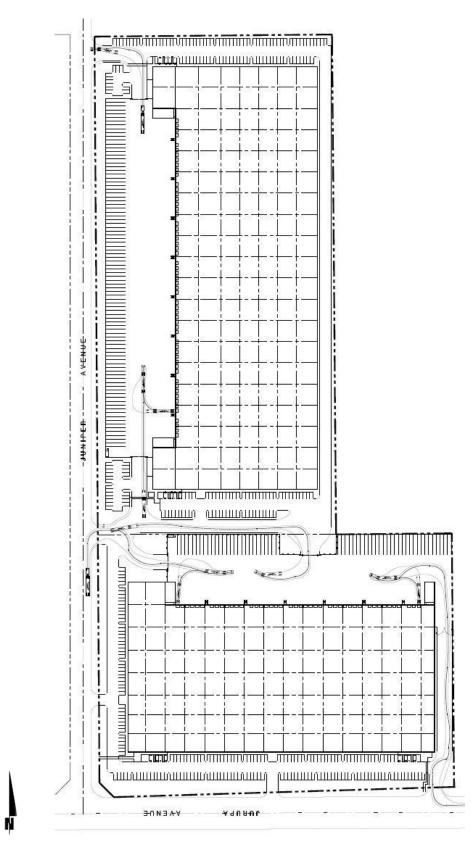


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

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

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

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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. (3) 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 100 feet, which can cause serious discomfort. (4) 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 commonly used figure 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 (typically one hour) and is commonly used to describe the "average" noise levels within the environment. The Project hourly average L_{eq} noise descriptor is used in this analysis to describe the stationary-source operational and construction noise levels.

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 additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Fontana 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. (3)

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. (5)

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. (3)

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 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 up to 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 be high enough and long enough to block the path of the noise source. (5)

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

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten 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 will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (7) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (7) 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 are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (5)



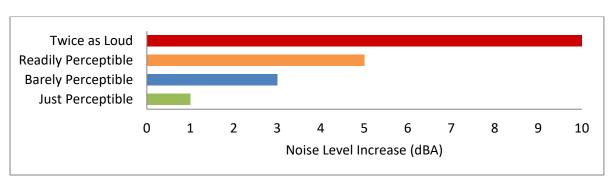


EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (8)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This noise study does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area.

2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (9), 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.



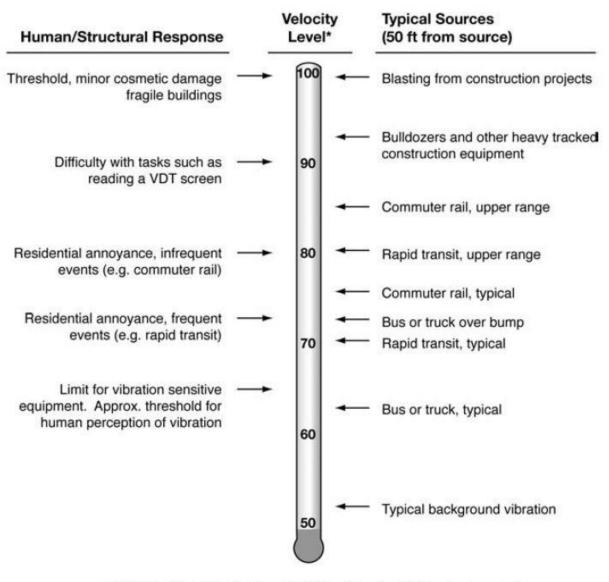


EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

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

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



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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). (10) 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 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for nonresidential building construction in Section 5.507 on Environmental Comfort. (11) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).

3.3 CITY OF FONTANA GENERAL PLAN NOISE ELEMENT

The City of Fontana General Plan was updated on November 13th, 2018. (12) To protect residents from the negative effect of "spillover" noise (Goal #10), the City of Fontana has identified the following policies in the General Plan Noise Element:



Policy

Residential land uses and areas identified as noise-sensitive shall be protected from excessive noise from non-transportation sources including industrial, commercial, and residential activities and equipment.

Actions

- A. Projects located in commercial areas shall not exceed stationary- source noise standards at the property line of proximate residential or commercial uses.
- B. Industrial uses shall not exceed commercial or residential stationary source noise standards at the most proximate land uses.
- *C.* Non-transportation noise shall be considered in land use planning decisions.
- D. Construction shall be performed as quietly as feasible when performed in proximity to residential or other noise sensitive land uses.

3.3.1 LAND USE COMPATIBILITY

While the General Plan provides background and noise fundamentals, it does not identify criteria to assess the impacts associated with off-site transportation-related noise impacts. Therefore, for this analysis, the transportation noise criteria are derived from standards contained in the California Office of Planning and Research (OPR) *General Plan Guidelines*.

The OPR land use/noise compatibility standards are used by many California cities and counties and specify the maximum noise levels allowable for new developments impacted by transportation noise sources. The OPR land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines, Appendix D: Noise Element Guidelines,* identify the criteria for industrial land uses such as the Project, as shown on Exhibit 3-A. When the unmitigated exterior noise levels approach 70 dBA CNEL Project land use is considered *normally acceptable*. With exterior noise levels range from 70 to 75 dBA CNEL, industrial land uses are considered *conditionally acceptable,* and with exterior noise levels greater than 75 dBA CNEL, they are considered *normally unacceptable.* For *normally unacceptable* land use, *new construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.* (10)



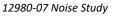
Land Use Category			nunity Noi L _{dn} or CN		ure	
Land Use Category	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes		T	T	÷.	4	
Residential - Multi. Family						
Transient Lodging - Motels, Hotels			T	je.		
Schools, Libraries, Churches, Hospitals, Kursing Homes				2		
Auditoriums, Concert Halls, Amphitheaters			Ē			
Sports Arena, Outdoor Spectator Sports			T	j.		
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial and Professional			T			
Industrial, Manufacturing, Utilities, Agriculture						

EXHIBIT 3-A: LAND USE NOISE COMPATIBILITY CRITERIA

Source: OPR General Plan Guidelines, Appendix D: Noise Element Guidelines, Figure 2.

3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Fontana Foothills Commerce Center Project, stationary-source (operational) noise such as the expected cold storage loading dock activity, entry gate & truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity are typically evaluated against standards established under a jurisdiction's Municipal Code.





The City of Fontana noise control guidelines for determining and mitigating non-transportation or stationary noise source impacts from operations in neighboring residential areas are found in the Zoning and Development Code (Section 30-543), provided in Appendix 3.1. For industrial zoning districts, Section 30-543 indicates that *no person shall create or cause to be created any sound which exceeds the noise levels in this section as measured at the property line of any residentially zoned property*. The performance standards found in Section 30-543 limit the exterior noise level to 70 dBA L_{eq} during the daytime hours, and 65 dBA L_{eq} during the nighttime hours at sensitive receiver locations as shown on Table 3-1. (13)

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Jurisdiction	Land Use	Time Period	Exterior Noise Levels (dBA L _{eq}) ²	
City of	Desidential	Daytime	70	
Fontana ¹	Residential	Nighttime	65	

¹ Source: Section 30-543 of the City of Fontana Development Code (Appendix 3.1).

² L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

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

3.5 CONSTRUCTION NOISE STANDARDS

The City of Fontana has set restrictions to control noise impacts associated with the construction of the proposed Project. According to Section 18-63(b)(7), *Construction or repairing of buildings or structures,* construction activity is limited: *between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays except in the case of urgent necessity.* (14) Project construction noise levels are, therefore, considered exempt if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays. However, if activity occurs outside of these hours, the City of Fontana stationary-source (operational) noise level standards of 70 dBA L_{eq} during the daytime hours, and 65 dBA L_{eq} during the nighttime hours shall apply, previously discussed in Section 3.4.

3.6 CONSTRUCTION VIBRATION STANDARDS

To analyze vibration impacts originating from the operation and construction of the Fontana Foothills Commerce Center, vibration-generating activities are typically evaluated against standards established under a City's Municipal Code. The City of Fontana Municipal Code, Section 30-543, indicates that operational vibration levels shall not *create or cause to be created any activity that causes a vibration that can be felt beyond the property line with or without the aid of an instrument*. (14) For analysis purposes, a peak-particle-velocity (PPV) vibration threshold of 0.2 in/sec PPV is used to determine perception consistent with the City of Fontana Municipal Code requirements based on guidance provided by the Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual. (9)



3.7 AIRPORT LAND USE COMPATIBILITY

According to the LA/Ontario International Airport Land Use Compatibility Plan (ONT ALUCP) the Project is located within the 60 to 65 dBA CNEL noise impact zone and within the Airport Influence Area (AIA), as shown on Exhibit 3-B. Based on the proposed industrial and office land use for Fontana Foothills Commerce Center, the ONT ALUCP identifies noise policies and criteria to minimize the interior noise exposure generated by aircraft activity. The noise criteria on Table 2-3 of the ONT ALUCP indicates that office uses located within the 60 to 65 dBA CNEL noise impact zone are considered *normally compatible* land use and must satisfy an interior noise level standard of 50 dBA CNEL. (15) Standard construction will provide a minimum of 25 dBA of noise reduction, and therefore, exterior noise levels between 60 to 65 dBA CNEL would be reduced to satisfy the interior noise level standard of 50 dBA CNEL standard of 50 dBA CNEL standard of 50 dBA CNEL.



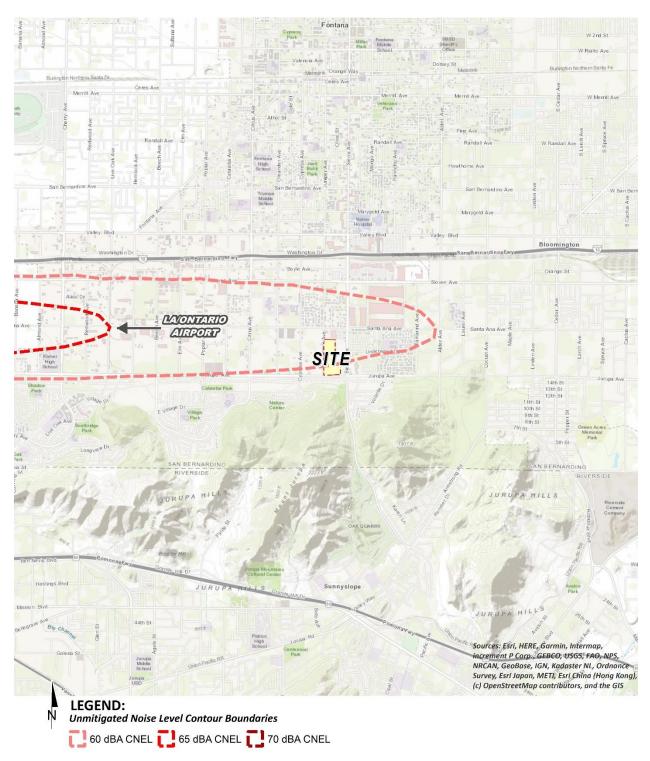


EXHIBIT 3-B: FUTURE AIRPORT NOISE LEVEL CONTOURS



4 SIGNIFICANCE CRITERIA

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

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

While the City of Fontana General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

As discussed in Section 3.7 the Project will be consistent with the requirements of the Los Angeles/Ontario International Airport. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to Guideline C.

4.2 SIGNIFICANCE CRITERIA SUMMARY

Consistent with guidance provided by the City of Fontana, the following thresholds are used in this analysis to evaluate potential impacts. (16) Noise impacts, therefore, 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.

OFF-SITE TRAFFIC NOISE

- When off-site traffic noise levels, without or with the Project, at existing and future noise-sensitive land uses (e.g. residential, schools, churches, etc.) exceed the City of Fontana General Plan Noise and Safety Element, Goal 8, Action A 65 dBA CNEL standard, and the Project creates a community noise level increase of greater than 3 dBA CNEL.
- When off-site traffic noise levels, without or with the Project, at existing and future non-noisesensitive land uses (e.g. industrial, etc.) exceed the Governor's Office of Planning and Research (OPR) General Plan Guidelines, Appendix D: Noise Element Guidelines, normally acceptable 70 dBA CNEL noise level criteria and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase.

OPERATIONAL NOISE

 If operational (stationary-source) noise levels exceed the exterior 70 dBA Leq daytime or 65 dBA Leq nighttime noise level standards at adjacent land uses in the City of Fontana (City of Fontana Municipal Code, Chapter 30 Zoning and Development Code, Section 30-543), and the Project creates a community noise level increase of greater than 3 dBA Leq.

OPERATIONAL VIBRATION

• If long-term Project generated operational vibration levels *create or cause to be created any activity that causes a vibration that can be felt beyond the property line with or without the aid of an instrument* (City of Fontana Municipal Code, Section 30-543). For analysis purposes, the peak-particle-velocity (PPV) vibration threshold of 0.2 in/sec PPV is used to determine perception consistent with the City of Fontana Municipal Code requirements (Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual).

CONSTRUCTION NOISE

- Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays.
- If Project construction activities occur outside of the hours specified above:
 - and Project construction noise levels would exceed the exterior 70 dBA L_{eq} daytime or 65 dBA L_{eq} nighttime noise level standards at adjacent land uses in the City of Fontana (City of Fontana Municipal Code, Chapter 30 Zoning and Development Code, Section 30-543);
 - and the Project creates a community noise level increase of greater than 3 dBA Leq.

CONSTRUCTION VIBRATION

• If short-term Project construction vibration levels exceed the Caltrans human annoyance vibration threshold of 0.2 in/sec PPV at adjacent uses (Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual). The FTA threshold is used to quantify potential impacts related to perception of short-term construction-related vibration levels.



Analysia	Receiving	Condition(c)	Significance Criteria		
Analysis	Land Use	Condition(s)	Daytime	Nighttime	
Off-Site	Noise- Sensitive	If off-site traffic noise is > 65 dBA CNEL	≥ 3 dBA CNEL Project increase		
Traffic Noise ¹	Non-Noise- Sensitive	If off-site traffic noise is > 70 dBA CNEL	≥ 3 dBA CNEL Project increas		
Operational Noise ²		If operational noise is > 70 dBA L _{eq} (daytime) and/or > 65 dBA L _{eq} (nighttime):	\geq 3 dBA L _{eq} Project increase		
Operational Vibration ³		If operational vibration exceeds:	0.2 in	/sec PPV	
Construction Noise ⁴	Adjacent Uses	If construction occurs outside of permitted hours, and construction noise is > 70 dBA L _{eq} (daytime) and/or > 65 dBA L _{eq} (nighttime):	≥ 3 dBA L _{eq} F	Project increase	
Construction Vibration ⁵		If construction vibration exceeds:	0.2 in/sec PPV		

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

¹ Based on the City of Fontana General Plan Safety and Noise Element, Office of Planning and Research guidelines.

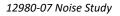
² Based on Section 30-543 of the City of Fontana Municipal Code.

³ Based on Section 30-543 of the City of Fontana Municipal Code and the Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

⁴ Based on Sections 18-63(7) and 30-543 of the City of Fontana Municipal Code.

⁵ Based on the 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.





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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, October 2nd 2019. 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. (17)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (3) Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (9)*

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. (9) 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}). 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 on Santa Ana Avenue, north of the Project site, near an existing residential home. The noise level measurements collected show an overall 24-hour exterior noise level of 68.4 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 65.2 dBA L_{eq} with an average nighttime noise level of 60.5 dBA L_{eq}.
- Location L2 represents the noise levels east of Sierra Avenue and north of Underwood Drive near an existing residential neighborhood. The noise level measurements collected show an overall 24-hour exterior noise level of 66.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 63.3 dBA L_{eq} with an average nighttime noise level of 57.1 dBA L_{eq}.
- Location L3 represents the noise levels west of Sierra Avenue and east of the site. The 24-hour CNEL indicates that the overall exterior noise level is 62.9 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.4 dBA L_{eq} with an average nighttime noise level of 55.7 dBA L_{eq}.
- Location L4 represents the noise levels south of Jurupa Avenue in the landscaped parkway near existing residential homes. The noise level measurements collected show an overall 24-hour exterior noise level of 78.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 73.9 dBA L_{eq} with an average nighttime noise level of 70.8 dBA L_{eq}.
- Location L5 represents the noise levels in the parking lot of St. Mary's Catholic Church. The
 exterior noise level measurements collected show an overall 24-hour noise level of 62.5 dBA
 CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.9 dBA L_{eq} with
 an average nighttime noise level of 55.5 dBA L_{eq}.
- Location L6 represents the noise levels on Juniper Avenue west of the Project Site. The noise level measurements collected show an overall 24-hour exterior noise level of 67.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 64.0 dBA Leq with an average nighttime noise level of 59.5 dBA Leq.

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, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ 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 the arterial roadway network. The 24-hour existing noise level measurements shown on Table 5-1 present the existing ambient noise conditions.



Location ¹	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
		Daytime	Nighttime	
L1	Located on Santa Ana Avenue, north of the Project site, near an existing residential home.	65.2	60.5	68.4
L2	Located east of Sierra Avenue and north of Underwood Drive near an existing residential neighborhood.	63.3	57.1	66.0
L3	Located west of Sierra Avenue northeast of the Project Site on vacant property.	57.4	55.7	62.9
L4	Located south of Jurupa Avenue in the landscaped parkway near existing residential homes.	73.9	70.8	78.1
L5	Located in the parking lot of St. Mary's Catholic Church.	56.9	55.5	62.5
L6	Located on Juniper Avenue west of the Project Site.	64.0	59.5	67.2

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

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

² Energy (logarithmic) average hourly 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.



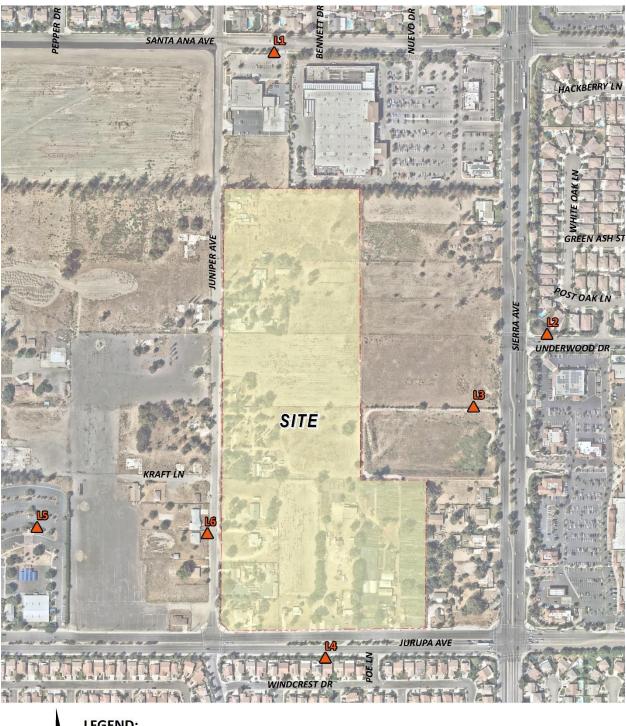


EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

LEGEND: Measurement Locations

N



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 OPR land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines, Appendix D: Noise Element Guidelines,* all transportation related noise levels are presented in terms of the 24-hour CNEL's

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

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

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 12 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Fontana General Plan Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 are based on the *Traffic Impact Analysis* for the following traffic scenarios: Existing, Opening Year 2022, and Horizon Year 2040 conditions. (2) For this analysis, soft site conditions are used to analyze the traffic noise impacts within the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)



ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Vehicle Speed (mph) ³
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	46'	40
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	34'	40
3	Juniper Av.	s/o Santa Ana Av.	R-PC	34'	40
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	66'	50
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	66'	50
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	66'	50
7	Sierra Av.	s/o Jurupa Av.	R-PC	66'	50
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	60'	45
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	60'	45
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	60'	45
11	Jurupa Av.	w/o Juniper Av.	R-PC	60'	45
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	60'	45

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

¹ Source: City of Fontana General Plan Land Use Map, Adopted September 10, 2019.

 $^{\rm 2}$ Distance to receiving land use is based upon the right-of-way distances.

³ Source: Fontana Foothill Commerce Center Traffic Impact Analysis.

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community;

"WMXU-1" = Walkable Mixed Use Corridor & Downtown; "R-SF" = Single Family Residential; "C-G" = General Commercial.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

				Average	Daily Traffic	c Volumes (1,000's) ¹	
ID	Roadway	Segment			Horizo (20			
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Citrus Av.	n/o Jurupa Av.	10.7	10.9	14.3	14.5	15.7	15.9
2	Juniper Av.	n/o Santa Ana Av.	2.5	2.6	2.8	2.9	3.0	3.1
3	Juniper Av.	s/o Santa Ana Av.	3.0	3.4	3.7	4.1	4.0	4.4
4	Sierra Av.	n/o Santa Ana Av.	31.8	31.9	38.7	38.9	42.5	42.7
5	Sierra Av.	s/o Santa Ana Av.	31.7	31.8	38.9	39.0	42.7	42.8
6	Sierra Av.	n/o Jurupa Av.	25.7	25.8	30.8	30.9	36.2	36.3
7	Sierra Av.	s/o Jurupa Av.	25.2	25.3	30.0	30.1	38.1	38.2
8	Jurupa Av.	w/o Citrus av.	18.3	18.6	24.6	24.9	27.0	27.2
9	Jurupa Av.	w/o Oleander Av.	18.8	19.2	23.6	24.1	25.9	26.3
10	Jurupa Av.	w/o Cypress Av.	19.4	19.8	23.7	24.1	25.9	26.4
11	Jurupa Av.	w/o Juniper Av.	20.1	20.5	23.7	24.1	26.0	26.4
12	Jurupa Av.	w/o Sierra Av.	19.7	19.9	24.6	24.8	27.0	27.2

¹ Source: Fontana Foothill Commerce Center Traffic Impact Analysis.



Traffic noise analysis provided in this report is based on the actual vehicle volumes obtained from the *Traffic Impact Analysis* for the Project. Per the *Traffic Impact Analysis*, the Project is expected to generate a total of approximately 1,058 two-way vehicular trips per day (529 inbound and 529 outbound) which includes 342 two-way truck trips per day (171 inbound and 171 outbound) (2). 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. Analyzing actual Project trips results in a conservative worst-case scenario to describe the offsite Project traffic noise level impacts.

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. 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 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-7 show the vehicle mixes used for the with Project traffic scenarios. The with Project traffic vehicle mix is needed to account for the number of actual vehicles since the traffic volumes provided in the *Traffic Impact Analysis* are expressed as passenger car equivalents (PCE) and artificially overstate the actual number of vehicle and truck trips.

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.

Vakiala Tura		Time of Day Splits		Total of Time of Day Splits 100.00%
Vehicle Type	Daytime	Evening	Nighttime	Day Splits
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Typical Southern California vehicle mix. Vehicle mix percentage values rounded to the nearest one-hundredth. "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.





Classification		Total % Traffic Flow		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	95.52%	2.33%	2.15%	100.00%

TABLE 6-4: WITHOUT PROJECT CONDITIONS VEHICLE MIX

Based on an existing PM peak hour vehicle count taken at Citrus Avenue and Jurupa Avenue (Goodman Industrial Park Fontana III Traffic Impact Analysis.). Vehicle mix percentage values rounded to the nearest one-hundredth.

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Citrus Av.	n/o Jurupa Av.	94.57%	2.46%	2.97%	100.00%
2	Juniper Av.	n/o Santa Ana Av.	95.71%	2.23%	2.06%	100.00%
3	Juniper Av.	s/o Santa Ana Av.	96.13%	2.01%	1.86%	100.00%
4	Sierra Av.	n/o Santa Ana Av.	95.36%	2.35%	2.30%	100.00%
5	Sierra Av.	s/o Santa Ana Av.	95.26%	2.37%	2.37%	100.00%
6	Sierra Av.	n/o Jurupa Av.	95.20%	2.38%	2.43%	100.00%
7	Sierra Av.	s/o Jurupa Av.	95.35%	2.35%	2.30%	100.00%
8	Jurupa Av.	w/o Citrus av.	95.08%	2.38%	2.53%	100.00%
9	Jurupa Av.	w/o Oleander Av.	94.56%	2.46%	2.98%	100.00%
10	Jurupa Av.	w/o Cypress Av.	94.59%	2.45%	2.96%	100.00%
11	Jurupa Av.	w/o Juniper Av.	94.62%	2.45%	2.93%	100.00%
12	Jurupa Av.	w/o Sierra Av.	94.88%	2.42%	2.70%	100.00%

TABLE 6-5: EXISTING WITH PROJECT CONDITIONS VEHICLE MIX

¹ Source: Fontana Foothill Commerce Center Traffic Impact Analysis.

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



				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Citrus Av.	n/o Jurupa Av.	94.81%	2.43%	2.77%	100.00%
2	Juniper Av.	n/o Santa Ana Av.	95.69%	2.24%	2.07%	100.00%
3	Juniper Av.	s/o Santa Ana Av.	96.02%	2.07%	1.91%	100.00%
4	Sierra Av.	n/o Santa Ana Av.	95.39%	2.34%	2.27%	100.00%
5	Sierra Av.	s/o Santa Ana Av.	95.31%	2.36%	2.33%	100.00%
6	Sierra Av.	n/o Jurupa Av.	95.25%	2.37%	2.38%	100.00%
7	Sierra Av.	s/o Jurupa Av.	95.37%	2.35%	2.28%	100.00%
8	Jurupa Av.	w/o Citrus av.	95.20%	2.37%	2.44%	100.00%
9	Jurupa Av.	w/o Oleander Av.	94.75%	2.43%	2.82%	100.00%
10	Jurupa Av.	w/o Cypress Av.	94.76%	2.43%	2.81%	100.00%
11	Jurupa Av.	w/o Juniper Av.	94.76%	2.43%	2.81%	100.00%
12	Jurupa Av.	w/o Sierra Av.	95.01%	2.40%	2.59%	100.00%

TABLE 6-6: OPENING YEAR 2022 WITH PROJECT CONDITIONS VEHICLE MIX

¹ Source: Fontana Foothill Commerce Center Traffic Impact Analysis.

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

TABLE 6-7: HORIZON YEAR 2040 WITH PROJECT CONDITIONS VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Citrus Av.	n/o Jurupa Av.	94.87%	2.42%	2.71%	100.00%
2	Juniper Av.	n/o Santa Ana Av.	95.68%	2.25%	2.07%	100.00%
3	Juniper Av.	s/o Santa Ana Av.	95.99%	2.09%	1.93%	100.00%
4	Sierra Av.	n/o Santa Ana Av.	95.40%	2.34%	2.26%	100.00%
5	Sierra Av.	s/o Santa Ana Av.	95.33%	2.36%	2.32%	100.00%
6	Sierra Av.	n/o Jurupa Av.	95.29%	2.36%	2.35%	100.00%
7	Sierra Av.	s/o Jurupa Av.	95.41%	2.34%	2.25%	100.00%
8	Jurupa Av.	w/o Citrus av.	95.23%	2.36%	2.41%	100.00%
9	Jurupa Av.	w/o Oleander Av.	94.82%	2.42%	2.76%	100.00%
10	Jurupa Av.	w/o Cypress Av.	94.82%	2.42%	2.76%	100.00%
11	Jurupa Av.	w/o Juniper Av.	94.82%	2.42%	2.76%	100.00%
12	Jurupa Av.	w/o Sierra Av.	95.05%	2.40%	2.55%	100.00%

¹ Source: Fontana Foothill Commerce Center Traffic Impact Analysis.

 $^{\rm 2}$ Total of vehicle mix percentage values rounded to the nearest one-hundredth.



6.3 CONSTRUCTION VIBRATION ASSESSMENT METHODOLOGY

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 6-8. 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: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

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

TABLE 6-8: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018.



7 OFF-SITE TRANSPORTATION NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Traffic Impact Analysis*. (2) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- <u>Existing Conditions Without / With Project</u>: This scenario refers to the existing present-day noise conditions without and with the proposed Project.
- <u>Opening Year 2022 Without / With the Project</u>: This scenario refers to Opening Year 2022 noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the *Traffic Impact Analysis*.
- <u>Horizon Year 2040 Without / With the Project</u>: This scenario refers Year 2040 noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the *Traffic Impact Analysis*.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 and 7-6 present a summary of the exterior traffic noise levels, without barrier attenuation, for the study area roadway segments analyzed from the without Project to the with Project conditions under Existing, Opening Year 2022, and Horizon Year 2040 traffic conditions. Appendix 7.1 includes a summary of the traffic noise level contours for each of the traffic scenarios.



			Receiving	CNEL at Receiving		nce to Co enterline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	68.8	RW	82	177
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	63.3	RW	RW	56
3	Juniper Av.	s/o Santa Ana Av.	R-PC	64.0	RW	RW	63
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	74.1	124	267	575
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	74.1	124	266	574
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	73.2	108	232	499
7	Sierra Av.	s/o Jurupa Av.	R-PC	73.1	106	229	493
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	71.2	72	155	334
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	71.3	73	158	340
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	71.4	75	161	347
11	Jurupa Av.	w/o Juniper Av.	R-PC	71.6	76	165	355
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	71.5	75	162	350

TABLE 7-1: EXISTING WITHOUT PROJECT NOISE CONTOURS

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" =



			Receiving	CNEL at Receiving		nce to Co enterline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	69.5	RW	92	199
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	63.3	RW	RW	57
3	Juniper Av.	s/o Santa Ana Av.	R-PC	64.3	RW	RW	66
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	74.2	126	272	587
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	74.3	127	274	590
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	73.4	111	240	516
7	Sierra Av.	s/o Jurupa Av.	R-PC	73.2	108	233	502
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	71.5	76	164	352
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	72.0	82	176	379
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	72.1	83	179	386
11	Jurupa Av.	w/o Juniper Av.	R-PC	72.3	85	183	394
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	71.9	81	174	376

TABLE 7-2: EXISTING WITH PROJECT NOISE CONTOURS

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" =



			Receiving	CNEL at Receiving		nce to Co enterline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	70.0	46	100	215
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	63.8	RW	RW	61
3	Juniper Av.	s/o Santa Ana Av.	R-PC	65.0	RW	34	73
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	75.0	141	304	656
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	75.0	142	305	658
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	74.0	121	262	564
7	Sierra Av.	s/o Jurupa Av.	R-PC	73.9	119	257	554
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	72.5	88	189	406
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	72.3	85	184	395
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	72.3	85	184	396
11	Jurupa Av.	w/o Juniper Av.	R-PC	72.3	85	184	396
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	72.5	88	189	406

TABLE 7-3: OPENING YEAR 2022 WITHOUT PROJECT NOISE CONTOURS

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" =



			Receiving	CNEL at Receiving		nce to Co enterline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	70.6	51	109	235
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	63.8	RW	RW	61
3	Juniper Av.	s/o Santa Ana Av.	R-PC	65.2	RW	35	76
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	75.1	144	309	667
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	75.1	145	312	673
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	74.2	125	269	580
7	Sierra Av.	s/o Jurupa Av.	R-PC	74.0	121	261	562
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	72.7	91	196	423
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	72.9	93	201	432
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	72.9	93	201	433
11	Jurupa Av.	w/o Juniper Av.	R-PC	72.9	93	201	433
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	72.8	93	200	430

TABLE 7-4: OPENING YEAR 2022 WITH PROJECT NOISE CONTOURS

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" =



			Receiving	CNEL at		nce to Co enterline	
ID	Road	Segment	t Receiving Land Use ¹ CNEL at Receiving Land Use ¹ from Cen I Land Use ¹ 70 dBA (dBA) ² 70 dBA CNEL 70 dSA CNEL 70 dSA CNEL	65 dBA CNEL	60 dBA CNEL		
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	70.4	49	106	228
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	64.2	RW	RW	64
3	Juniper Av.	s/o Santa Ana Av.	R-PC	65.3	RW	36	77
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	75.4	150	324	698
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	75.4	151	325	701
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	74.7	135	291	627
7	Sierra Av.	s/o Jurupa Av.	R-PC	74.9	140	301	650
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	72.9	93	201	432
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	72.7	90	195	420
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	72.7	91	195	421
11	Jurupa Av.	w/o Juniper Av.	R-PC	72.7	91	196	421
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	72.9	93	201	432

TABLE 7-5: HORIZON YEAR 2040 WITHOUT PROJECT NOISE CONTOURS

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" =



			Receiving	CNEL at Receiving		nce to Co enterline	
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	71.0	53	115	247
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	64.2	RW	RW	65
3	Juniper Av.	s/o Santa Ana Av.	R-PC	65.6	RW	37	80
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	75.5	153	329	709
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	75.5	154	332	715
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	74.8	138	298	642
7	Sierra Av.	s/o Jurupa Av.	R-PC	75.0	142	305	658
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	73.1	97	208	449
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	73.2	98	211	456
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	73.2	98	212	457
11	Jurupa Av.	w/o Juniper Av.	R-PC	73.2	98	212	457
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	73.2	98	211	455

TABLE 7-6: HORIZON YEAR 2040 WITH PROJECT NOISE CONTOURS

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" =



7.2 EXISTING CONDITION PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-1 presents the Existing without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 63.3 to 74.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 63.3 to 74.3 dBA CNEL. As shown on Table 7-7 the Project will generate a noise level increase of up to 0.7 dBA CNEL on the study area roadway segments. Based on the significance criteria in Section 4, the Project-related noise level increases are considered *less than significant* under Existing conditions at the land uses adjacent to roadways conveying Project traffic.

7.3 OPENING YEAR PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Opening Year 2022 without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 63.8 to 75.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Opening Year 2022 with Project conditions will range from 63.8 to 75.1 dBA CNEL. As shown on Table 7-8 the Project will generate a noise level increase of up to 0.6 dBA CNEL on the study area roadway segments. Based on the significance criteria in Section 4, the Project-related noise level increases are considered *less than significant* under Opening Year 2022 conditions at the land uses adjacent to roadways conveying Project traffic.

7.4 HORIZON YEAR PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the Horizon Year 2040 without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 64.2 to 75.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the Horizon Year 2040 with Project conditions will range from 64.2 to 75.5 dBA CNEL. As shown on Table 7-9 the Project will generate a noise level increase of up to 0.5 dBA CNEL on the study area roadway segments. Based on the significance criteria in Section 4, the Project-related noise level increases are considered *less than significant* under Horizon Year 2040 conditions at the land uses adjacent to roadways conveying Project traffic.



ID	Road	Segment	Receiving		EL at Recei nd Use (dB	-	Noise Sensitive	Incremental Noise Level Increase Threshold ³	
			Land Use ¹	No Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	68.8	69.5	0.7	No	3	No
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	63.3	63.3	0.0	Yes	3	No
3	Juniper Av.	s/o Santa Ana Av.	R-PC	64.0	64.3	0.3	Yes	3	No
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	74.1	74.2	0.1	Yes	3	No
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	74.1	74.3	0.2	Yes	3	No
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	73.2	73.4	0.2	Yes	3	No
7	Sierra Av.	s/o Jurupa Av.	R-PC	73.1	73.2	0.1	Yes	3	No
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	71.2	71.5	0.3	Yes	3	No
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	71.3	72.0	0.7	Yes	3	No
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	71.4	72.1	0.7	Yes	3	No
11	Jurupa Av.	w/o Juniper Av.	R-PC	71.6	72.3	0.7	Yes	3	No
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	71.5	71.9	0.4	Yes	3	No

TABLE 7-7: EXISTING CONDITION OFF-SITE PROJECT-RELATED TRAFFIC NOISE IMPACTS

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)?

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" = Walkable Mixed Use Corridor & Downtown; "R-SF" = Single Family Residential; "C-G" = General Commercial.



ID	Road	Segment	Receiving		EL at Receit nd Use (dB	-	Noise Sensitive	Level I	ntal Noise ncrease shold ³
			Land Use ¹	No Project	With Project	Project Addition	Land Use?	Limit	Exceeded?
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	70.0	70.6	0.6	No	3	No
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	63.8	63.8	0.0	Yes	3	No
3	Juniper Av.	s/o Santa Ana Av.	R-PC	65.0	65.2	0.2	Yes	3	No
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	75.0	75.1	0.1	Yes	3	No
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	75.0	75.1	0.1	Yes	3	No
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	74.0	74.2	0.2	Yes	3	No
7	Sierra Av.	s/o Jurupa Av.	R-PC	73.9	74.0	0.1	Yes	3	No
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	72.5	72.7	0.2	Yes	3	No
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	72.3	72.9	0.6	Yes	3	No
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	72.3	72.9	0.6	Yes	3	No
11	Jurupa Av.	w/o Juniper Av.	R-PC	72.3	72.9	0.6	Yes	3	No
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	72.5	72.8	0.3	Yes	3	No

TABLE 7-8: OPENING YEAR OFF-SITE PROJECT-RELATED TRAFFIC NOISE IMPACTS

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)?

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" = Walkable Mixed Use Corridor & Downtown; "R-SF" = Single Family Residential; "C-G" = General Commercial.



ID	Road	Segment	Receiving		L at Receir d Use (dB	-	Noise Sensitive	Exterior Noise	Level I	ntal Noise ncrease shold ³
			Land Use ¹	No Project	With Project	Project Addition	Land Use?	Standard	Limit	Exceeded?
1	Citrus Av.	n/o Jurupa Av.	I-L/I-G	70.4	71.0	0.6	No	70	3	No
2	Juniper Av.	n/o Santa Ana Av.	P-PF/R-PC	64.2	64.2	0.0	Yes	65	3	No
3	Juniper Av.	s/o Santa Ana Av.	R-PC	65.3	65.6	0.3	Yes	65	3	No
4	Sierra Av.	n/o Santa Ana Av.	I-L/R-PC	75.4	75.5	0.1	Yes	65	3	No
5	Sierra Av.	s/o Santa Ana Av.	WMXU-1/R-SF	75.4	75.5	0.1	Yes	65	3	No
6	Sierra Av.	n/o Jurupa Av.	WMXU-1/C-G	74.7	74.8	0.1	Yes	65	3	No
7	Sierra Av.	s/o Jurupa Av.	R-PC	74.9	75.0	0.1	Yes	65	3	No
8	Jurupa Av.	w/o Citrus av.	I-L/R-PC	72.9	73.1	0.2	Yes	65	3	No
9	Jurupa Av.	w/o Oleander Av.	I-L/R-PC	72.7	73.2	0.5	Yes	65	3	No
10	Jurupa Av.	w/o Cypress Av.	I-G/R-PC	72.7	73.2	0.5	Yes	65	3	No
11	Jurupa Av.	w/o Juniper Av.	R-PC	72.7	73.2	0.5	Yes	65	3	No
12	Jurupa Av.	w/o Sierra Av.	WMXU-1/R-PC	72.9	73.2	0.3	Yes	65	3	No

TABLE 7-9: HORIZON YEAR OFF-SITE PROJECT-RELATED TRAFFIC NOISE IMPACTS

¹ Source: City of Fontana General Plan Land Use Map adopted September 10, 2019.

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)?

"I-L" = Light Industrial; "I-G" = General Industrial; "P-PF" = Public Facilities; "R-PC" = Residential Planned Community; "WMXU-1" = Walkable Mixed Use Corridor & Downtown; "R-SF" = Single Family Residential; "C-G" = General Commercial.



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8 **RECEIVER LOCATIONS**

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

Consistent with the Fontana Foothills Commerce Center Air Quality Impact Analysis (21), six sensitive receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site. 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. Noise-sensitive receivers near the Project site include existing residential homes, Citrus High School, and St. Mary's Church. 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 734 feet north of the Project site boundaries, R1 represents the existing residential homes, north of Santa Ana Avenue. A 24-hour noise level measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing residential community east of Sierra Avenue roughly 842 feet east of the Project site. A 24-hour noise level measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents an existing residence at 11216 Avenue situated approximately 15 feet east of the Project site. A 24-hour noise level measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing residential community south of Jurupa Avenue roughly 134 feet south of the Project site. A 24-hour noise level measurement was taken near this location, L4, to describe the existing ambient noise environment.
- R5: Location R5 represents the St. Mary's Catholic Church located 756 feet of the Project site. A 24-hour noise level measurement was taken near this location, L5, to describe the existing ambient noise environment.



R6: Location R6 represents an existing residential home situated approximately 86 feet west of the Project site. A 24-hour noise level measurement was taken near this location, L6, to describe the existing ambient noise environment.



EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE ANALYSIS

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 Fontana Foothills Commerce Center Project. Exhibit 9-A identifies the noise source and receiver locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

At the time this noise analysis was prepared the future tenants of the proposed Project were unknown. Therefore, this operational noise analysis is intended to describe noise level impacts associated with the expected typical of high-cube cold storage warehouse use 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 high-cube cold storage warehouse 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: cold storage loading dock activity, entry gate & truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity.

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 cold storage loading dock activity, entry gate & truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity all operating at the same time. These noise level impacts will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

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





EXHIBIT 9-A: OPERATIONAL NOISE SOURCE AND RECEIVER LOCATIONS



Noise Source	Duration	Ref.	Noise Source	Min.,	/Hour⁵	Reference Noise Level (dBA L _{eq})		Level (dBA L _{eq}) Po		Sound Power
Noise Source	(hh:mm:ss)	Distance (Feet)	Height (Feet)	Day	Night	@ Ref. Dist.	@ 50 Feet	Level (dBA) ⁶		
Cold Storage Loading Dock Activity ¹	00:14:00	30'	8'	60	60	70.1	65.7	105.7		
Entry Gate & Truck Movements ¹	00:15:00	20'	8'	_7	_7	64.0	58.0	89.7		
Roof-Top Air Conditioning Units ²	96:00:00	5'	5'	39	28	77.2	57.2	88.9		
Parking Lot Vehicle Movements ³	01:00:00	10'	5'	60	60	52.2	41.7	79.0		
Trash Enclosure Activity ⁴	00:00:32	5'	5'	20	20	77.3	57.3	94.0		

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

¹As measured by Urban Crossroads, Inc. at the Nature's Best Distribution Facility in the City of Chino.

² As measured by Urban Crossroads, Inc. at the Santee Walmart located at 170 Town Center Parkway.

³ As measured by Urban Crossroads, Inc. at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

⁴ As measured by Urban Crossroads, Inc. at trash enclosure in a parking lot in the City of Costa Mesa. ⁵ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Day" = 7:00 a.m. to

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

⁶Sound 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.

⁷ Entry Gate & Truck Movements are calculate based on the number of events by time of day (See Table 9-2).

9.2.2 COLD STORAGE LOADING DOCK ACTIVITIES

To describe the cold storage loading dock activities, a reference noise level measurement was collected to represent the truck idling/reefer activity at the Nature's Best distribution facility located at 16081 Fern Avenue in the City of Chino. During the fourteen-minute truck idling/reefer activity reference noise level measurement, approximately 20 delivery trucks were docked, idling, or parked in the northern loading dock area. The truck idling/reefer activity reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the truck idling/reefer activity reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.2.3 ENTRY GATE & TRUCK MOVEMENTS

An entry gate and truck movements reference noise level measurement were taken at the southern entry gate of the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino over a 15-minute period and represents multiple noise sources producing a reference noise level of 58.0 dBA Leq at 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and background truck court activities

and forklift backup alarm noise. Using the truck trip distributions from the on *Fontana Foothills Commerce Center Traffic Impact Analysis* (2) and the time of day vehicle splits shown on Table 6-3, the number of entry gate and truck movements were calculated. As shown on Table 9-2, this information is then used to calculate the entry gate and truck movements operational noise source activity based on the number of events by time of day.

Entry Gate &	Total	Truck	Truck	Time of Day Vehicle Splits ⁵			Truck Movements ⁶		
Truck Movement Location ¹	Project Truck Trips ²	Trip Dist. ³	Trips by Driveway ⁴	Day	Evening	Night	Day	Evening	Night
Driveway 1		30%	103	86.50%	2.70%	10.80%	89	3	11
Driveway 2	342	55%	188	84.50%	2.95%	12.55%	159	6	24
Driveway 4		15%	51	84.50%	2.95%	12.55%	43	2	6

TABLE 9-2: ENTRY GATE & TRUCK MOVEMENTS BY LOCATION

¹ Driveway locations as shown on the Site Plan Exhibit 9-A.

² Total Project truck trips according to Table 4-1 of the Fontana Foothills Commerce Center Traffic Impact Analysis.

³ Project truck trip distribution according to Exhibit 4-2 of the Fontana Foothills Commerce Center Traffic Impact Analysis.

⁴ Calculated trip trucks per location represents the product of the total project truck trips by the trip distribution percentage.

⁵ Heavy truck time of day vehicle splits as shown on Table 6-3.

⁶ Calculated time of day entry gate and truck movements by location.

9.2.4 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units within the planned commercial retail land uses within the Project site, reference noise levels measurements were taken at the Santee Walmart. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe a single mechanical roof-top air conditioning unit on the roof of the existing Walmart store. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At 5 feet from the roof-top air conditioning unit, the exterior noise levels were measured at 77.2 dBA L_{eq}. 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 buildings. The noise attenuation provided by the existing parapet wall is not reflected in this reference noise level measurement.

9.2.5 PARKING LOT VEHICLE MOVEMENTS

To determine the noise levels associated with parking lot vehicle movements, Urban Crossroads collected reference noise level measurements over a 24-hour period at the parking lot for the Panasonic Avionics Corporation in the City of Lake Forest. The peak hour of activity measured over the 24-hour noise level measurement period occurred between 12:00 p.m. to 1:00 p.m., or the typical lunch hour for employees working in the area. The measured reference noise level at



50 feet from parking lot vehicle movements was measured at 38.2 dBA L_{eq} . The parking lot noise levels are mainly due to cars pulling in and out of spaces during peak lunch hour activity and employees talking. Noise associated with parking lot vehicle movements is expected to operate for the entire hour (60 minutes).

9.2.6 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure, Urban Crossroads collected a reference noise level measurement at an existing commercial and office park trash enclosure within a parking lot on the northeast corner of Baker Street and Red Hill Avenue. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The trash enclosure activity noise levels include two metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, trash dropping into the metal dumpster, and background parking lot vehicle movements. Noise associated with trash enclosure activities is conservatively expected to occur for 20 minutes per hour.

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 the noise level of multiple types of noise sources and calculates the noise levels at any location using the spatially accurate Project site plan and includes the effects of topography, buildings, and multiple barriers in its calculations using the latest standards to predict outdoor noise impacts. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section. Using the spatially accurate Project site plan and flown aerial imagery from Nearmap, a CadnaA noise prediction model of the Project study area was developed. The noise model provides a three-dimensional representation of the Project study area using the following key data inputs:

- Ground absorption;
- Multiple reflections at buildings and barriers;
- Reference noise level sources by type (area, point, etc.) and noise source height;
- Multiple noise receiver locations and heights;
- Topography and earthen berms;
- Barrier and building heights.

Using the ISO 9613 protocol, the CadnaA noise prediction model 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 calculations at each receiver location and the partial noise level contributions by noise source. The reference sound power level (PWL) for the highest noise source expected at the Project site was input into the CadnaA noise prediction model. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result 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. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6.0 dBA for each doubling of distance from a point source, based on existing conditions in the Project study area.

9.4 **PROJECT OPERATIONAL NOISE LEVELS**

Using the reference noise levels to represent the proposed Project operations that include cold storage loading dock activity, entry gate & truck movements, roof-top air conditioning units, parking lot vehicle movements and trash enclosure activity, 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. Tables 9-3 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 37.9 to 63.6 dBA L_{eq} .

Niciae Course	Oper	ational Noi	se Levels by	Receiver Lo	cation (dBA	Leq)
Noise Source	R1	R2	R3	R4	R5	R6
Cold Storage Loading Dock Activity	41.2	43.6	63.4	32.0	48.6	53.9
Entry Gate & Truck Movements	30.7	29.9	48.7	27.3	40.6	50.1
Roof-Top Air Conditioning Units	27.8	27.4	33.3	35.4	33.2	36.8
Parking Lot Vehicle Movements	23.9	12.7	28.9	26.7	28.2	35.7
Trash Enclosure Activity	24.1	17.3	36.2	17.2	36.9	44.5
Total (All Noise Sources)	41.9	43.9	63.6	37.9	49.6	55.8

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

¹ See Exhibit 8-A for the receiver locations

Tables 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 35.7 to 62.4 dBA L_{eq} . The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1). Appendix 9.1 includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project operational noise levels presented in this section.



Naisa Cauraa	Operational Noise Levels by Receiver Location (dBA Leq)							
Noise Source	R1	R2	R3	R4	R5	R6		
Cold Storage Loading Dock Activity	40.2	42.6	62.4	31.0	47.7	53.0		
Entry Gate & Truck Movements	21.7	21.4	40.1	18.7	32.2	41.7		
Roof-Top Air Conditioning Units	25.4	24.9	30.9	33.0	30.8	34.4		
Parking Lot Vehicle Movements	22.9	11.7	27.9	25.7	27.3	34.8		
Trash Enclosure Activity	23.1	16.4	35.2	16.2	35.9	43.5		
Total (All Noise Sources)	40.6	42.7	62.4	35.7	48.2	53.8		

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

¹ See Exhibit 8-A for the receiver locations

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 Fontana exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-5 shows the operational noise levels associated with Fontana Foothills Commerce Center Project will satisfy the City of Fontana 70 dBA L_{eq} daytime and 65 dBA L_{eq} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

Receiver Location ¹		perational s (dBA Leq) ²	Noise Level Standards (dBA Leq) ³		Threshold Exceeded? ⁴		
Location	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	
R1	41.9	40.6	70	65	No	No	
R2	43.9	42.7	70	65	No	No	
R3	63.6	62.4	70	65	No	No	
R4	37.9	35.7	70	65	No	No	
R5	R5 49.6 48.2		70	65	No	No	
R6	55.8	53.8	70	65	No	No	

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

¹ See Exhibit 8-A for the noise receiver locations.

² Proposed Project operational noise levels as shown on Tables 9-3 and 9-4.

³ City of Fontana exterior noise level standards for residential land use, as shown on Table 3-1.

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

"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. (3) Instead, they must be logarithmically added using the following base equation:

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

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 describe the Project noise level contributions 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 9-6 and 9-7, respectively. As indicated on Tables 9-6 and 9-7, the Project will generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.0 to 7.6 dBA L_{eq} at the nearby receiver locations. Project-related operational noise level contributions will satisfy the operational noise level increase significance criteria presented in Table 4-1, the increases at the sensitive receiver locations will be *less than significant*.

9.7 **REFLECTION**

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (5) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.



Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels⁴	Combined Project and Ambient⁵	Project Increase ⁶	Noise Standard	Standard Exceeded	Incremental Threshold ⁷	Incremental Threshold Exceeded? ⁷			
R1	41.9	L1	65.2	65.2	0.0	65	No	n/a	No			
R2	43.9	L2	63.3	63.3	0.0	65	No	n/a	No			
R3	63.6	L3	57.4	64.5	7.1	65	No	n/a	No			
R4	37.9	L4	73.9	73.9	0.0	65	No	n/a	No			
R5	49.6	L5	56.9	57.6	0.7	65	No	n/a	No			
R6	55.8	L6	64.0	64.6	0.6	65	No	n/a	No			

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

¹ See Exhibit 8-A for the sensitive receiver locations.

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

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 Criteria as defined in Section 4.

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Noise Standard	Standard Exceeded	Incremental Threshold ⁷	Incremental Threshold Exceeded? ⁷
R1	40.6	L1	60.5	60.5	0.0	65	No	n/a	No
R2	42.7	L2	57.1	57.3	0.2	65	No	n/a	No
R3	62.4	L3	55.7	63.3	7.6	65	No	n/a	No
R4	35.7	L4	70.8	70.8	0.0	65	No	n/a	No
R5	48.2	L5	55.5	56.2	0.7	65	No	n/a	No
R6	53.8	L6	59.5	60.5	1.0	65	No	n/a	No

TABLE 9-7: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

¹ See Exhibit 8-A for the sensitive receiver locations.

² Total Project operational noise levels as shown on Table 9-4.

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 Criteria as defined in Section 4.



10 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction activity boundaries in relation to the nearby sensitive receiver locations.

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. The number and mix of construction equipment is expected to occur in the following stages:

- Demolition
- Site Preparation
- 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. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver. The construction stages used in this analysis are consistent with the data used to support the construction emissions in the *Fontana Foothills Commerce Center Air Quality Impact Analysis* prepared by Urban Crossroads, Inc. (21)

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

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. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.



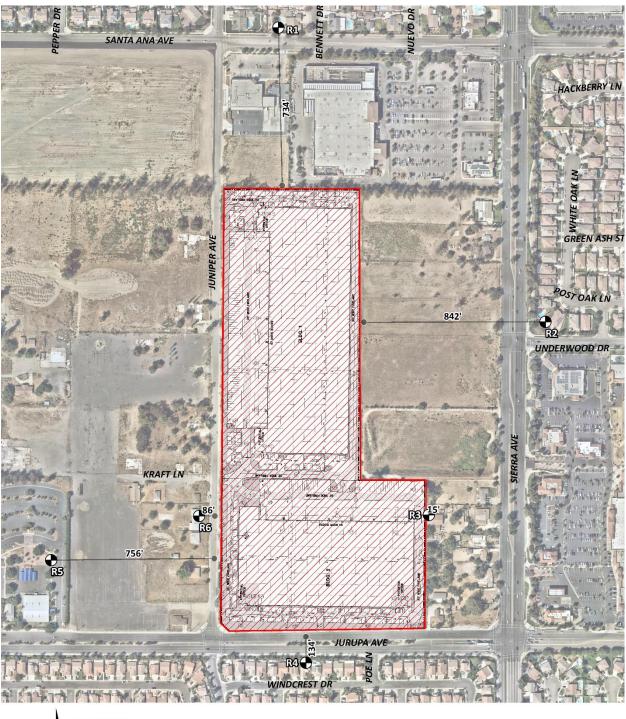


EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS

LEGEND: N

Receiver Locations

Distance from receiver to Project site boundary (in feet)



Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})		
Demolition	Demolition Activity	67.9			
	Backhoe	64.2	71.9		
	Water Truck Pass-By & Backup Alarm	71.9			
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3		
	Backhoe	64.2			
	Water Truck Pass-By & Backup Alarm	71.9			
Grading	Rough Grading Activities	73.5			
	Water Truck Pass-By & Backup Alarm	71.9	73.5		
	Construction Vehicle Maintenance Activities	67.5			
Building Construction	Foundation Trenching	68.2			
	Framing	62.3	71.6		
	Concrete Mixer Backup Alarms & Air Brakes	71.6			
Paving	Concrete Mixer Truck Movements	71.2	71.2		
	Concrete Paver Activities	65.6			
	Concrete Mixer Pour & Paving Activities	65.9			
Architectural Coating	Air Compressors	65.2			
	Generator	64.9	65.2		
	Crane	62.3			

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

 $^{1}\,\mathrm{Reference}$ construction noise level measurements taken by Urban Crossroads, Inc.

10.3 CONSTRUCTION NOISE ANALYSIS

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of primary construction activity to each of the nearby receiver locations. As shown on Table 10-2, the unmitigated construction noise levels are expected to range from 51.7 to 77.3 dBA L_{eq} at the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Fontana Municipal Code, Section 18-63(7) of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 8:00 a.m. to 5:00 p.m. on Saturdays.

If Project construction activity occurs outside of the hours specified in the Municipal Code, noise levels shall satisfy the City of Fontana construction noise level thresholds of 70 dBA L_{eq} during the daytime hours and 65 dBA L_{eq} during the nighttime hours. At the time of this analysis, no nighttime Project construction activity was planned.



Receiver Location ¹	Construction Noise Levels (dBA L _{eq})							
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²	
R1	63.2	66.6	64.8	62.9	62.5	56.5	66.6	
R2	64.8	68.2	66.4	64.5	64.1	58.1	68.2	
R3	73.9	77.3	75.5	73.6	73.2	67.2	77.3	
R4	69.7	73.1	71.3	69.4	69.0	63.0	73.1	
R5	64.6	68.0	66.2	64.3	63.9	57.9	68.0	
R6	71.2	74.6	72.8	70.9	70.5	64.5	74.6	

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

¹Noise 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.

10.4 CONSTRUCTION VIBRATION ANALYSIS

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, 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 Federal Transit Administration (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 6-8 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-9 presents the expected Project related vibration levels at each of the sensitive receiver locations based on the 0.2 in/sec PPV threshold for vibration.

At distances ranging from 15 to 842 feet from Project construction activity, construction vibration velocity levels are expected to approach 0.19 in/sec PPV. Based on the vibration standards used in this report, the unmitigated Project construction vibration levels will satisfy the 0.2 in/sec PPV threshold at all of the nearby sensitive receiver locations. Therefore, the vibration impacts due to Project construction are considered *less than significant*. Further, vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period

but will occur rather only during the times that heavy construction equipment is operating simultaneously adjacent to the Project site perimeter.

Receiver ¹	Distance	Receiver PPV Levels (in/sec) ²						
	to Const. Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Peak Vibration	Threshold (in/sec PPV)	Threshold Exceeded? ³
R1	734'	0.000	0.000	0.000	0.001	0.001	0.2	No
R2	842'	0.000	0.000	0.000	0.000	0.000	0.2	No
R3	15'	0.006	0.075	0.164	0.191	0.191	0.2	No
R4	134'	0.000	0.003	0.006	0.007	0.007	0.2	No
R5	756'	0.000	0.000	0.000	0.001	0.001	0.2	No
R6	86'	0.000	0.005	0.012	0.014	0.014	0.2	No

TABLE 10-3: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

¹Receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ Does the peak vibration exceed the vibration thresholds?



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11 REFERENCES

- 1. **State of California.** *California Environmental Quality Act, Environmental Checklist Form Appendix G.* 2019.
- 2. Urban Crossroads, Inc. Fontana Foothills Commerce Center Traffic Impact Analysis. January 2020.
- 3. California Department of Transportation Environmental Program. *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
- 4. 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.
- 5. 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.
- 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. Occupational Safety and Health Administration. Standard 29 CRF, Part 1910.
- 9. U.S. Department of Transportation, Federal Transit Administration. *Transit Noise and Vibration Impact Assessment*. September 2018.
- 10. Office of Planning and Research. State of California General Plan Guidlines. October 2017.
- 11. State of California. California Green Building Standards Code. 2016.
- 12. City of Fontana. General Plan Noise Element. November 2018.
- 13. —. Zoning and Development Code, Section 30, Article V Residential Zoning Districts, Division 6 Performance Standards.
- 14. —. Municipal Code, Chapter 18, Article II Noise.
- 15. City of Ontario. LA/Ontario International Airport Land Use Compatibility Plan. April 2011.
- 16. **City of Fontana Community Development.** *Noise and Vibration Thresholds of Significance, Confirmation of Noise Impact Analysis Scope for an Industrial Warehouse Project.* May 2019.
- 17. American National Standards Institute (ANSI). Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.
- 18. U.S. Department of Transportation, Federal Highway Administration. FHWA Highway Traffic Noise Prediction Model. December 1978. FHWA-RD-77-108.
- 19. California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.
- 20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
- 21. Urban Crossroads, Inc. Fontana Foothills Commerce Center Air Quality Impact Analysis. February 2020.





12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Fontana Foothills Commerce Center 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) 336-5979.

Bill Lawson, P.E., INCE Principal URBAN CROSSROADS, INC. 260 E. Baker Street, Suite 200 Costa Mesa, CA 92626 (949) 336-5979 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





APPENDIX 3.1:

CITY OF FONTANA DEVELOPMENT CODE





Section No. 30-542 - Trash and Recycling Collection Areas.

All trash receptacles and disposal areas shall be screened from view. All industrial facilities shall be provided with trash receptacles and recycling facilities as follows:

- 1. *Number*. An adequate number and size of receptacles shall be provided to serve all uses on a property.
- 2. **Screening**. All receptacles shall be screened and the trash enclosure that is designed pursuant to the City approved Conceptual Plan. The receptacle shall not be visible above the wall. The enclosure shall be architecturally compatible with the architecture of the proposed/existing structures.

DIVISION 6. - PERFORMANCE STANDARDS

Section No. 30-543 - Noise and Vibration.

- A. **Noise Levels**. No person shall create or cause to be created any sound which exceeds the noise levels in this Section as measured at the property line of any residentially zoned property:
 - 1. The noise level between 7:00 a.m. and 10:00 p.m. shall not exceed 70 db(A).
 - 2. The noise level between 10:00 p.m. and 7:00 a.m. shall not exceed 65 db(A).
- B. Noise Measurements. Noise shall be measured with a sound level meter that meets the standards of the American National Standards Institute (ANSI) Section SI4-1979, Type 1 or Type 2. Noise levels shall be measured using the "A" weighted sound pressure level scale in decibels (reference pressure = 20 micronewtons per meter squared).
- C. *Vibration*. No person shall create or cause to be created any activity which causes a vibration which can be felt beyond the property line with or without the aid of an instrument.

Section No. 30-544 - Light and Glare.

All lights shall be directed and/or shielded to prevent the light from adversely affecting adjacent properties. No structure or lighting feature shall be permitted which creates adverse glare. A photometric plan shall be provided that indicates the amount of light emanating from the proposed/existing light fixtures.

Section No. 30-545 - Odors.

All uses shall be operated in a manner such that no offensive odor is perceptible at or beyond the property line of that use.

Section No. 30-546 - Electromagnetic Interference.

No use, activity, or process shall be conducted which produces electromagnetic interference with normal radio and television receptions beyond the property line of that use.



APPENDIX 5.1:

STUDY AREA PHOTOS







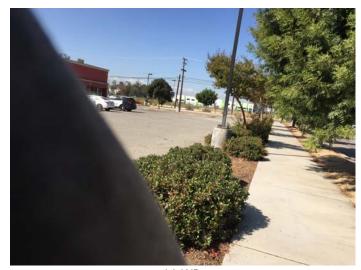
L1-EB 34, 3' 20.470000"117, 26' 20.930000"



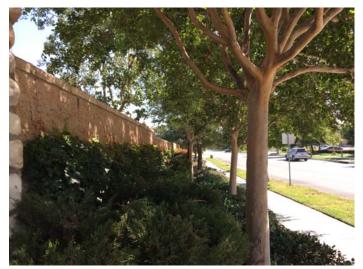
L1-NB 34, 3' 20.470000"117, 26' 20.930000"



L1-SB 34, 3' 20.470000"117, 26' 20.930000"



L1-WB 34, 3' 20.470000"117, 26' 20.910000"



L2-EB 34, 3' 7.760000"117, 26' 6.020000"



L2-NB 34, 3' 7.140000"117, 26' 5.410000"

L3-SB 34, 3' 4.650000"117, 26' 9.950000"

L3-WB 34, 3' 4.670000"117, 26' 10.060000"





L3-EB 34, 3' 4.650000"117, 26' 9.950000"



34, 3' 10.300000"117, 26' 6.840000"

L2-WB 34, 3' 7.770000"117, 26' 6.070000"



L2-SB 34, 3' 7.720000"117, 26' 5.940000"

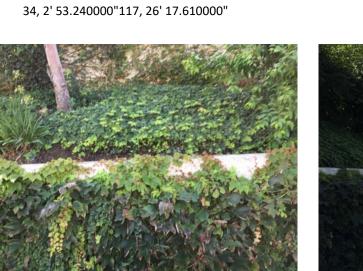


JN:12980

L5-EB 34, 2' 59.010000"117, 26' 33.430000"

L5-NB 34, 2' 58.830000"117, 26' 35.000000"





L4-SB

34, 2' 53.140000"117, 26' 17.800000"



34, 2' 53.210000"117, 26' 17.550000"

L4-NB 34, 2' 53.140000"117, 26' 17.800000"



L4-EB



JN:12980

78

L6-SB 34, 2' 58.900000"117, 26' 24.170000"

L6-WB 34, 2' 58.820000"117, 26' 24.230000"



<image><page-footer>



L6-EB 34, 2' 58.900000"117, 26' 24.200000"



34, 2' 59.640000"117, 26' 24.010000"

34, 2' 58.990000"117, 26' 33.370000"



L5-SB 34, 2' 59.100000"117, 26' 33.620000"



JN:12980

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS





	-	v, October 2, othills Comm		r	Location:	L1 - Locatec	l on Santa Ar sting residen		orth of the P	Project site,	Meter:	Piccolo I				12980 B. Lawson
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85.0)															
- 80.0	ע 🕂 אין ד				_											
(Vgp) 80.0 75.0 65.0 65.0																
<u> </u>	δ ↓ ↓		_													
60.0 ت	2 ++			9	65.9		<mark>64.6</mark>	64.3	<mark> न</mark> ९	<mark>ດຸ – </mark>	5.3		4		m m	
A 55.0 Juno 45.0	$\beta \perp \mathbf{q} \perp$.1	60.2	60.6	9	65.	<mark>64</mark>	64 62.	64.1	<mark>. 67</mark>	<mark>_9</mark>	<u> </u>	62.4 65.	<u> </u>	61.3 60.8	58.1
A 55.0 50.0 45.0 40.0	26.0	3.1	9	_ 9 6			+									<u>8</u>
≖ 40.0 35.0) ++-	- u														
55.0	0	1 2	3	4 5	6	7 8	9	10 11	10 1	L3 14	15 16	17	10 10	20	21 22	23
	0	1 2	5	4 5	0	/ 0	9		12 1 eginning	13 14	15 10	17	18 19	20	21 22	25
imeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	56.0	80.3	44.1	67.0	64.0	59.0	55.0	51.0	49.0	46.0	45.0	45.0	56.0	10.0	66.0
	1	53.1	76.1	43.6	65.0	61.0	56.0	52.0	48.0	46.0	45.0	44.0	44.0	53.1	10.0	63.1
	2	55.9	83.5	44.0	65.0	62.0	55.0	52.0	49.0	48.0	46.0	45.0	44.0	55.9	10.0	65.9
Night	3	60.2	82.7	47.5	72.0	69.0	65.0	62.0	55.0	52.0	49.0	49.0	48.0	60.2	10.0	70.2
	4	60.7	79.8	50.1	71.0	69.0	67.0	65.0	58.0	55.0	52.0	52.0	51.0	60.7	10.0	70.7
	5	60.6	86.6	50.0	70.0	68.0	65.0	63.0	58.0	54.0	52.0	51.0	50.0	60.6	10.0	70.6
	6	65.9	90.5	54.4	74.0	71.0	68.0	67.0	63.0	60.0	56.0	56.0	55.0	65.9	10.0	75.9
	7	65.2	83.7	51.4	74.0	72.0	70.0	69.0	65.0	61.0	55.0	54.0	53.0	65.2	0.0	65.2
	8	63.6	86.1	46.2	73.0	71.0	68.0	67.0	63.0	58.0	51.0	49.0	47.0	63.6	0.0	63.6
	9	64.6	89.5	46.3	74.0	71.0	68.0	67.0	62.0	58.0	51.0	50.0	48.0	64.6	0.0	64.6
	10	62.6	79.5	44.9	72.0	71.0	68.0	67.0	62.0	58.0	50.0	49.0	47.0	62.6	0.0	62.6
	11	64.3	84.4	44.8	75.0	72.0	69.0	67.0	63.0	59.0	52.0	50.0	46.0	64.3	0.0	64.3
Day	12	64.1	88.0	45.4	74.0	71.0	68.0	67.0	63.0	59.0	52.0	50.0	48.0	64.1	0.0	64.1
Duy	13	64.9	83.4	46.2	76.0	73.0	69.0	68.0	63.0	59.0	52.0	50.0	47.0	64.9	0.0	64.9
	14	64.6	86.6	44.3	75.0	73.0	69.0	67.0	63.0	59.0	51.0	50.0	46.0	64.6	0.0	64.6
	15	65.3	87.3	47.2	75.0	73.0	69.0	68.0	64.0	61.0	53.0	52.0	49.0	65.3	0.0	65.3
	16	71.2	101.3	48.4	79.0	75.0	71.0	69.0	65.0	61.0	54.0	52.0	50.0	71.2	0.0	71.2
	17	65.0	85.1	48.6	75.0	72.0	69.0	68.0	64.0	60.0	54.0	53.0	51.0	65.0	0.0	65.0
	18	62.4	82.0	48.3	72.0	70.0	67.0	66.0	62.0	57.0	50.0	50.0	49.0	62.4	0.0	62.4
Frank	19	65.3	95.1	47.8	75.0	71.0	67.0	65.0	60.0	56.0	50.0	50.0	48.0	65.3	5.0	70.3
Evening	20	63.4	86.5	46.6	73.0	70.0	67.0	66.0	59.0	54.0	48.0	48.0	47.0	63.4	5.0	68.4
	21	61.3	77.9	46.4	72.0	71.0	68.0	66.0	59.0	52.0	48.0	48.0	47.0	61.3	5.0	66.3
Night	22	60.8	86.0	45.8	71.0	69.0	66.0	64.0	56.0	51.0	48.0	47.0	46.0	60.8	10.0	70.8
	23	58.1	86.4	44.3	68.0	67.0	62.0	59.0	50.0	47.0	45.0	45.0	45.0	58.1	10.0	68.1
ïmeframe	Hour Min	L _{eq}	L _{max} 79.5	L _{min} 44.3	L1% 72.0	<i>L2%</i> 70.0	L5% 67.0	L8% 66.0	62.0	L50% 57.0	<i>L90%</i> 50.0	<i>L95%</i> 49.0	L99% 46.0		L _{eq} (dBA)	
Day	Max	62.4 71.2	101.3	44.3 51.4	72.0	70.0	71.0	69.0	62.0	61.0	55.0	49.0 54.0	46.0 53.0	24-Hour	Daytime	Nighttim
Energy /		65.5		erage:	79.0	73.0	68.8	67.5	63.3	59.2	52.1	50.8	48.4			
	Min	61.3	77.9	46.4	72.0	72.0	67.0	65.0	59.0	52.0	48.0	48.0	47.0	64.0	65.2	60.5
Evening	Max	65.3	95.1	40.4	75.0	70.0	68.0	66.0	60.0	56.0	50.0	48.0 50.0	47.0		-Hour CNEL (d	
Energy /		63.6	-	erage:	73.3	70.7	67.3	65.7	59.3	54.0	48.7	48.7	47.3	24		
	Min	53.1	76.1	43.6	65.0	61.0	55.0	52.0	48.0	46.0	45.0	44.0	44.0			
Night	Max	65.9	90.5	43.0 54.4	74.0	71.0	68.0	67.0	63.0	60.0	56.0	56.0	55.0		68.4	
Energy	Average	60.5		erage:	69.2	66.7	62.6	59.9	54.2	51.3	48.8	48.2	47.6			



						24-Ho	ur Noise L	evel Measu	urement Su	ummary						
		, October 2, 2			Location:				d north of Ur	nderwood	Meter:	Piccolo II				12980
Project:	Fontana Fo	othills Comme	erce Center		Source:	Drive near a									Analyst:	B. Lawson
							Hourly L _{eq} (dBA Readings	(unadjusted)							
85.0	<u> </u>															
80.0 80.0 75.0 70.0 65.0 65.0																
<u>ع</u> /0.0 65.0																
60.0 تـ 60.0						<u>ດ</u>		<mark>ω</mark> <u>– </u> –		63.0	63.5	64.5	64.7 64.3	4 .4	63.8 0.5	
▲ 55.0 50.0 0 45.0 40.0	25.0	न न	57.7	55.6 57.1	29.3	<mark>59.9</mark>	29.0	<u> </u>	9	<u> </u>	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	9	<u>0</u>	64	63. 60.5	58.6
± 40.0	0 + +	50.1		<u>о</u>									-			
55.0	0	1 2	3	4 5	6	7 8	9 2	LO 11	12 1	3 14	15 16	17	18 19	20	21 22	23
								Hour Be	eginning							
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	55.0	63.8	45.1	63.5	63.1	61.8	60.2	55.4	50.7	46.4	45.7	45.2	55.0	10.0	65.0
	1 2	50.1 50.1	59.5 59.8	43.7 43.5	59.1 59.4	58.5 58.8	56.7 56.4	55.0 54.6	49.5 49.3	45.9 46.3	44.0 43.9	43.8 43.7	43.7 43.5	50.1 50.1	10.0 10.0	60.1 60.1
Night	3	57.7	68.6	44.2	68.3	67.9	65.9	63.7	54.7	49.6	45.0	44.6	44.2	57.7	10.0	67.7
Ŭ	4	55.6	65.1	45.7	64.6	63.9	62.3	60.8	55.6	51.6	46.9	46.2	45.8	55.6	10.0	65.6
	5	57.1	65.9	47.4	65.6	64.9	62.9	61.6	57.7	54.0	48.7	48.1	47.5	57.1	10.0	67.1
	6 7	59.3	68.4	50.4	68.0	67.3	65.2	63.8	59.4 60.3	56.7	52.1	51.2	50.5	59.3	10.0	69.3
	8	59.9 59.8	68.0 69.0	50.9 50.3	67.6 68.6	67.0 68.1	65.5 66.0	64.4 64.2	59.6	57.5 57.0	52.7 52.3	51.9 51.3	51.0 50.5	59.9 59.8	0.0 0.0	59.9 59.8
	9	59.0	67.3	49.1	66.8	66.1	64.4	63.1	59.8	56.7	51.2	50.1	49.3	59.0	0.0	59.0
	10	63.3	73.4	51.5	72.7	72.1	70.5	69.0	62.2	58.2	53.5	52.7	51.7	63.3	0.0	63.3
	11	63.1	73.6	51.1	73.0	72.3	70.5	68.4	62.2	58.0	53.0	52.2	51.3	63.1	0.0	63.1
Day	12 13	64.6 62.4	76.7 73.1	51.9 51.6	76.0 72.7	75.0 71.8	72.2 69.3	69.2 67.3	62.5 61.3	58.8 58.2	54.2 53.3	53.4 52.5	52.2 51.8	64.6 62.4	0.0 0.0	64.6 62.4
	13	63.0	72.9	51.0	72.7	71.6	69.8	68.1	62.8	59.0	53.5 54.1	52.9	51.8	63.0	0.0	63.0
	15	63.5	73.8	53.5	73.4	72.7	70.3	68.2	62.5	59.5	55.3	54.5	53.7	63.5	0.0	63.5
	16	63.9	73.2	53.6	72.8	72.3	70.2	68.7	64.0	60.4	55.8	54.7	53.8	63.9	0.0	63.9
	17	64.5	74.4	55.9	73.8	72.8	70.5	68.6	64.6	61.5	57.7	56.9	56.0	64.5	0.0	64.5
	18 19	64.7 64.3	74.4	55.3 55.2	74.0 73.5	73.3 72.8	71.1 70.6	69.5 68.9	63.9 64.0	61.3 60.8	57.1 56.7	56.3 56.1	55.5 55.4	64.7 64.3	0.0	64.7 69.3
Evening	20	64.4	74.9	54.6	74.3	73.5	71.1	69.5	63.7	59.8	55.8	55.3	54.7	64.4	5.0	69.4
	21	63.8	75.2	52.2	74.7	74.0	70.7	68.4	62.4	58.4	53.7	53.1	52.4	63.8	5.0	68.8
Night	22	60.5	70.4	50.3	69.9	69.2	66.8	65.3	60.5	56.8	51.8	50.9	50.4	60.5	10.0	70.5
Timeframe	23 Hour	58.6 L _{eq}	69.2 L _{max}	47.7 L _{min}	68.8 L1%	68.1 L2%	65.9 L5%	63.8 L8%	57.2 L25%	53.5 L50%	48.8 L90%	48.3 L95%	47.8 L99%	58.6	10.0 L _{eg} (dBA)	68.6
	Min	59.0	67.3	49.1	66.8	66.1	64.4	63.1	59.6	56.7	51.2	50.1	49.3	24 110.00		Nichttime
Day	Max	64.7	76.7	55.9	76.0	75.0	72.2	69.5	64.6	61.5	57.7	56.9	56.0	24-Hour	Daytime	Nighttime
Energy	Average	63.0		rage:	72.0	71.3	69.2	67.4	62.1	58.8	54.2	53.3	52.4	61.8	63.3	57.1
Evening	Min Max	63.8 64.4	74.1 75.2	52.2 55.2	73.5 74.7	72.8 74.0	70.6 71.1	68.4 69.5	62.4 64.0	58.4 60.8	53.7 56.7	53.1 56.1	52.4 55.4		Hour CNEL (a	
Energy	Average	64.2		rage:	74.7	73.4	70.8	69.0	63.4	59.7	55.4	54.8	54.2			
Night	Min	50.1	59.5	43.5	59.1	58.5	56.4	54.6	49.3	45.9	43.9	43.7	43.5		66.0	
_	Max	60.5	70.4	50.4	69.9	69.2	66.8	65.3	60.5	56.8	52.1	51.2	50.5		00.0	
Energy	Average	57.1	Ave	rage:	65.2	64.6	62.6	61.0	55.5	51.7	47.5	46.9	46.5			



		/, October 2, othills Comm			Location	L3 - Located	west of Sier		urement S ortheast of t	-	Meter:	Piccolo I				12980 B. Lawson
							Hourly L _{eq} d	dBA Readings	(unadjusted)							
85.0)								1 1		1 1					
(Vap) 80.0 75.0 70.0	3															
70.0 و 65.0 و 60.0	3															
60.0 ٿ 55.0 ح	2					- <u></u>				_					<u></u>	
∧ 55.0 µn 50.0 45.0	5 4		26.6	56.9	57.7	<mark>58.6</mark> 57.3		55.2 56.0		4.6	57.9 57.3 57.3		56.9 57.0	29.1	<mark>59.3</mark> 59.2	
9 9 45.0 40.0 35.0	66	47.6	G					55 56		4						52.
55.0	0	1 2	3	4 5	6	7 8	9 1	LO 11	12 1	.3 14	15 16	5 17	18 19	20	21 22	23
									eginning					_		
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	49.4 47.6	67.7 67.8	39.8 38.4	58.0 57.0	56.0	54.0 52.0	52.0 50.0	49.0 46.0	46.0	43.0 41.0	42.0 41.0	41.0 40.0	49.4 47.6	10.0	59.4 57.6
	2	47.6	72.0	38.4	57.0	55.0 55.0	52.0	50.0	40.0	44.0 45.0	41.0	41.0	40.0	47.6	10.0 10.0	57.6
Night	3	56.6	75.7	42.7	70.0	66.0	61.0	58.0	52.0	49.0	45.0	45.0	44.0	56.6	10.0	66.6
-	4	56.9	79.2	45.1	68.0	66.0	60.0	58.0	54.0	51.0	48.0	47.0	46.0	56.9	10.0	66.9
	5	57.4	74.6	45.5	67.0	66.0	62.0	60.0	56.0	53.0	50.0	49.0	48.0	57.4	10.0	67.4
	6	57.7	75.5	47.0	66.0	65.0	62.0	61.0	57.0	55.0	51.0	51.0	49.0	57.7	10.0	67.7
	7	58.6	75.2	46.5	69.0	67.0	64.0	62.0	57.0	54.0	50.0	50.0	49.0	58.6	0.0	58.6
	8	57.3 56.3	74.1 73.7	43.7 43.6	67.0 68.0	65.0 65.0	62.0 61.0	61.0 59.0	56.0 54.0	53.0 51.0	48.0 47.0	47.0 46.0	46.0 45.0	57.3 56.3	0.0 0.0	57.3 56.3
	9 10	55.2	78.2	43.0	65.0	63.0	60.0	59.0	53.0	51.0	47.0	46.0	43.0	55.2	0.0	55.2
	10	56.0	78.4	41.5	66.0	64.0	61.0	59.0	55.0	51.0	46.0	45.0	44.0	56.0	0.0	56.0
Dav	12	55.0	75.3	41.5	65.0	63.0	60.0	58.0	54.0	50.0	46.0	45.0	43.0	55.0	0.0	55.0
Day	13	54.6	72.9	40.3	64.0	63.0	60.0	58.0	53.0	50.0	46.0	45.0	43.0	54.6	0.0	54.6
	14	56.7	78.2	39.8	67.0	65.0	62.0	60.0	55.0	51.0	47.0	46.0	44.0	56.7	0.0	56.7
	15	57.9	75.6	42.5	68.0	66.0	64.0	62.0	57.0	53.0	48.0	47.0	45.0	57.9	0.0	57.9
	16 17	57.3 59.2	74.7 78.6	43.0 46.0	67.0 69.0	65.0 66.0	63.0 64.0	61.0 62.0	56.0 58.0	53.0 55.0	48.0 51.0	47.0 50.0	45.0 48.0	57.3 59.2	0.0 0.0	57.3 59.2
	17	59.2	78.0	46.0	66.0	64.0	64.0 61.0	60.0	56.0	55.0 54.0	51.0	50.0	48.0	59.2 56.9	0.0	59.2
	19	57.0	73.4	47.3	67.0	65.0	62.0	60.0	56.0	53.0	50.0	49.0	48.0	57.0	5.0	62.0
Evening	20	59.5	81.3	44.3	70.0	68.0	65.0	63.0	56.0	52.0	49.0	48.0	46.0	59.5	5.0	64.5
	21	59.3	80.2	43.8	71.0	69.0	65.0	63.0	55.0	51.0	48.0	47.0	46.0	59.3	5.0	64.3
Night	22	59.2	83.8	42.1	69.0	68.0	64.0	63.0	56.0	52.0	46.0	45.0	44.0	59.2	10.0	69.2
Timeframe	23 Hour	52.7 L _{eq}	75.1 L _{max}	40.3 L _{min}	64.0 L1%	61.0 L2%	57.0 L5%	55.0 L8%	50.0 L25%	47.0 L50%	44.0 L90%	43.0 L95%	42.0 L99%	52.7	10.0 L _{eg} (dBA)	62.7
	Min	54.6	72.9	39.8	64.0	63.0	60.0	58.0	53.0	50.0	46.0	45.0	43.0	24.11		A1:
Day	Max	59.2	78.7	47.2	69.0	67.0	64.0	62.0	58.0	55.0	51.0	50.0	49.0	24-Hour	Daytime	Nighttime
Energy	Average	57.0		erage:	66.8	64.7	61.8	60.0	55.3	52.2	47.9	47.0	45.4	56.8	57.4	55.7
Evening	Min	57.0	73.4	43.8	67.0	65.0	62.0	60.0	55.0	51.0	48.0	47.0	46.0			
Energy	Max Average	59.5 58.7	81.3	47.3 erage:	71.0 69.3	69.0 67.3	65.0 64.0	63.0 62.0	56.0 55.7	53.0 52.0	50.0 49.0	49.0 48.0	48.0 46.7	24	Hour CNEL (d	іва)
	Min	47.6	67.7	38.4	57.0	55.0	52.0	50.0	46.0	44.0	49.0	48.0	40.7			
Night	Max	59.2	83.8	47.0	70.0	68.0	64.0	63.0	57.0	55.0	51.0	51.0	49.0		62.9	
Energy	Average	55.7	-	erage:	64.1	62.0	58.2	56.4	51.9	49.1	45.6	44.9	43.9			



		, October 2, 2 othills Comme			Location:		south of Jur	evel Measu upa Avenue sidential hor	in the landsc	-	Meter:	Piccolo I				12980 B. Lawson
							Hourly L _{eq} d	IBA Readings	(unadjusted)							
85.0)															
(Vap) 	0	66.4	6	72.6	74.6	74.4		73.0	74.7	74.2	76.6		73.2	13	72.0	65.5
35.0	0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	3 14	15 16	17	18 19	20	21 22	23
								Hour Be	eginning							
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	65.1	86.5	48.3	77.0	75.0	72.0	68.0	58.0	53.0	50.0	50.0	49.0	65.1	10.0	75.1
	1	66.4	82.9	47.0	79.0	78.0	74.0	70.0	58.0	52.0	49.0	48.0	47.0	66.4	10.0	76.4
NI: - la ta	2	68.3	86.7	47.6	79.0	79.0	77.0	73.0	59.0	53.0	50.0	49.0	48.0	68.3	10.0	78.3
Night	3	68.9 72.6	88.3 92.5	51.7 52.1	80.0 82.0	78.0 81.0	76.0 79.0	73.0 77.0	65.0 71.0	59.0 65.0	54.0 57.0	53.0 56.0	52.0 54.0	68.9 72.6	10.0 10.0	78.9 82.6
	4 5	72.0	92.5 97.8	52.1	82.0	81.0	79.0	77.0	71.0	65.0	57.0	56.0	56.0	72.0	10.0	82.0
	6	74.6	93.1	57.4	83.0	82.0	80.0	79.0	75.0	69.0	61.0	60.0	58.0	74.6	10.0	84.6
	7	74.4	86.4	55.7	82.0	81.0	80.0	79.0	75.0	69.0	60.0	58.0	56.0	74.4	0.0	74.4
	8	74.1	92.5	52.2	83.0	81.0	79.0	78.0	74.0	68.0	57.0	56.0	54.0	74.1	0.0	74.1
	9	72.6	90.8	51.0	82.0	80.0	78.0	77.0	72.0	66.0	55.0	54.0	52.0	72.6	0.0	72.6
	10	73.0	94.2	49.3	83.0	81.0	78.0	77.0	71.0	65.0	54.0	52.0	51.0	73.0	0.0	73.0
	11 12	73.3 73.0	96.0 94.7	47.4 44.6	82.0 82.0	81.0 81.0	79.0 79.0	77.0 77.0	73.0 73.0	66.0 66.0	54.0 53.0	52.0 50.0	49.0 47.0	73.3 73.0	0.0 0.0	73.3 73.0
Day	12	73.0	97.9	45.4	84.0	82.0	80.0	78.0	73.0	67.0	53.0	50.0	47.0	74.7	0.0	74.7
	14	74.2	94.3	45.8	84.0	82.0	80.0	78.0	74.0	67.0	54.0	51.0	49.0	74.2	0.0	74.2
	15	76.6	103.4	47.3	86.0	83.0	80.0	79.0	75.0	70.0	57.0	54.0	50.0	76.6	0.0	76.6
	16	75.3	94.4	48.4	84.0	82.0	80.0	79.0	76.0	70.0	58.0	55.0	51.0	75.3	0.0	75.3
	17	75.0	94.2	49.6	84.0	82.0	80.0	79.0	75.0	69.0	60.0	57.0	52.0	75.0	0.0	75.0
	18	73.2 71.7	90.7 88.8	51.8 52.1	82.0 81.0	80.0 80.0	79.0 77.0	78.0	74.0 71.0	68.0 65.0	57.0 56.0	55.0 54.0	53.0 53.0	73.2 71.7	0.0 5.0	73.2 76.7
Evening	19 20	72.3	94.9	48.5	83.0	80.0	77.0	76.0 76.0	70.0	64.0	54.0	52.0	50.0	72.3	5.0	77.3
Licing	20	71.3	97.1	51.8	81.0	79.0	76.0	75.0	68.0	62.0	54.0	53.0	53.0	71.3	5.0	76.3
Night	22	72.0	99.4	49.0	80.0	78.0	76.0	74.0	68.0	61.0	52.0	51.0	50.0	72.0	10.0	82.0
Night	23	65.5	82.7	48.4	77.0	75.0	72.0	70.0	62.0	55.0	51.0	50.0	49.0	65.5	10.0	75.5
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min Max	72.6	86.4	44.6	82.0	80.0	78.0	77.0	71.0	65.0 70.0	53.0	50.0	47.0 56.0	24-Hour	Daytime	Nighttime
Energy	Max Average	76.6 74.3	103.4 Ave	55.7 erage:	86.0 83.2	83.0 81.3	80.0 79.3	79.0 78.0	76.0 73.8	70.0 67.6	60.0 56.0	58.0 53.8	56.0			
	Min	74.3	88.8	48.5	81.0	79.0	76.0	75.0	68.0	62.0	54.0	52.0	50.0	73.0	73.9	70.8
Evening	Max	72.3	97.1	52.1	83.0	80.0	77.0	76.0	71.0	65.0	56.0	54.0	53.0	24-	Hour CNEL (a	IBA)
Energy	Average	71.8	Ave	rage:	81.7	79.7	76.7	75.7	69.7	63.7	54.7	53.0	52.0			
Night	Min	65.1	82.7	47.0	77.0	75.0	72.0	68.0	58.0	52.0	49.0	48.0	47.0		78.1	
	Max Average	74.6 70.8	99.4	57.4	83.0 79.9	82.0 78.6	80.0 76.1	79.0 73.4	75.0 65.2	69.0 59.1	61.0 53.6	60.0 52.7	58.0 51.4	-	, U. I	
Energy	Average	70.8	AVE	erage:	79.9	78.0	/0.1	/3.4	05.2	29.1	53.0	52.7	51.4			



	,	v, October 2, othills Comm			Location.	15 - Located	u r Noise Le in the parkin	ng lot of St. N	∕lary's Catho	lic Church.	Meter:	Piccolo I				12980 B. Lawson
							Hourly L _{eq} d	IBA Readings	(unadjusted)							
0.5 (`															
85.0 80.0 75.0 70.0 65.0 -	ע 🗸 ד															
۵.00 ت				<u>ь</u> н	23.3	58.8 57.2	α						<u>8</u>			
▲ 55.0 50.0 0 45.0 40.0	21.0	48.4	56.	57.7	<u>5</u>	<mark>58.8</mark> 57.2		53.5		<mark>53.2</mark>	57.8 58.2	29.	<mark>57.7</mark>	<mark>21</mark>	<mark>58.2</mark> 56.3	51.8
± 40.0 35.0		4 4						<u>מ</u>	- <u>n</u> ,	" <u></u>						- u
	0	1 2	3	4 5	6	7 8	9 1	0 11 Hour Be	12 1 eginning	.3 14	15 16	17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
nnejrune	0	51.0	66.7	43.4	59.0	57.0	55.0	53.0	50.0	48.0	46.0	45.0	44.0	51.0	10.0	61.0
	1	48.4	61.2	43.0	55.0	53.0	52.0	51.0	48.0	47.0	44.0	44.0	43.0	48.4	10.0	58.4
	2	49.6	63.7	43.5	57.0	55.0	53.0	52.0	49.0	48.0	45.0	45.0	44.0	49.6	10.0	59.6
Night	3	56.7	73.6	45.4	69.0	66.0	61.0	58.0	54.0	52.0	48.0	48.0	47.0	56.7	10.0	66.7
	4	57.7	75.1	48.8	68.0	66.0	62.0	59.0	56.0	54.0	51.0	50.0	49.0	57.7	10.0	67.7
	5	56.1	67.8	49.3	64.0	62.0	59.0	58.0	56.0	54.0	52.0	51.0	50.0	56.1	10.0	66.1
	6	59.3	73.2	52.1	67.0	65.0	63.0	62.0	59.0	57.0	54.0	54.0	53.0	59.3	10.0	69.3
	7 8	58.8	72.4	51.4	68.0	66.0	63.0	61.0	58.0	56.0	53.0	53.0	52.0	58.8	0.0	58.8
	8 9	57.2 55.8	74.4 75.3	47.3 45.8	69.0 67.0	67.0 64.0	62.0 60.0	59.0 59.0	54.0 54.0	52.0 51.0	49.0 48.0	49.0 47.0	48.0 46.0	57.2 55.8	0.0 0.0	57.2 55.8
	10	53.5	70.8	43.8	63.0	62.0	58.0	56.0	52.0	50.0	48.0	47.0	40.0	53.5	0.0	53.5
	10	54.3	69.6	43.8	64.0	62.0	60.0	58.0	53.0	50.0	46.0	45.0	44.0	54.3	0.0	54.3
Davi	12	51.9	67.3	42.3	61.0	60.0	57.0	55.0	51.0	48.0	45.0	44.0	43.0	51.9	0.0	51.9
Day	13	53.9	68.9	44.1	64.0	63.0	59.0	57.0	52.0	50.0	47.0	46.0	45.0	53.9	0.0	53.9
	14	53.2	70.0	43.1	62.0	61.0	58.0	56.0	52.0	50.0	46.0	45.0	44.0	53.2	0.0	53.2
	15	57.8	74.2	44.3	68.0	66.0	63.0	61.0	57.0	53.0	48.0	47.0	46.0	57.8	0.0	57.8
	16	58.2	79.4	46.2	67.0	66.0	63.0	62.0	57.0	54.0	50.0	49.0	48.0	58.2	0.0	58.2
	17 18	59.5 57.8	78.0 75.2	47.7 49.7	69.0 67.0	67.0 65.0	64.0 62.0	63.0 60.0	58.0 57.0	56.0 55.0	52.0 52.0	51.0 51.0	50.0 50.0	59.5 57.8	0.0 0.0	59.5 57.8
	19	57.7	75.7	49.5	67.0	65.0	62.0	61.0	56.0	54.0	51.0	51.0	50.0	57.7	5.0	62.7
Evening	20	57.6	77.4	46.4	68.0	67.0	63.0	61.0	55.0	52.0	49.0	49.0	48.0	57.6	5.0	62.6
	21	58.2	74.8	46.6	69.0	68.0	65.0	62.0	55.0	51.0	49.0	48.0	47.0	58.2	5.0	63.2
Night	22	56.3	71.7	45.7	67.0	65.0	62.0	61.0	54.0	50.0	47.0	47.0	46.0	56.3	10.0	66.3
-	23	51.8	68.4	44.0	62.0	61.0	55.0	53.0	50.0	48.0	45.0	45.0	44.0	51.8	10.0	61.8
Timeframe	Hour Min	L _{eq}		L _{min} 42.3	L1%	L2%	L5% 57.0	<i>L8%</i> 55.0	L25%	L50%	<i>L90%</i>	L95% 44.0	L99%		L _{eq} (dBA)	
Day	Max	51.9 59.5	67.3 79.4	42.3 51.4	61.0 69.0	60.0 67.0	64.0	63.0	51.0 58.0	48.0 56.0	45.0 53.0	44.0 53.0	43.0 52.0	24-Hour	Daytime	Nighttime
Energy	Average	56.6		erage:	65.8	64.1	60.8	58.9	54.6	52.1	48.6	47.8	46.8			
	Min	57.6	74.8	46.4	67.0	65.0	62.0	61.0	55.0	51.0	49.0	48.0	47.0	56.4	56.9	55.5
Evening	Max	58.2	77.4	49.5	69.0	68.0	65.0	62.0	56.0	54.0	51.0	51.0	50.0	24	Hour CNEL (a	IBA)
Energy	Average	57.8	_	erage:	68.0	66.7	63.3	61.3	55.3	52.3	49.7	49.3	48.3			
Night	Min	48.4	61.2	43.0	55.0	53.0	52.0	51.0	48.0	47.0	44.0	44.0	43.0		62.5	
	Max	59.3	75.1	52.1	69.0	66.0	63.0	62.0	59.0	57.0	54.0	54.0 47.7	53.0 46.7	-	52.5	
Ellergy	Average	55.5	AV	erage:	63.1	61.1	58.0	56.3	52.9	50.9	48.0	47.7	40.7			



	•	, October 2, 2			Location	16 - Locateo		evel Measu Avenue west			Meter:	Piccolo I				12980
Project:	Fontana Foo	othills Comme	erce Center				Hourly L _{eq}	dBA Readings	(unadjusted)						Analyst:	B. Lawson
85.0																
(Vgp) 75.0 65.0 60.0											0					
00.00 60.0 ک 55.0			58.7	60.6	65.2	65.5 61.6	61.6	61.6 60.2		61.4 61.2	63.9	64.3	62.6 60.4	60.5	<mark>61.2</mark> 58.8	
Δ 55.0	23.2	52.4	28	ē 0				0 <u>0</u>					Ū			56.
55.0	0	1 2	3	4 5	6	7 8	9	10 11 Hour B	12 1 eginning	.3 14	15 16	17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	53.2	77.4	42.1	64.0	60.0	55.0	53.0	50.0	49.0	46.0	45.0	44.0	53.2	10.0	63.2
	1	52.4	76.8	41.9	62.0	56.0	52.0	51.0	49.0	47.0	45.0	44.0	43.0	52.4	10.0	62.4
Nialat	2	50.4	71.4	43.2	57.0	56.0	53.0	52.0	50.0	48.0	46.0	45.0	44.0	50.4	10.0	60.4
Night	3	58.7 60.6	77.0 79.8	45.7 49.9	71.0 73.0	69.0 70.0	64.0 65.0	60.0 62.0	55.0 57.0	53.0 55.0	49.0 52.0	48.0 52.0	46.0 51.0	58.7 60.6	10.0 10.0	68.7 70.6
	4 5	60.6	82.3	49.9	73.0	70.0	65.0	63.0	57.0	54.0	52.0	52.0	50.0	60.6	10.0	70.6
	6	65.2	89.5	52.2	75.0	73.0	70.0	68.0	61.0	58.0	55.0	54.0	53.0	65.2	10.0	75.2
	7	65.5	92.8	50.8	75.0	73.0	70.0	68.0	60.0	56.0	53.0	52.0	51.0	65.5	0.0	65.5
	8	61.6	82.0	45.1	73.0	71.0	68.0	66.0	57.0	52.0	48.0	47.0	46.0	61.6	0.0	61.6
	9	61.6	82.8	44.7	73.0	71.0	68.0	66.0	56.0	51.0	47.0	46.0	45.0	61.6	0.0	61.6
	10 11	61.6 60.2	90.2 78.1	43.4 43.1	72.0 72.0	70.0 70.0	67.0 67.0	64.0 65.0	53.0 55.0	49.0 49.0	46.0 46.0	45.0 45.0	44.0 44.0	61.6 60.2	0.0 0.0	61.6 60.2
	11	60.2 60.4	78.1 84.0	43.1 40.1	72.0	70.0	67.0	65.0 64.0	53.0	49.0 48.0	46.0 44.0	45.0 43.0	44.0 41.0	60.2 60.4	0.0	60.2
Day	12	61.4	84.7	39.1	72.0	70.0	68.0	65.0	54.0	49.0	43.0	43.0	41.0	61.4	0.0	61.4
	14	61.2	78.1	41.5	73.0	71.0	68.0	66.0	55.0	49.0	44.0	43.0	42.0	61.2	0.0	61.2
	15	63.9	86.7	42.0	75.0	73.0	70.0	68.0	61.0	53.0	46.0	45.0	43.0	63.9	0.0	63.9
	16	71.6	102.1	41.8	75.0	73.0	70.0	69.0	60.0	52.0	46.0	45.0	42.0	71.6	0.0	71.6
	17	64.3	88.5	43.8	75.0	73.0	70.0	68.0	61.0	55.0	49.0	47.0	45.0	64.3	0.0	64.3
	18	62.6	84.5	45.6	74.0	72.0	69.0	66.0	58.0	54.0	49.0	48.0	46.0	62.6	0.0	62.6
Evening	19 20	60.4 60.5	76.7 79.6	45.0 43.0	72.0 72.0	70.0 70.0	67.0 67.0	65.0 65.0	57.0 56.0	52.0 50.0	48.0 45.0	47.0 45.0	46.0 43.0	60.4 60.5	5.0 5.0	65.4 65.5
Lvening	20	61.2	84.4	43.0	72.0	70.0	67.0	65.0	55.0	49.0	45.0	44.0	43.0	61.2	5.0	66.2
Nicht	22	58.8	84.3	42.1	70.0	68.0	64.0	62.0	54.0	48.0	44.0	44.0	43.0	58.8	10.0	68.8
Night	23	56.5	83.4	42.4	68.0	65.0	59.0	55.0	50.0	47.0	44.0	43.0	43.0	56.5	10.0	66.5
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	60.2	78.1	39.1	72.0	70.0	67.0 70.0	64.0	53.0	48.0	43.0	43.0	41.0	24-Hour	Daytime	Nighttime
Energy	Max Average	71.6 64.5	102.1 Ave	50.8 erage:	75.0 73.5	73.0 71.5	70.0 68.5	69.0 66.3	61.0 56.9	56.0 51.4	53.0 46.8	52.0 45.8	51.0 44.2			
	Min	60.4	76.7	42.3	72.0	70.0	67.0	65.0	55.0	49.0	45.0	44.0	43.0	62.8	64.0	59.5
Evening	Max	61.2	84.4	45.0	72.0	70.0	67.0	65.0	57.0	52.0	48.0	47.0	46.0	24-	Hour CNEL (a	IBA)
Energy	Average	60.7	Ave	erage:	72.0	70.0	67.0	65.0	56.0	50.3	46.0	45.3	44.0			
Night	Min	50.4	71.4	41.9	57.0	56.0	52.0	51.0	49.0	47.0	44.0	43.0	43.0		67.2	
	Max	65.2	89.5	52.2	75.0	73.0	70.0	68.0	61.0	58.0	55.0	54.0	53.0		07.2	
Energy	Average	59.5	AVe	erage:	68.0	65.2	60.8	58.4	53.7	51.0	48.0	47.3	46.3			



APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS





	FH\	WA-RD-77-108	HIGH	IWAY N	IOISE PI	REDICTIO	N MODE	EL			
Scenari	o: Existing (2	019)				Project N	ame: Fo	othill Co	mmerc	e Ctr.	
	e: Citrus Av.					Job Nur	nber: 12	980			
Road Segmen	it: n/o Jurupa	Av.									
SITE S	SPECIFIC IN	NPUT DATA				NO	ISE MO	DDEL I	NPUT	5	
Highway Data					Site Cor	nditions (H	lard = 1	0, Soft =	= 15)		
Average Daily 1	Traffic (Adt):	10,745 vehic	les				AL	itos:	15		
Peak Hour I	Percentage:	8.98%			Me	dium Truc	ks (2 Axi	les): '	15		
Peak He	our Volume:	965 vehicle	es		He	avy Trucks	6 (3+ Ax	les): '	15		
Vel	hicle Speed:	40 mph		-	Vehicle	Mix					
Near/Far Lar	ne Distance:	52 feet		-		icleTvpe	D	av Ev	ening	Niaht	Dailv
Site Data					1011				2.9%	9.6%	
	ulau Haladat	0.0 feet			М	edium Truc		1.8%	4.9%	10.3%	
Barrier Type (0-Wa	rier Height:	0.0 teet				Heavy True		3.5%	2.7%	10.8%	
Centerline Dis	. ,	46.0 feet		_							
Centerline Dist. t		46.0 feet		1	Noise Se	ource Elev		· /			
Barrier Distance f		0.0 feet				Autos:	0.00	-			
Observer Height (/		5.0 feet			Mediu	m Trucks:	2.29	· .			
0 1	d Flevation:	0.0 feet			Heav	y Trucks:	8.00	4 Gra	ide Adj	ustment	: 0.0
	d Elevation:	0.0 feet			Lane Eo	uivalent L	istance	(in feet)		
	Road Grade:	0.0%		-		Autos:	38.27		,		
	Left View:	-90.0 degre	es		Mediu	m Trucks:	38.04	3			
	Right View:	90.0 degre			Heav	y Trucks:	38.06	6			
FHWA Noise Mode	el Calculation	ns									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresnel	Bar	rier Atte	en Ber	m Atten
Autos:	66.51	-1.68	1	1.6	4	-1.20	-4	1.63	0.0	00	0.000
Medium Trucks:	77.72	-17.81		1.6	8	-1.20	-4	1.87	0.0	00	0.000
Heavy Trucks:	82.99	-18.16		1.6	7	-1.20	-5	5.47	0.0	00	0.000
Unmitigated Noise						1 10	- la t	Ld	-		NEL
VehicleType Autos:	Leq Peak Ho	ur Leq Da	y 63.8	Leq E	vening 62.1	Leq Ni	56.0	La	64.6		NEL 65.2
Medium Trucks:		5.3) 4	63.8 59.3		53.0		50.0 51.4		59.9		60.1
Heavy Trucks:		5.3	59.3 64.4		55.3		51.4 56.6		59.9 64.9		65.0
Vehicle Noise:		3.9	67.8		63.3		60.0		68.4		68.8
					03.3		00.0		00.4		08.0
Centerline Distanc	e lo noise C	ontour (in fee	<i>y</i>	70 0	dBA	65 dE	A	60 d	BA	55	dBA
			Ldn:		36		78		168		362
		C	NEL:		38		82		177		382

	FHW	A-RD-77-108	HIGH	IWAY NO	DISE PRE	DICTIC	N MOE	EL			
Scenario: Ex Road Name: Ju Road Segment: n/c	niper Av.	,					lame: F mber: 1		Commer	e Ctr.	
SITE SPEC	IFIC INF	UT DATA				NC	ISE M	ODE		5	
Highway Data				S	ite Condi					-	
Average Daily Traffic Peak Hour Perce Peak Hour V	ntage:	2,473 vehicle 8.98% 222 vehicles					A ks (2 A: s (3+ A:		15 15 15		
Vehicle 3	Speed:	40 mph					•				
Near/Far Lane Dis		14 feet		V	ehicle Mi				Constant	Market	Deile
Site Data					Vehicl			Day 7.5%	Evening 12.9%	Night 9.6%	Daily 95.53
					Mod	ium Tru		7.5% 34.8%	4.9%	9.0%	2.33
Barrier H		0.0 feet				avy Tru		94.0% 36.5%	2.7%	10.3%	2.33
Barrier Type (0-Wall, 1-	,	0.0			пе	avy nu	CKS. C	0.3%	2.170	10.070	2.15
Centerline Dist. to E		34.0 feet		N	oise Sou	rce Ele	vations	(in fe	et)		
Centerline Dist. to Ob		34.0 feet				Autos:	0.0	00			
Barrier Distance to Ob		0.0 feet			Medium	Trucks:	2.2	97			
Observer Height (Above	,	5.0 feet			Heavy	Trucks:	8.0	04	Grade Adj	ustment.	0.0
Pad Ele		0.0 feet					D/	- (1			
Road Ele		0.0 feet		L	ane Equi				eet)		
	Grade:	0.0%				Autos:					
	t View: t View:	-90.0 degree 90.0 degree			Medium Heavy						
FHWA Noise Model Cal	culations										
VehicleType RE	MEL	Traffic Flow	Dis	stance	Finite R	oad	Fresne	el i	Barrier Att	en Ber	m Atter
Autos:	66.51	-8.06		2.48		-1.20	-	4.53	0.0	00	0.00
Medium Trucks:	77.72	-24.19		2.53		-1.20	-	4.86	0.0	00	0.00
Heavy Trucks:	82.99	-24.54		2.52		-1.20	-	5.67	0.0	00	0.00
Unmitigated Noise Leve	els (witho	ut Topo and	barri								
VehicleType Leq F	Peak Hour	Leq Day		Leq Eve	ening	Leq N	ight		Ldn		VEL
Autos:	59.7	, i	58.3		56.5		50.5		59.1		59
Medium Trucks:	54.8		53.8		47.4		45.9		54.4		54
Heavy Trucks:	59.8	3 !	58.8		49.8		51.0		59.4		59.
Vehicle Noise:	63.4	L (52.2		57.8		54.4		62.9	1	63
Centerline Distance to	Noise Cor	ntour (in feet,)								
				70 dl		65 dl		6	0 dBA	55	dBA
			.dn:		11		25		53		11
			IFI :						56		12

Monday, February 3, 2020

Seeneric: 5	No (000	40)				Droio - 1	Name: E		01-
Scenario: Exis Road Name: Juni							umber: 129	othill Commerce	Ctr.
Road Segment: s/o						JOD IV	umber. 12	980	
SITE SPECI	FIC IN	PUT DATA		-				DEL INPUTS	
Highway Data				S	site Con	ditions	•), Soft = 15)	
Average Daily Traffic (2,958 vehicle	s				Au		
Peak Hour Percen		8.98%					icks (2 Axle	,	
Peak Hour Vol		266 vehicles			Hea	avy Truc	ks (3+ Axle	es): 15	
Vehicle Sp		40 mph		v	/ehicle l	Mix			
Near/Far Lane Dist	ance:	14 feet			Vehi	icleType	Da	y Evening N	light Daily
Site Data						A	utos: 77	.5% 12.9%	9.6% 95.53%
Barrier He	iaht.	0.0 feet			Me	edium Tr	ucks: 84	.8% 4.9%	10.3% 2.33%
Barrier Type (0-Wall, 1-B		0.0 1001			F	leavy Tr	ucks: 86	.5% 2.7%	10.8% 2.15%
Centerline Dist. to Ba		34.0 feet		-					
Centerline Dist. to Obse		34.0 feet		N	loise Sc		evations (,	
Barrier Distance to Obse		0.0 feet				Autos			
Observer Height (Above		5.0 feet				n Truck			
Pad Elev		0.0 feet			Heav	y Trucks	8: 8.004	Grade Adjus	atment: 0.0
Road Elev	ation:	0.0 feet		L	ane Eq	uivalen	Distance	(in feet)	
Road G	rade:	0.0%				Autos	33.64	5	
Left	View:	-90.0 degree	s		Mediur	n Trucks	s: 33.38 [.]	I	
Right	View:	90.0 degree			Heav	y Trucks	33.40	7	
FHWA Noise Model Calc	ulation	s							
VehicleType REN	/EL	Traffic Flow	Distan	се	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.28		2.48	1	-1.20	-4.	53 0.00	0.00
Medium Trucks:	77.72	-23.42		2.53		-1.20	-4.	86 0.00	0.00
Heavy Trucks:	82.99	-23.76		2.52		-1.20	-5.	67 0.00	0.00
Unmitigated Noise Level	's (with	out Topo and	barrier a	atten	uation)				
VehicleType Leq Pe	eak Hou	r Leq Day	Le	q Ev	rening	Leq	Night	Ldn	CNEL
Autos:	60.	.5 5	i9.1		57.3		51.3	59.9	60.
Medium Trucks:	55.	.6 5	64.6		48.2		46.7	55.1	55.
Heavy Trucks:	60.		9.6		50.6		51.8	60.2	60.
neavy nacks.	64.	.2 6	3.0		58.6		55.2	63.7	64.
Vehicle Noise:									
	oise Co	ontour (in feet)		70.1	0.4	05	10.4	00.104	55 JO 4
Vehicle Noise:	oise Co	, ,		70 d		65	dBA	60 dBA	55 dBA
Vehicle Noise:	oise Co	L L	.dn:	70 d	BA 13	65	28 29	60 dBA 60 63	55 dBA 129 136

FHWA-RD-77-1	08 HIGHWA'	Y NOISE PI	REDICTIO	N MODEL	L	
Scenario: Existing (2019) Road Name: Sierra Av. Road Segment: n/o Santa Ana Av.				ame: Foo nber: 129	thill Commerce 80	e Ctr.
SITE SPECIFIC INPUT DAT	Ą		NO	ISE MOI	DEL INPUTS	
Highway Data		Site Cor	ditions (H	lard = 10,	Soft = 15)	
Average Daily Traffic (Adt): 31,761 veh Peak Hour Percentage: 8.98%	icles	Ме	dium Truc	Auto ks (2 Axle		
Peak Hour Volume: 2,852 vehi	cles	He	avy Trucks	s (3+ Axle	s): 15	
Vehicle Speed: 50 mph		Vehicle	Mix			
Near/Far Lane Distance: 90 feet			icleType	Day	/ Evening	Night Daily
Site Data				tos: 77.		9.6% 95.53%
Barrier Height: 0,0 fee		М	edium True	cks: 84.	8% 4.9%	10.3% 2.33%
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy True	cks: 86.	5% 2.7%	10.8% 2.15%
Centerline Dist. to Barrier: 66.0 fee		Noice C	ource Elev	ationo (i	n foot)	
Centerline Dist. to Observer: 66.0 feel		NOISE 3	Autos:	0.000	,	
Barrier Distance to Observer: 0.0 fee		Marker	m Trucks:	2.297		
Observer Height (Above Pad): 5.0 feel				2.297		stment: 0.0
Pad Elevation: 0.0 fee		Heat	ry Trucks:	8.004	Grade Adju	siment. 0.0
Road Elevation: 0.0 feet		Lane Eq	uivalent L	Distance (in feet)	
Road Grade: 0.0%			Autos:	48.539		
Left View: -90.0 deg	rees	Mediu	m Trucks:	48.356		
Right View: 90.0 deg	rees	Heav	y Trucks:	48.374		
FHWA Noise Model Calculations						
VehicleType REMEL Traffic Flow	v Distanc	e Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos: 70.20 2.	06 (0.09	-1.20	-4.7	71 0.00	0.000
Medium Trucks: 81.00 -14.	0 80	0.11	-1.20	-4.8	38 0.00	0.000
Heavy Trucks: 85.38 -14.	42 (0.11	-1.20	-5.3	30 0.00	0.000
	ad handan at					
Unmitigated Noise Levels (without Topo a						
VehicleType Leq Peak Hour Leq L	Day Leo	q Evening	Leq Ni	0	Ldn	CNEL
VehicleType Leq Peak Hour Leq L Autos: 71.2	0ay Leo 69.7	g Evening 68.0	Leq Ni	61.9	70.5	71.1
VehicleType Leq Peak Hour Leq L Autos: 71.2 Medium Trucks: 65.8	69.7 64.8	<i>q Evening</i> 68.0 58.4	Leq Ni	61.9 56.9	70.5 65.4	71.1 65.6
VehicleType Leq Peak Hour Leq L Autos: 71.2	0ay Leo 69.7	g Evening 68.0	Leq Ni	61.9	70.5	71.1 65.6
VehicleType Leq Peak Hour Leq L Autos: 71.2 Medium Trucks: 65.8	69.7 64.8	<i>q Evening</i> 68.0 58.4	Leq Ni	61.9 56.9	70.5 65.4	71.1 65.6 69.6
Autos: 71.2 Medium Trucks: 65.8 Heavy Trucks: 69.9	Day Lec 69.7 64.8 68.9 73.0 cet)	g Evening 68.0 58.4 59.9 69.0		61.9 56.9 61.1 65.2	70.5 65.4 69.5 73.7	71.1 65.6 69.6 74.1
VehicleType Leq Peak Hour Leq L Autos: 71.2 Medium Trucks: 65.8 Heavy Trucks: 69.9 Vehicle Noise: 74.2	Day Lec 69.7 64.8 68.9 73.0 ceet) 7	2 Evening 68.0 58.4 59.9 69.0 70 dBA	Leq Ni 65 dE	61.9 56.9 61.1 65.2 3A	70.5 65.4 69.5 73.7 60 dBA	71.1 65.6 69.6 74.1 55 dBA
VehicleType Leq Peak Hour Leq L Autos: 71.2 Medium Trucks: 65.8 Heavy Trucks: 69.9 Vehicle Noise: 74.2	Day Lec 69.7 64.8 68.9 73.0 cet)	g Evening 68.0 58.4 59.9 69.0		61.9 56.9 61.1 65.2	70.5 65.4 69.5 73.7	71.1 65.6 69.6 74.1

FHWA-RD-77-108 HI	GHWAY NO	ISE PR	REDICTIO	N MO	DEL			
Scenario: Existing (2019) Road Name: Sierra Av. Road Segment: s/o Santa Ana Av.			Project N Job Nur			I Commer	ce Ctr.	
SITE SPECIFIC INPUT DATA			NO	ISE N	IODE	L INPUT	s	
Highway Data	Si	te Con	ditions (F	lard =	10, Se	oft = 15)		
Average Daily Traffic (Adt): 31,656 vehicles					Autos:	15		
Peak Hour Percentage: 8.98%		Med	dium Truc	ks (2 A	(xles):	15		
Peak Hour Volume: 2,843 vehicles		Hea	avy Truck	s (3+ A	(xles):	15		
Vehicle Speed: 50 mph	Ve	hicle I	Mix					
Near/Far Lane Distance: 90 feet		Vehi	cleType		Day	Evening	Night	Daily
Site Data			Au	tos:	77.5%	12.9%	9.6%	95.53%
Barrier Height: 0.0 feet		Me	edium Tru	cks:	84.8%	4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-Berm): 0.0		H	leavy Tru	cks:	86.5%	2.7%	10.8%	2.15%
Centerline Dist. to Barrier: 66.0 feet	N	nise So	urce Ele	vation	s (in fi	pet)		
Centerline Dist. to Observer: 66.0 feet			Autos:		000	,		
Barrier Distance to Observer: 0.0 feet		Mediur	n Trucks:		297			
Observer Height (Above Pad): 5.0 feet			y Trucks:	8.0	004	Grade Ad	justment	t: 0.0
Pad Elevation: 0.0 feet								
Road Elevation: 0.0 feet	Lä	ine Equ	uivalent L			teet)		
Road Grade: 0.0%		Madium	Autos: n Trucks:	48.				
Left View: -90.0 degrees Right View: 90.0 degrees			y Trucks:	40.				
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Att	ten Bei	rm Atten
Autos: 70.20 2.04	0.09		-1.20		-4.71	0.0	000	0.00
Medium Trucks: 81.00 -14.09	0.11		-1.20		-4.88		000	0.00
Heavy Trucks: 85.38 -14.44	0.11		-1.20		-5.30	0.	000	0.00
Unmitigated Noise Levels (without Topo and ba			1	and a d	1	Lala		
VehicleType Leq Peak Hour Leq Day Autos: 71.1 69	Leq Eve	ning 67.9	Leq N	gnt 61.9		Ldn 70.5		NEL 71.
Autos: 71.1 69. Medium Trucks: 65.8 64		58.4		56.9		70. 65.		65
Heavy Trucks: 69.9 68.	-	59.9		61.1		69.	-	69.
Vehicle Noise: 74.2 73.	-	69.0		65.2		73.		74.
Centerline Distance to Noise Contour (in feet)								
	70 dE	8A	65 dE	BA	6	0 dBA	55	i dBA
Ldi	n:	117		251		541		1,167

	FHWA-F	RD-77-108 HIGI	HWAY N	OISE PF	REDICTIO	N MODE	L		
Scenario: E Road Name: S Road Segment: n						ame: Fo nber: 12	othill Comme 980	rce Ctr.	
SITE SPE	CIFIC INPU	T DATA	1		NC	ISE MO	DEL INPUT	S	
Highway Data			5	Site Con	ditions (H	lard = 10), Soft = 15)		
Average Daily Traft Peak Hour Perc Peak Hour	entage: 8.	701 vehicles 98% 08 vehicles			dium Truc avy Truck	ks (2 Axl	,		
		50 mph							
Near/Far Lane D		90 feet	1	Vehicle I					
				Ven	icleType	Da		Night	Daily
Site Data					Au dium Tru		.5% 12.9% .8% 4.9%	9.6%	
		0.0 feet						10.3%	
Barrier Type (0-Wall, 1	,	0.0		r	leavy Tru	CKS: 80	.5% 2.7%	10.8%	2.159
Centerline Dist. to		6.0 feet	1	Voise Sc	ource Ele	ations (in feet)		
Centerline Dist. to O	• • •	6.0 feet			Autos:	0.000)		
Barrier Distance to O		0.0 feet		Mediur	n Trucks:	2.29	7		
Observer Height (Abo	,	5.0 feet		Heav	y Trucks:	8.004	4 Grade Ad	ljustment	: 0.0
		0.0 feet	-	_					
		0.0 feet	1	ane Eq	uivalent L		. ,		
	•	0%			Autos:	48.53			
		0.0 degrees 0.0 degrees			n Trucks: y Trucks:	48.35 48.37			
FHWA Noise Model C									
			istance	Finite		Fresnel	Barrier At		m Atten
Autos:	70.20	1.14	0.09		-1.20			000	0.00
Medium Trucks:	81.00	-15.00	0.11		-1.20			000	0.00
Heavy Trucks:	85.38	-15.34	0.11	1	-1.20	-5.	.30 0.	000	0.00
Unmitigated Noise Le	vels (without	Topo and barr	rier atten	uation)					
VehicleType Leq	Peak Hour	Leq Day	Leg Ev	/ening	Leq N	ight	Ldn	C	NEL
Autos:	70.2	68.8		67.0		61.0	69.	6	70.
Medium Trucks:	64.9	63.9		57.5		56.0	64.		64
Heavy Trucks:	68.9	68.0		59.0		60.2	68.	6	68
Vehicle Noise:	73.3	72.1		68.1		64.3	72.	8	73.
Centerline Distance to	Noise Conto	our (in feet)							
			70 c	1BA	65 dE	3A	60 dBA	55	dBA
		Ldn:		102		219	47	I	1,01
		CNFL:		108		232	499		1.076

Monday, February 3, 2020

Scenari	o: Existing (20	019)				Project	Name: Eoo	thill Commerce	Ctr
	e: Sierra Av.	515)					umber: 129		Gu.
Road Segmer		Av.				00071	120	50	
SITES	SPECIFIC IN	IPUT DATA				N	OISE MOI	DEL INPUTS	
Highway Data				s	ite Con		(Hard = 10,		
Average Daily	Traffic (Adt):	25,216 vehicl	es				Auto	os: 15	
Peak Hour	Percentage:	8.98%			Mee	dium Tru	icks (2 Axle	s <i>):</i> 15	
Peak H	our Volume:	2,264 vehicle	s		Hea	avy Truc	ks (3+ Axle	s): 15	
Vel	hicle Speed:	50 mph		14	ehicle l	Mise			
Near/Far Lar	ne Distance:	90 feet		v		icleType	Day	Evening	light Daily
Site Data					1011		Autos: 77.	•	9.6% 95.53%
Bar	rier Heiaht:	0.0 feet			Me	edium Ti			10.3% 2.33%
Barrier Type (0-Wa		0.0			F	leavy Ti	ucks: 86.	5% 2.7%	10.8% 2.15%
Centerline Dis	. ,	66.0 feet		-					
Centerline Dist. t		66.0 feet		N	loise Sc		evations (ii	1 feet)	
Barrier Distance t		0.0 feet				Auto			
Observer Height (/		5.0 feet				n Truck			
	d Elevation:	0.0 feet			Heav	y Truck	s: 8.004	Grade Adjus	tment: 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	Distance (in feet)	
F	Road Grade:	0.0%				Auto	s: 48.539		
	Left View:	-90.0 degre	es		Mediur	n Truck	s: 48.356		
	Right View:	90.0 degre	es		Heav	y Truck	s: 48.374		
FHWA Noise Mode	el Calculation	IS							
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.06		0.09		-1.20	-4.7	1 0.00	0.000
Medium Trucks:	81.00	-15.08		0.11		-1.20	-4.8	8 0.00	0.000
Heavy Trucks:	85.38	-15.43		0.11		-1.20	-5.3	0.00	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	atten	uation)				
VehicleType	Leq Peak Hou	ir Leq Daj	V L	eq Ev	ening	Leq	Night	Ldn	CNEL
Autos:	70	.1	68.7		67.0		60.9	69.5	70.1
Medium Trucks:	64	.8	63.8		57.4		55.9	64.3	64.6
Heavy Trucks:	68	.9	67.9		58.9		60.1	68.5	68.6
Vehicle Noise:	73	.2	72.0		68.0		64.2	72.7	73.1
	e to Noise Co	ontour (in fee	t)						
Centerline Distand				70 d	BA	65	dBA	60 dBA	55 dBA
Centerline Distand									
Centerline Distand			Ldn: NFL :		100 106		216 229	465 493	1,002 1.062

	FHV	VA-RD-77-108	HIGHWA	AY NOI	ISE PRI	EDICTI	ON MODEL	-		
Road Nam	io: Existing (20 1e: Jurupa Av. 11: w/o Citrus	,			F		Name: Foo umber: 129	thill Commere 30	ce Ctr.	
SITE	SPECIFIC IN	IPUT DATA				N	OISE MOI	DEL INPUT	s	
Highway Data				Sit	te Cond	litions	(Hard = 10,	Soft = 15)		
Average Daily		18,332 vehicl	es				Auto			
	Percentage:	8.98%					icks (2 Axle	-,		
	our Volume:	1,646 vehicle	s		Hea	vy Truc	ks (3+ Axle	s): 15		
	hicle Speed:	45 mph		Ve	hicle M	lix				
Near/Far La	ne Distance:	80 feet			Vehic	leType	Day	Evening	Night	Daily
Site Data						F	utos: 77.	5% 12.9%	9.6%	95.53%
Bar	rier Height:	0.0 feet			Med	dium Tr	ucks: 84.8	3% 4.9%	10.3%	2.33%
Barrier Type (0-W		0.0			He	eavy Tr	ucks: 86.	5% 2.7%	10.8%	2.15%
Centerline Dis	st. to Barrier:	60.0 feet		No	oise Sou	ırce El	evations (ii	1 feet)		
Centerline Dist.	to Observer:	60.0 feet				Autos				
Barrier Distance	to Observer:	0.0 feet			Medium					
Observer Height (Above Pad):	5.0 feet				Trucks		Grade Adj	iustment	0.0
Pa	ad Elevation:	0.0 feet						,		
Roa	ad Elevation:	0.0 feet		La	ne Equ		Distance (in feet)		
I	Road Grade:	0.0%				Autos				
	Left View:	-90.0 degree	es	1	Medium	Trucks	44.803			
	Right View:	90.0 degree	es		Heavy	Trucks	44.822			
FHWA Noise Mod	el Calculation	IS								
VehicleType	REMEL	Traffic Flow	Distar							
		Trainic Flow	Distai	ice	Finite F	Road	Fresnel	Barrier Att	en Bei	m Atten
Autos:	68.46	0.13	Distai	0.58		Road -1.20	Fresnel -4.6		en Bei 000	m Atten 0.000
Autos: Medium Trucks:		0.13	Distai					9 0.0		0.000
	68.46	0.13	Distai	0.58		-1.20	-4.6	9 0.0 8 0.0	000	
Medium Trucks:	68.46 79.45 84.25	0.13 -16.01 -16.35		0.58 0.61 0.61		-1.20 -1.20	-4.6 -4.8	9 0.0 8 0.0	000	0.000
Medium Trucks: Heavy Trucks: Unmitigated Noise	68.46 79.45 84.25	0.13 -16.01 -16.35 out Topo and	barrier	0.58 0.61 0.61	ation)	-1.20 -1.20 -1.20	-4.6 -4.8	9 0.0 8 0.0	000 000 000	0.000
Medium Trucks: Heavy Trucks: Unmitigated Noise	68.46 79.45 84.25 e Levels (with	0.13 -16.01 -16.35 out Topo and <i>ur</i> Leq Day	barrier	0.58 0.61 0.61 attenua	ation)	-1.20 -1.20 -1.20	-4.6 -4.8 -5.3	89 0.0 88 0.0 84 0.0	000 000 000 C	0.000 0.000 0.000 NEL 67.9
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType	68.46 79.45 84.25 e Levels (with Leq Peak Hou	0.13 -16.01 -16.35 out Topo and <i>I</i> <i>Leq Day</i> .0	barrier a	0.58 0.61 0.61 attenua	ation) ning	-1.20 -1.20 -1.20	-4.6 -4.8 -5.3 Vight	29 0.0 28 0.0 24 0.0 Ldn	000 000 000 C	0.000 0.000 0.000 NEL
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos:	68.46 79.45 84.25 e Levels (with Leq Peak Hou 68	0.13 -16.01 -16.35 out Topo and <i>Ir</i> Leq Day 5.0 .9	barrier 66.5	0.58 0.61 0.61 attenua	ation) ning 64.8	-1.20 -1.20 -1.20	-4.6 -4.8 -5.3 Vight 58.7	9 0.0 8 0.0 14 0.0 Ldn 67.3	000 000 000 C. 3	0.000 0.000 0.000 NEL 67.9
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	68.46 79.45 84.25 e Levels (with Leq Peak Hou 68 62	0.13 -16.01 -16.35 out Topo and <i>I</i> <i>I</i> <i>Leq Day</i> 0.0 .9 .3	barrier 2 / Le 66.5 61.8	0.58 0.61 0.61 attenua	ation) ning 64.8 55.5	-1.20 -1.20 -1.20	-4.6 -4.8 -5.3 Vight 58.7 53.9	9 0.0 8 0.0 14 0.0 <u>Ldn</u> 67.3 62.4	000 000 000 C 3 4	0.000 0.000 0.000 NEL 67.9 62.6
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	68.46 79.45 84.25 e Levels (with Leg Peak Hot 68 62 67 71	0.13 -16.01 -16.35 out Topo and <u>ur Leq Day</u> 0.0 .9 .3 .3	barrier 6 66.5 61.8 66.4 70.1	0.58 0.61 0.61 attenua	ation) ning 64.8 55.5 57.3 65.9	-1.20 -1.20 -1.20 Leq	-4.6 -4.8 -5.3 <u>Vight</u> 58.7 53.9 58.6 62.3	99 0.0 18 0.0 14 0.0 10 0.0 14 0.0 10 0000000000	000 000 000 3 4 3	0.000 0.000 NEL 67.9 62.6 67.0 71.2
Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	68.46 79.45 84.25 e Levels (with Leg Peak Hot 68 62 67 71	0.13 -16.01 -16.35 out Topo and <i>I</i> Leq Day 0.0 9.3 3 3 ontour (in feet	<i>barrier</i> 66.5 61.8 66.4 70.1	0.58 0.61 0.61 attenua	ation) ning 64.8 55.5 57.3 65.9	-1.20 -1.20 -1.20	-4.6 -4.8 -5.3 <u>Night</u> 58.7 53.9 58.6 62.3	9 0.0 18 0.0 14 0.0 15 0.0 16 0.0	000 000 000 3 4 3 3 55	0.000 0.000 0.000 NEL 67.9 62.6 67.0 71.2 dBA
Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	68.46 79.45 84.25 e Levels (with Leg Peak Hot 68 62 67 71	0.13 -16.01 -16.35 out Topo and <i>Ir</i> Leq Day 0.0 :9 :3 :3 :3 ontour (in feet	barrier 6 66.5 61.8 66.4 70.1	0.58 0.61 0.61 attenua	ation) ning 64.8 55.5 57.3 65.9	-1.20 -1.20 -1.20 Leq	-4.6 -4.8 -5.3 <u>Vight</u> 58.7 53.9 58.6 62.3	99 0.0 18 0.0 14 0.0 10 0.0 14 0.0 10 0000000000	000 000 000 3 4 3 3 55	0.000 0.000 NEL 67.9 62.6 67.0 71.2

FHWA-RD-77-108 HIGH	WAY NOISE PREDICTION MODEL
Scenario: Existing (2019) Road Name: Jurupa Av. Road Segment: w/o Oleander Av.	Project Name: Foothill Commerce Ctr. Job Number: 12980
SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS
Highway Data	Site Conditions (Hard = 10, Soft = 15)
Average Daily Traffic (Adt): 18,811 vehicles	Autos: 15
Peak Hour Percentage: 8.98%	Medium Trucks (2 Axles): 15
Peak Hour Volume: 1,689 vehicles	Heavy Trucks (3+ Axles): 15
Vehicle Speed: 45 mph	Vehicle Mix
Near/Far Lane Distance: 80 feet	VehicleType Day Evening Night Dail
Site Data	Autos: 77.5% 12.9% 9.6% 95.53
Barrier Height: 0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 2.33
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 2.15
Centerline Dist. to Barrier: 60.0 feet	Noise Source Elevations (in feet)
Centerline Dist. to Observer: 60.0 feet	Autos: 0.000
Barrier Distance to Observer: 0.0 feet	Medium Trucks: 2.297
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.004 Grade Adjustment: 0.0
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet	Lane Equivalent Distance (in feet)
Road Grade: 0.0%	Autos: 45.000 Medium Trucks: 44.803
Left View: -90.0 degrees Right View: 90.0 degrees	Medium Trucks: 44.803 Heavy Trucks: 44.822
FHWA Noise Model Calculations	
	tance Finite Road Fresnel Barrier Atten Berm Atte
Autos: 68.46 0.24	0.58 -1.20 -4.69 0.000 0.0
Medium Trucks: 79.45 -15.89	0.61 -1.20 -4.88 0.000 0.0
Heavy Trucks: 84.25 -16.24	0.61 -1.20 -5.34 0.000 0.0
Unmitigated Noise Levels (without Topo and barr	,
VehicleType Leq Peak Hour Leq Day	Leq Evening Leq Night Ldn CNEL
Autos: 68.1 66.7 Medium Trucks: 63.0 61.9	64.9 58.8 67.5 6 55.6 54.0 62.5 6
Medium Trucks: 63.0 61.9 Heavy Trucks: 67.4 66.5	55.6 54.0 62.5 6 57.4 58.7 67.0 6
Vehicle Noise: 71.4 70.3	66.0 62.4 70.9 7
Centerline Distance to Noise Contour (in feet)	
contonno biotanos to noise dontour (in reet)	70 dBA 65 dBA 60 dBA 55 dBA
Ldn:	69 149 321 69

	FHW	A-RD-77-108	HIGH	WAY NC	ISE PR	EDICTI		DEL					
Scenario: E Road Name: Ju Road Segment: w	urupa Av.	,					Name: I Imber:		I Commere	ce Ctr.			
SITE SPE	CIFIC INF	PUT DATA				N		10DE	L INPUT	s			
Highway Data				S	ite Con				oft = 15)				
Average Daily Traff Peak Hour Perc Peak Hour V	entage:	9,390 vehicle 8.98% 1.741 vehicles				dium Tru avy Truc	cks (2 A						
	Speed:	45 mph	,			'	101017	5400).	10				
Near/Far Lane D		80 feet		V	ehicle I								
	otanioo.	00 1000			Vehi	cleType		Day	Evening	Night	Daily		
Site Data								77.5%		9.6%			
Barrier	Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 2.33								
Barrier Type (0-Wall, 1	-Berm):	0.0			h	leavy Tr	ucks:	86.5%	2.7%	10.8%	2.15		
Centerline Dist. to	Barrier:	60.0 feet		N	oise So	urce El	evation	s (in fe	eet)				
Centerline Dist. to Ol	oserver:	60.0 feet				Autos		000	,				
Barrier Distance to Ol	oserver:	0.0 feet			Mediun	n Trucks		97					
Observer Height (Abov	re Pad):	5.0 feet				y Trucks		04	Grade Adj	ustment	0.0		
Pad El	evation:	0.0 feet				·							
Road El	evation:	0.0 feet		Li	ane Equ	uivalent			feet)				
Road	Grade:	0.0%				Autos							
Le	ft View:	-90.0 degree	s			n Trucks							
Rig	ht View:	90.0 degree	s		Heav	y Trucks	: 44.6	322					
FHWA Noise Model Ca													
		Traffic Flow	Dis	tance	Finite		Fresn		Barrier Att		m Atter		
Autos:	68.46	0.37		0.58		-1.20		-4.69	0.0		0.00		
Medium Trucks:	79.45	-15.76		0.61		-1.20		-4.88		000	0.00		
Heavy Trucks:	84.25	-16.11		0.61		-1.20		-5.34	0.0	000	0.00		
Unmitigated Noise Lev			barri										
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Peak Hour			Leq Eve	~	Leq I			Ldn	-	VEL		
Autos:	68.2		6.8		65.0		59.0		67.6		68		
Medium Trucks:	63.1		52.1		55.7		54.2		62.6		62		
Heavy Trucks:	67.6		6.6		57.6		58.8		67.2		67.		
Vehicle Noise:	71.6		70.4		66.1		62.6		71.1		71.		
Centerline Distance to	Noise Cor	ntour (in feet,)										
			L	70 dE		65 0		6	60 dBA	55	dBA 		
			dn:		71 75		152		328		70		
			IFI :				161		347		74		

Monday, February 3, 2020

Seconaria: E		40)				Drojact	Nome: E-	41-111 O	01-
Scenario: E Road Name: J		19)					umber: 129	othill Commerce	Ctr.
Road Segment: w		Δv				JOD IN	uniber. 128	980	
÷									
	CIFIC IN	PUT DATA						DEL INPUTS	
Highway Data					Site Con	ditions), Soft = 15)	
Average Daily Traff	. ,	20,092 vehicl	es					tos: 15	
Peak Hour Perc		8.98%					cks (2 Axle		
Peak Hour		1,804 vehicle	S		Hea	avy Truc	ks (3+ Axle	es): 15	
	Speed:	45 mph			Vehicle I	Mix			
Near/Far Lane D	istance:	80 feet			Vehi	icleType	Da	y Evening N	light Daily
Site Data						A	utos: 77	.5% 12.9%	9.6% 95.53%
Barrier	Heiaht:	0.0 feet			Me	edium Tr	ucks: 84	.8% 4.9%	10.3% 2.33%
Barrier Type (0-Wall, 1	•	0.0			F	łeavy Tr	ucks: 86	.5% 2.7%	10.8% 2.15%
Centerline Dist. to	,	60.0 feet		-	Naina Ca	uree El	evations (in fact)	
Centerline Dist. to O	bserver:	60.0 feet		Ľ	NUISE SC	Autos		,	
Barrier Distance to O	bserver:	0.0 feet			Modium	n Trucks		-	
Observer Height (Abov	ve Pad):	5.0 feet				v Trucks			tmont: 0.0
Pad El	levation:	0.0 feet			neav	y TTUCKS	. 0.004	Grade Adjus	ament. 0.0
Road El	levation:	0.0 feet		1	Lane Eq	uivalent	Distance	(in feet)	
Road	d Grade:	0.0%				Autos		D	
Le	eft View:	-90.0 degree	es		Mediur	n Trucks	44.803	3	
Rig	ht View:	90.0 degree	es		Heav	y Trucks	44.822	2	
FHWA Noise Model Ca	alculation	s							
VehicleType R	EMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.53		0.5	8	-1.20	-4.	69 0.00	0.00
Medium Trucks:	79.45	-15.61		0.6	1	-1.20	-4.	88 0.00	0.00 C
Heavy Trucks:	84.25	-15.96		0.6	1	-1.20	-5.	34 0.00	0.00
Unmitigated Noise Le	vels (with	out Topo and	barrie	er atter	uation)				
VehicleType Leq	Peak Hou	r Leq Day	'	Leq E	vening	Leq	Vight	Ldn	CNEL
Autos:	68.	4	66.9		65.2		59.1	67.7	68.
Medium Trucks:	63.		62.2		55.9		54.3	62.8	63.
Heavy Trucks:	67.		66.8		57.7		59.0	67.3	67.
Vehicle Noise:	71.	7	70.5		66.3		62.7	71.2	71.
Centerline Distance to	Noise Co	ntour (in fee)						
			L	70 0	dBA	65 (60 dBA	55 dBA
			Ldn: NFL:		72 76		156 165	336 355	723 764

	FHV	VA-RD-77-108	HIGHWA	Y NOISE P	REDICTI		EL			
Scenario: E Road Name: Ju Road Segment: w	urupa Av.	,				Name: Fo Imber: 12		Commerc	e Ctr.	
SITE SPE	CIFIC IN	PUT DATA			N	OISE MO	DDEI	INPUTS	5	
Highway Data				Site Cor	ditions (Hard = 1	0, So	ft = 15)		
Average Daily Traffi		19,680 vehicle	es				itos:	15		
Peak Hour Perc	0	8.98%				cks (2 Ax		15		
Peak Hour \		1,767 vehicles	6	He	avy Truci	ks (3+ Ax	les):	15		
Vehicle		45 mph		Vehicle	Mix					
Near/Far Lane Di	istance:	80 feet		Veh	icleType	D	ay	Evening	Night	Daily
Site Data					A	utos: 7	7.5%	12.9%	9.6%	95.53%
Barrier	Heiaht:	0.0 feet		M	edium Tri	ucks: 8	4.8%	4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1	-Berm):	0.0			Heavy Tri	ucks: 8	6.5%	2.7%	10.8%	2.15%
Centerline Dist. to	Barrier:	60.0 feet		Noise S	ource Ele	evations	(in fe	et)		
Centerline Dist. to Ol		60.0 feet			Autos	: 0.00	0	,		
Barrier Distance to Ol		0.0 feet		Mediu	m Trucks	: 2.29	7			
Observer Height (Abov		5.0 feet		Heat	/y Trucks	8.00	4	Grade Adj	ustment	: 0.0
	evation:	0.0 feet			·			,		
Road El		0.0 feet		Lane Eq		Distance		eet)		
	Grade:	0.0%			Autos		00			
Le	ft View:	-90.0 degree	s	Mediu	m Trucks	: 44.80)3			
Rigi	ht View:	90.0 degree	s	Hear	/y Trucks	: 44.82	22			
FHWA Noise Model Ca	alculation	s		1						
Mahiala Truna D										
VehicleType R	EMEL	Traffic Flow	Distanc	e Finite	Road	Fresne	I E	Barrier Atte	en Ber	m Atten
Autos:	EMEL 68.46	Traffic Flow 0.44		e Finite 0.58	<i>Road</i> -1.20		1 I 1.69	Barrier Atte 0.0		
			(· · · · · · · · · · · · · · · · · · ·		-4			00	0.000
Autos:	68.46	0.44	(0.58	-1.20	-4	1.69	0.0	00	0.00
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise Lev	68.46 79.45 84.25 /els (with	0.44 -15.70 -16.05 out Topo and	() barrier at	0.58 0.61 0.61 t tenuation)	-1.20 -1.20 -1.20	-4 -4 -5	4.69 4.88 5.34	0.0 0.0 0.0	00 00 00	0.000
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise Lev VehicleType Leq	68.46 79.45 84.25 vels (with Peak Hou	0.44 -15.70 -16.05 out Topo and rr Leq Day	barrier at	0.58 0.61 0.61 t tenuation) g Evening	-1.20 -1.20 -1.20 <i>Leq I</i>	-4 -4 -5 Vight	4.69 4.88 5.34	0.0 0.0 0.0	00 00 00 Ci	0.000 0.000 0.000
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise Lev VehicleType Leq Autos:	68.46 79.45 84.25 vels (with Peak Hou 68	0.44 -15.70 -16.05 out Topo and r Leq Day .3	barrier at Lec	0.58 0.61 0.61 t tenuation) g Evening 65.1	-1.20 -1.20 -1.20 <i>Leq N</i>	-4 -4 -5 Vight 59.0	4.69 4.88 5.34	0.0 0.0 0.0 <i>Ldn</i> 67.6	00 00 00 Ci	0.000 0.000 0.000 NEL 68.3
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise Lev VehicleType Leg Autos: Medium Trucks:	68.46 79.45 84.25 /els (with Peak Hou 68 63	0.44 -15.70 -16.05 out Topo and ir Leq Day .3 .2	6 barrier at Lec 66.8 52.1	0.58 0.61 0.61 t tenuation) g Evening 65.1 55.8	-1.20 -1.20 -1.20 <i>Leq N</i>	-4 -4 -5 -4 -4 -5 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4	4.69 4.88 5.34	0.0 0.0 0.0 <u>Ldn</u> 67.6 62.7	00 00 00 C	0.000 0.000 0.000 NEL 68.3 62.9
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise Lev VehicleType Leg Autos: Medium Trucks: Heavy Trucks:	68.46 79.45 84.25 <i>Vels (with</i> <i>Peak Hou</i> 68 63 63	0.44 -15.70 -16.05 out Topo and rr Leq Day .3 .2 .6	barrier at Lec 56.8 52.1 56.7	0.58 0.61 (tenuation) (tenuati	-1.20 -1.20 -1.20 <i>Leq I</i>	-4 -4 -5 -5 -5 -5 -4 -2 -5 -4 -2 -5 -4 -4 -4 -4 -4 -4 -4 -5 -4 -4 -5 -4 -4 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5	4.69 4.88 5.34	0.0 0.0 0.0 <u>Ldn</u> 67.6 62.7 67.2	00 00 00 Ci	0.000 0.000 0.000 NEL 68.3 62.9 67.4
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise Lev VehicleType Leg Autos: Medium Trucks:	68.46 79.45 84.25 /els (with Peak Hou 68 63	0.44 -15.70 -16.05 out Topo and rr Leq Day .3 .2 .6	6 barrier at Lec 66.8 52.1	0.58 0.61 0.61 t tenuation) g Evening 65.1 55.8	-1.20 -1.20 -1.20 <i>Leq I</i>	-4 -4 -5 -4 -4 -5 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4	4.69 4.88 5.34	0.0 0.0 0.0 <u>Ldn</u> 67.6 62.7	00 00 00 Ci	0.000 0.000 0.000 NEL 68.3 62.9 67.4
Autos: Medium Trucks: Heavy Trucks: Unnitigated Noise Lev VehicleType Leq Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	68.46 79.45 84.25 vels (with Peak Hou 68 63 67 71	0.44 -15.70 -16.05 out Topo and r Leq Day .3 .2 .6 .6	barrier at Lec 66.8 62.1 66.7 70.5	0.58 0.61 0.61 9 Evening 65.1 55.8 57.6 66.2	-1.20 -1.20 -1.20 <i>Leq N</i>	4 4 5 -59.0 59.0 54.2 58.9 62.6	1.69 1.88 5.34	0.0 0.0 0.0 <u>Ldn</u> 67.6 62.7 67.2 71.1	00 00 00 C	0.000 0.000 0.000 NEL 68.3 62.9 67.4 71.5
Autos: Medium Trucks: Heavy Trucks: Unnitigated Noise Lev VehicleType Leq Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	68.46 79.45 84.25 vels (with Peak Hou 68 63 67 71	0.44 -15.70 -16.05 out Topo and rr Leq Day .3 .2 .6 .6 .6 .6 .6 .0 .10 .10 .10 .10 .10 .10 .10 .10 .10	barrier at barrier at 56.8 52.1 56.7 70.5	0.58 0.61 0.61 7 Evening 65.1 55.8 57.6 66.2 70 dBA	-1.20 -1.20 -1.20 <i>Leq I</i>		1.69 1.88 5.34	0.0 0.0 0.0 67.6 62.7 67.2 71.1	00 00 00 C	0.000 0.000 NEL 68.3 62.9 67.4 71.5 dBA
Autos: Medium Trucks: Heavy Trucks: Unnitigated Noise Lev VehicleType Leg Autos: Medium Trucks: Heavy Trucks:	68.46 79.45 84.25 vels (with Peak Hou 68 63 67 71	0.44 -15.70 -16.05 out Topo and r Leq Day .3 .2 .6 .6 .6 .6 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	barrier at Lec 66.8 62.1 66.7 70.5	0.58 0.61 0.61 9 Evening 65.1 55.8 57.6 66.2	-1.20 -1.20 -1.20 <i>Leq N</i>	4 4 5 -59.0 59.0 54.2 58.9 62.6	1.69 1.88 5.34	0.0 0.0 0.0 <u>Ldn</u> 67.6 62.7 67.2 71.1	00 00 00 C	0.000 0.000 0.000 NEL 68.3 62.9 67.4 71.5

	FHV	VA-RD-77-108	HIGHW	AY NOIS	E PREDI	CTION	MODEL			
Scenario	: Existing + I	Project			Proj	ect Nan	ne: Footh	ill Commer	ce Ctr.	
Road Name	: Citrus Av.				Jo	b Numb	er: 12980)		
Road Segment	: n/o Jurupa	Av.								
	PECIFIC IN	IPUT DATA						EL INPUT	s	
Highway Data				Site	Conditio	ns (Ha	rd = 10, S	oft = 15)		
Average Daily Ti	raffic (Adt):	10,930 vehicle	s				Autos	: 15		
Peak Hour P	Percentage:	8.98%			Medium	Trucks	(2 Axles)	: 15		
Peak Ho	ur Volume:	981 vehicles	;		Heavy 1	rucks (3+ Axles)	: 15		
	icle Speed:	40 mph		Vehi	cle Mix					
Near/Far Lane	e Distance:	52 feet			VehicleT	vpe	Dav	Evening	Night	Daily
Site Data						Auto	s: 77.5%	6 12.9%	9.6%	94.57%
Barr	ier Height:	0.0 feet			Mediun	n Truck	s: 84.89	6 4.9%	10.3%	2.46%
Barrier Type (0-Wa		0.0			Heav	/ Truck:	86.5%	6 2.7%	10.8%	2.97%
Centerline Dist.		46.0 feet		Nois	e Source	Eleva	ions (in	feet)		
Centerline Dist. to		46.0 feet			A	utos:	0.000	,		
Barrier Distance to		0.0 feet		Me	dium Tri	icks:	2.297			
Observer Height (A	,	5.0 feet		ŀ	leavv Tr	icks:	8.004	Grade Ad	iustment	÷ 0.0
	d Elevation:	0.0 feet		-						
	d Elevation:	0.0 feet		Lane			tance (in	feet)		
R	oad Grade:	0.0%				utos:	38.275			
	Left View:	-90.0 degree			edium Tru		38.043			
/	Right View:	90.0 degree	s		leavy Tr	icks:	38.066			
FHWA Noise Mode										-
VehicleType	REMEL	Traffic Flow	Distar		inite Roa		resnel	Barrier Att		rm Atten
Autos:	66.51	-1.65		1.64	-1.3		-4.63		000	0.00
Medium Trucks:	77.72	-17.50		1.68	-1.3		-4.87		000	0.00
Heavy Trucks:	82.99	-16.68		1.67	-1.3	20	-5.47	0.0	000	0.00
Unmitigated Noise						Allerh		l da		NEL
VehicleType L Autos:	eq Peak Hou 65		33.9	eq Evenir	19 L 32.1	eq Nigh	56.0	Ldn 64.7		1VEL 65.3
Medium Trucks:	60		59.7		53.3		50.0 51.7	60.2		60.4
Heavy Trucks:	66		5.8 5.8		56.8		58.0	66.4	-	66.5
Vehicle Noise:	69		53.6 58.6		63.6		60.8	69.2	-	69.
Centerline Distance	e to Noise Co	ontour (in feet))							
				70 dBA		65 dBA		60 dBA	55	i dBA
			dn:		41	00 00/1	88	189		408

	FHW	A-RD-77-108	HIG	HWAY NO	DISE PR	EDICTI	ON MO	DEL			
Scenario: Existin	g + P	roject				Project	Name:	Foothi	II Commer	ce Ctr.	
Road Name: Junipe						Job N	umber:	12980			
Road Segment: n/o Sa	nta Ai	na Av.									
SITE SPECIFI	CIN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Ac	łt):	2,581 vehicl	es					Autos:	15		
Peak Hour Percentag	je:	8.98%			Med	lium Tru	icks (2 /	Axles):	15		
Peak Hour Volum	ne:	232 vehicle	s		Hea	ivy Truc	ks (3+ /	Axles):	15		
Vehicle Spee	ed:	40 mph		V	ehicle I	<i>liv</i>					
Near/Far Lane Distand	e:	14 feet		-		cleType		Dav	Evening	Night	Dailv
Site Data					v crin		utos:	77.5%	•	9.6%	
	h.a.	0.0 feet			Me	dium Tr		84.8%		10.3%	
Barrier Heig Barrier Type (0-Wall, 1-Berr		0.0 reet				leavy Tr		86.5%		10.8%	
Centerline Dist. to Barri	·	0.0 34.0 feet									
Centerline Dist. to Observ		34.0 feet		٨	loise So	urce El	evation	s (in f	eet)		
Barrier Distance to Observ		0.0 feet				Autos		000			
Observer Height (Above Pa		5.0 feet			Mediun	n Trucks	. 2.	297			
Pad Elevatio	·	0.0 feet			Heav	/ Trucks	. 8.	004	Grade Ad	iustment	: 0.0
Road Elevatio		0.0 feet		L	ane Equ	ivalent	Distan	ce (in	feet)		
Road Grad		0.0%		-		Autos		645			
Left Vie		-90.0 degre	29		Mediun	1 Trucks		381			
Right Vie		90.0 degre				/ Trucks		407			
FHWA Noise Model Calcula		Traffic Flow	0	- 1	Finite	0	F		Damian Att		
VehicleType REME Autos: 6	5.51	-7.87	DI	stance 2.48		-1.20	Fresr	-4.53	Barrier Att	en Ber 000	m Atten 0.00
	7.72	-7.87		2.40		-1.20		-4.86		000	0.00
	2.99	-24.19 -24.54		2.53		-1.20		-4.80		000	0.00
						=1.20		-3.07	0.0	000	0.00
Unmitigated Noise Levels (1	Under	1	Ldn	0	NEL
VehicleType Leq Peak Autos:	59.9	1 1	, 58.5	Leq Ev	56.7	Leq	Vight 50.7	,	59.3		59.
Autos: Medium Trucks:	59.1 54.1		53.8		56.7 47.4		50.1 45.9		54.4		59. 54.
Heavy Trucks:	54.0 59.0		58.8		47.4		45.8		54.4 59.4		54. 59.
Vehicle Noise:	59.0 63.1	-	58.8 62.3		49.8		54.6		59.4 63.0		59. 63
					57.9		54.3)	63.0	J	63.
Centerline Distance to Nois	se Co	ntour (in fee)	70 1	D.4	05	04	1 .	0.104		-10.4
			Ldn:	70 d		65 (60 dBA		dBA
		~	Lan: NEL:		12 12		25 26		54 57		110

Monday, February 3, 2020

Scenario: Existi		Project				Project	Nomo: Er	othill Commerce	Ctr
Road Name: Junip							umber: 12		Ctr.
Road Segment: s/o Sa						00014	umber. 12	.500	
SITE SPECIF						N		DEL INPUTS	
Highway Data		PUIDAIA		5	Site Con			0, Soft = 15)	
Average Daily Traffic (A	dt).	3.416 vehicle	c				•	15 tos: 15	
Peak Hour Percenta		8.98%	5		Mee	dium Tri	icks (2 Ax		
Peak Hour Volu	~	307 vehicles					ks (3+ Ax	,	
Vehicle Spe		40 mph				,	. (.	,	
Near/Far Lane Distan		14 feet		`	Vehicle I				
					veni	cleType		, ,	Vight Daily
Site Data						ہ dium Tr		7.5% 12.9%	9.6% 96.13
Barrier Heig		0.0 feet							10.3% 2.019
Barrier Type (0-Wall, 1-Ber		0.0			F	leavy Tr	UCKS: 8	6.5% 2.7%	10.8% 1.86%
Centerline Dist. to Barr		34.0 feet		٨	Voise Sc	ource El	evations	(in feet)	
Centerline Dist. to Observ		34.0 feet				Autos	s: 0.00	0	
Barrier Distance to Obser		0.0 feet			Mediur	n Trucks	s: 2.29	7	
Observer Height (Above Pa		5.0 feet			Heav	y Trucks	s: 8.00	4 Grade Adju	stment: 0.0
Pad Elevat Road Elevat		0.0 feet		,	ano Eg	uivalon	Distance	(in foot)	
Road Elevat Road Gra		0.0 feet 0.0%		-	ane Ly	Auto		. ,	
Left Vi		-90.0 degree	_		Modiur	n Truck	. 00.0		
Right Vi		90.0 degree				y Trucks			
rught vi		50.0 degree	5		mour	<i>y maon</i>	. 00.40		
FHWA Noise Model Calcul	ation	s							
VehicleType REME	:L	Traffic Flow	Distar	псе	Finite	Road	Fresne	Barrier Atter	n Berm Atten
Autos: 6	6.51	-6.63		2.48	3	-1.20	-4	0.00	0 0.00
Medium Trucks: 7	7.72	-23.42		2.53	3	-1.20	-4	.86 0.00	0 0.00
Heavy Trucks: 8	32.99	-23.76		2.52	2	-1.20	-5	6.67 0.00	0 0.00
Unmitigated Noise Levels	(with	out Topo and	barrier	atten	uation)				
VehicleType Leq Pea	k Hou	r Leq Day	Le	eq Ev	/ening	Leq	Night	Ldn	CNEL
	61.	2 5	9.7		58.0		51.9	60.5	61.
Autos:	55	.6 5	4.6		48.2		46.7	55.1	55.
Autos: Medium Trucks:	55.		~ ~		50.6		51.8	60.2	60.
	55. 60.	.6 5	9.6				55.5	64.0	64
Medium Trucks:			9.6 3.3		59.1		55.5	04.0	
Medium Trucks: Heavy Trucks: Vehicle Noise:	60. 64.	.5 6			59.1		55.5	04.0	
Medium Trucks: Heavy Trucks: Vehicle Noise:	60. 64.	.5 6		70 d		65	bb.b	60 dBA	55 dBA
Medium Trucks: Heavy Trucks:	60. 64.	5 6 ontour (in feet)		70 d		65			55 dBA 13

FHWA-RD-77-108 HI	GHWAY	NOISE PR	REDICTI	ON MOD	EL			
Scenario: Existing + Project Road Name: Sierra Av. Road Segment: n/o Santa Ana Av.				Name: F Imber: 1		I Commerce	e Ctr.	
SITE SPECIFIC INPUT DATA			N	OISE M	ODE	L INPUTS	;	
Highway Data		Site Con	ditions	(Hard = 1	10, Sc	oft = 15)		
Average Daily Traffic (Adt): 31,930 vehicles Peak Hour Percentage: 8.98%		Me	dium Tru	A cks (2 A)	utos: des):	15 15		
Peak Hour Volume: 2,867 vehicles		He	avy Truc	ks (3+ A)	des):	15		
Vehicle Speed: 50 mph		Vehicle	Mix					
Near/Far Lane Distance: 90 feet			icleType	ſ	Day	Evening	Night	Daily
Site Data		ven			7.5%	•	9.6%	
		M	edium Tr		4.8%		10.3%	2.35%
3			Heavy Tr		6.5%		10.8%	
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist, to Barrier: 66.0 feet							10.070	2.0070
Centerline Dist. to Darrier. 66.0 feet		Noise So	ource El	evations	(in fe	eet)		
Barrier Distance to Observer: 0.0 feet			Autos					
Observer Height (Above Pad): 5.0 feet		Mediu	m Trucks	: 2.2				
Pad Elevation: 0.0 feet		Heav	ry Trucks	: 8.0)4	Grade Adju	istment.	0.0
Road Elevation: 0.0 feet		Lane Eq	uivalent	Distanc	e (in i	feet)		
Road Grade: 0.0%		Lano Lq	Autos					
Left View: -90.0 degrees		Mediu	m Trucks	0.0				
Right View: 90.0 degrees			ry Trucks					
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distance	Finite	Road	Fresne		Barrier Atte	n Ber	m Atten
Autos: 70.20 2.07	0.	.09	-1.20	-	4.71	0.00	00	0.000
Medium Trucks: 81.00 -14.02	0.	.11	-1.20	-	4.88	0.00	00	0.000
Heavy Trucks: 85.38 -14.11		.11	-1.20	-	5.30	0.00	00	0.000
Unmitigated Noise Levels (without Topo and ba								
VehicleType Leq Peak Hour Leq Day		Evening	Leq I	v		Ldn	CI	VEL
Autos: 71.2 69		68.0		61.9		70.5		71.1
				56.9		65.4		65.6
Medium Trucks: 65.9 64		58.5						
Heavy Trucks: 70.2 69	.2	60.2		61.4		69.8		
	.2					69.8 73.9		
Heavy Trucks: 70.2 69 Vehicle Noise: 74.4 73	.2	60.2 69.0		61.4 65.4		73.9		69.9 74.2
Heavy Trucks: 70.2 69 Vehicle Noise: 74.4 73 Centerline Distance to Noise Contour (in feet)	.2 .2 70	60.2 69.0 0 dBA	65 0	61.4 65.4	6	73.9 0 dBA		74.2 dBA
Heavy Trucks: 70.2 69	.2 .2 [70 [n:	60.2 69.0	65 0	61.4 65.4	6	73.9		74.2

	FHV	VA-RD-77-108 H	IIGHWAY	NOISE P	REDICTIC	N MODEL			
Scenario:	Existing + I	Project			Project N	lame: Foot	hill Commerce	ce Ctr.	
Road Name:	Sierra Av.				Job Nu	nber: 1298	0		
Road Segment:	s/o Santa A	Ana Av.							
	PECIFIC IN	IPUT DATA					EL INPUT	5	
Highway Data				Site Cor	nditions (F	Hard = 10,	Soft = 15)		
Average Daily Tr	affic (Adt):	31,752 vehicles	3			Auto	s: 15		
Peak Hour Pe	ercentage:	8.98%		Me	dium Truc	ks (2 Axles): 15		
Peak Hou	ur Volume:	2,851 vehicles		He	avy Truck	s (3+ Axles): 15		
Vehi	cle Speed:	50 mph		Vehicle	Mix				
Near/Far Lane	Distance:	90 feet			nicleType	Dav	Evening	Night	Daily
Site Data						tos: 77.5	0	9.6%	95.26%
Barri	er Height:	0.0 feet		М	edium Tru	cks: 84.8	% 4.9%	10.3%	2.37%
Barrier Type (0-Wal		0.0			Heavy Tru	cks: 86.5	% 2.7%	10.8%	2.37%
Centerline Dist.	to Barrier:	66.0 feet		Noise S	ource Ele	vations (in	feet)		
Centerline Dist. to		66.0 feet			Autos:		,		
Barrier Distance to		0.0 feet		Mediu	m Trucks:	2,297			
Observer Height (Al	,	5.0 feet		Hear	vy Trucks:	8.004	Grade Adj	ustment:	0.0
	Elevation:	0.0 feet							
	Elevation:	0.0 feet		Lane Eq		Distance (i	n feet)		
Ro	ad Grade:	0.0%			Autos:	48.539			
_	Left View:	-90.0 degrees			m Trucks:	48.356			
F	Right View:	90.0 degrees		Hear	vy Trucks:	48.374			
FHWA Noise Model									
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresnel	Barrier Atte		n Atten
Autos:	70.20	2.04	-	.09	-1.20	-4.7			0.000
Medium Trucks:	81.00	-14.00	-	.11	-1.20	-4.8			0.000
Heavy Trucks:	85.38		-	.11	-1.20	-5.3	0 0.0	000	0.000
Unmitigated Noise	Levels (with eq Peak Hou					inht	Ldn	C1	IEL
VehicleType L Autos:	eq Peak Hol 71		Leq	Evening 67.9	Leq N	61.9	Lan 70.5	-	IEL 71.1
Medium Trucks:	65		9.7 4.9	58.5		57.0	65.4		65.7
Heavy Trucks:	70		4.9 9.3	60.3		57.0 61.6	69.9		70.0
Vehicle Noise:	70		3.2	69.0		65.4	73.9		74.3
Centerline Distance				00.0			.0.0		
Centennie Distance	to MOISE CO	uniour (in leel)	7	0 dBA	65 dl	BA	60 dBA	55	dBA
		L	dn:	120		259	557		1,201
		CN	EL:	127		274	590		1,270

F	HWA-RI	D-77-108 HI	GHWAY	NOISE PF	REDICTIO	ON MOD	DEL			
<i>Scenario:</i> Existing <i>Road Name:</i> Sierra A <i>Road Segment:</i> n/o Juru	v. ,	t			Project N Job Nu			I Commer	ce Ctr.	
SITE SPECIFIC	INPUT	DATA			NC	DISE N	ODE	L INPUT	s	
Highway Data				Site Con						
Average Daily Traffic (Adt)	25.79	7 vehicles				A	Autos:	15		
Peak Hour Percentage				Mee	dium Truc	cks (2 A	xles):	15		
Peak Hour Volume		vehicles		Hea	avy Truck	s (3+ A	xles):	15		
Vehicle Speed	: 50) mph		Vehicle I			,			
Near/Far Lane Distance	: 90) feet			vix icleType	- 1 -	0	Curring	Allasht	Deile
Site Data				veni			Day 77.5%	Evening 12.9%	Night 9.6%	Daily 95.20%
					Al dium Tru		34.8%		9.0%	2.389
Barrier Height		.0 feet			leavy Tru		36.5%		10.3%	
Barrier Type (0-Wall, 1-Berm)				ſ	leavy III	icks. (50.570	2.170	10.0%	2.437
Centerline Dist. to Barrier		0 feet		Noise Sc	ource Ele	vations	s (in fe	eet)		
Centerline Dist. to Observer		0 feet			Autos:	0.0	00			
Barrier Distance to Observer	-	0 feet		Mediur	n Trucks:	2.2	97			
Observer Height (Above Pad)		0 feet		Heav	y Trucks:	8.0	04	Grade Adj	ustment	0.0
Pad Elevation		0 feet		Lane Eq	uivelent	Distanc	o (in	fa a 4)		
Road Elevation		0 feet		Lane Eq	Autos:			ieel)		
Road Grade				Marthur	n Trucks:					
Right View		0 degrees 0 degrees			y Trucks:					
FHWA Noise Model Calculat	ons									
VehicleType REMEL	Traft	fic Flow	Distance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos: 70.	20	1.14	0.	09	-1.20		4.71	0.0	000	0.00
Medium Trucks: 81.	00	-14.89	0.	11	-1.20		4.88	0.0	000	0.00
Heavy Trucks: 85.	38	-14.80	0.	11	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise Levels (w										
VehicleType Leq Peak H		Leq Day	,	Evening	Leq N	·		Ldn	-	VEL
Autos:	70.2	68.	-	67.0		61.0		69.6		70.
Medium Trucks:	65.0	64.		57.6		56.1		64.5		64.
Heavy Trucks:	69.5	68.		59.5		60.8		69.1		69.
Vehicle Noise:	73.5	72.	4	68.1		64.5		73.0)	73.
Centerline Distance to Noise	Contou	r (in feet)	-							
) dBA	65 d		6	i0 dBA	55	dBA
		Ldi CNFI		105 111		227		488		1,052
						240		516		1.112

Monday, February 3, 2020

	WA-RD-77-	108 HI	GHWAY N	NOISE PF	REDICT	ION MOD	EL			
Scenario: Existing + Road Name: Sierra Av						Name: F umber: 1		Commerce	e Ctr.	
Road Segment: s/o Jurupa					300 11	umber. I.	2900			
SITE SPECIFIC I	NPUT DAT	A						L INPUTS		
Highway Data				Site Con	ditions	(Hard = 1	10, Sc	oft = 15)		
Average Daily Traffic (Adt):	25,272 ve	hicles				A	utos:	15		
Peak Hour Percentage:	8.98%			Mee	dium Tru	ucks (2 Ax	des):	15		
Peak Hour Volume:	2,269 veh	icles		Hea	avy Truc	cks (3+ A)	des):	15		
Vehicle Speed:	50 mpi		-	Vehicle I	Mix					
Near/Far Lane Distance:	90 feet	t	-		cleType	e E	Day	Evening	Night	Daily
Site Data					/	Autos: 7	7.5%	12.9%	9.6%	95.35%
Barrier Height:	0.0 fee	et		Me	edium Ti	rucks: 8	4.8%	4.9%	10.3%	2.35%
Barrier Type (0-Wall, 1-Berm):	0.0			F	leavy Ti	rucks: 8	6.5%	2.7%	10.8%	2.30%
Centerline Dist. to Barrier:	66.0 fee	et	-	Noise Sc	urce E	levations	(in fe	et)		
Centerline Dist. to Observer:	66.0 fee	et	-		Auto			.00		
Barrier Distance to Observer:	0.0 fee	et		Mediur	n Truck					
Observer Height (Above Pad):	5.0 fee				y Truck)4	Grade Adju	stment:	0.0
Pad Elevation:	0.0 fee		_		, ,			,		
Road Elevation:	0.0 fee	et	-	Lane Eq		t Distanc		eet)		
Road Grade:	0.0%				Auto					
Left View:	-90.0 de	•			n Truck					
Right View:	90.0 de	grees		Heav	y Truck	s: 48.3	/4			
FHWA Noise Model Calculatio	ns									
VehicleType REMEL	Traffic Flo	w w	Distance	Finite	Road	Fresne	e/ 1	Barrier Attei	n Berr	n Atten
Autos: 70.2		.06	0.0		-1.20		4.71	0.00	-	0.000
Medium Trucks: 81.0			0.1		-1.20		4.88	0.00	-	0.000
Heavy Trucks: 85.3	3 -15	.12	0.1	1	-1.20	-	5.30	0.00	10	0.000
Unmitigated Noise Levels (wit	hout Topo a	and ba	nrrier atte	nuation)						
VehicleType Leq Peak He				vening	Leq	Night		Ldn	CN	IEL
	0.2	68.		67.0		60.9		69.5		70.1
	4.9	63.	-	57.5		55.9		64.4		64.6
	9.2	68.		59.2		60.4		68.8		68.9
Vehicle Noise: 7	3.4	72.	2	68.0		64.4		72.9		73.2
Centerline Distance to Noise	Contour (in :	feet)								
			70	dBA	65	dBA	6	0 dBA	55 (dBA
		Ldi CNFi		102 108		220 233		475 502		1,022

	FHW	A-RD-77-108	HIGHWA	Y NOISE	PREDICT	ION MODE	L		
Road Nam	o: Existing + P e: Jurupa Av. nt: w/o Citrus a	,				Name: Foo umber: 129	othill Commero 980	ce Ctr.	
SITE	SPECIFIC IN	PUT DATA			N	IOISE MO	DEL INPUT	s	
Highway Data				Site C	onditions	(Hard = 10	, Soft = 15)		
Average Daily	Traffic (Adt):	18,575 vehicle	s			Aut	os: 15		
• •	Percentage:	8.98%			Medium Tr	ucks (2 Axle	es); 15		
Peak H	our Volume:	1.668 vehicles	s		Heavy Tru	cks (3+ Axle	es): 15		
Vei	hicle Speed:	45 mph		Mahia	le Mix		,		
Near/Far Lar	, ne Distance:	80 feet				0.	y Evening	Allashat	Daily
Site Data				V	ehicleType		5% 12.9%	Night	95.089
				_	ر Medium T		.5% 12.9% .8% 4.9%	9.6%	2.389
	rier Height:	0.0 feet			Heavy T		.8% 4.9% .5% 2.7%	10.3%	2.38
Barrier Type (0-W	. ,	0.0			neavy 1	uchs. 00	.370 2.170	10.070	2.00
Centerline Dis		60.0 feet		Noise	Source E	levations (i	in feet)		
Centerline Dist. t		60.0 feet			Auto	s: 0.000)		
Barrier Distance		0.0 feet		Mee	lium Truck	s: 2.297	,		
Observer Height (Above Pad): d Flevation:	5.0 feet		H	avy Truck	s: 8.004	Grade Adj	ustment:	0.0
	d Elevation: d Elevation:	0.0 feet		1 200	Equivalor	t Distance	(in foot)		
	a Elevation: Road Grade:	0.0 feet 0.0%		Lane	Auto				
r	Left View:		-	Mo	lium Truck				
	Right View:	-90.0 degree 90.0 degree			avy Truck				
	Night view.	90.0 degree	:5		avy much	3. 44.022	-		
FHWA Noise Mode	el Calculations	;							
VehicleType	REMEL	Traffic Flow	Distan	ce Fir	ite Road	Fresnel	Barrier Att	en Berr	n Atter
Autos:	68.46	0.17		0.58	-1.20	-4.	69 0.0	000	0.00
Medium Trucks:	79.45	-15.85		0.61	-1.20	-4.	88 0.0	000	0.00
Heavy Trucks:	84.25	-15.58		0.61	-1.20	-5.	34 0.0	000	0.00
Unmitigated Noise	Levels (witho	ut Topo and	barrier a	attenuatio	n)				
N/ / / / T	Leg Peak Hour	· Leq Day	Le	eq Evening	I Leq	Night	Ldn	-	IEL
VehicleType			66.6	64	0	58.8	67.4	ļ.	68
Venicle lype Autos:	68.	0 0	00.0		0	00.0			
,1			62.0		i.6	54.1	62.5	5	62
Autos: Medium Trucks: Heavy Trucks:	68.	D (62.0 67.1	5			67.7	,	67
Autos: Medium Trucks:	68. 63.	D (62.0	55	5.6	54.1		,	67
Autos: Medium Trucks: Heavy Trucks:	68. 63. 68. 71.	D 1 7	62.0 67.1 70.5	58	5.6 5.1	54.1 59.3	67.7	,	67
Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	68. 63. 68. 71.	ntour (in feet	62.0 67.1 70.5	58 58 60 70 dBA	5.6 5.1 6.1	54.1 59.3 62.7 dBA	67.7 71.2 60 dBA	2	67 71 dBA
Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	68. 63. 68. 71.) 1 7 ntour (in feet	62.0 67.1 70.5	55 56 66 70 dBA	5.6 5.1 5.1	54.1 59.3 62.7	67.7 71.2	55	62. 67. 71. dBA 72. 75.

FHWA-RD-77-1	08 HIGHWA	Y NOISE PR	EDICTION	MODEL			
Scenario: Existing + Project Road Name: Jurupa Av. Road Segment: w/o Oleander Av.			Project Nar Job Numb			ce Ctr.	
SITE SPECIFIC INPUT DAT	4		NOIS	E MODE	L INPUT	S	
Highway Data		Site Con	ditions (Ha	rd = 10, S	oft = 15)		
Average Daily Traffic (Adt): 19,238 veh	icles			Autos:	15		
Peak Hour Percentage: 8.98%		Med	dium Trucks	(2 Axles):	15		
Peak Hour Volume: 1,728 vehi	cles	Hea	avy Trucks (3+ Axles):	15		
Vehicle Speed: 45 mph		Vehicle I	Nix				
Near/Far Lane Distance: 80 feet		Vehi	cleType	Day	Evening	Night	Daily
Site Data			Auto	s: 77.5%	12.9%	9.6%	94.56%
Barrier Height: 0.0 fee		Me	dium Truck	s: 84.8%		10.3%	2.46%
Barrier Type (0-Wall, 1-Berm): 0.0		H	leavy Truck	s: 86.5%	2.7%	10.8%	2.98%
Centerline Dist. to Barrier: 60.0 feel		Noise So	urce Eleva	tions (in f	eet)		
Centerline Dist. to Observer: 60.0 feet			Autos:	0.000	000		
Barrier Distance to Observer: 0.0 feel		Mediur	n Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet			v Trucks:	8.004	Grade Adj	ustment	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feel		Lane Equ	Autos:	45.000	teet)		
Road Grade: 0.0% Left View: -90.0 deg		Modium	n Trucks:	45.000			
Right View: 90.0 deg			y Trucks:	44.822			
FHWA Noise Model Calculations							
VehicleType REMEL Traffic Flow	v Distanc	e Finite	Road F	resnel	Barrier Atte	en Ber	m Atten
Autos: 68.46 0.3	29	0.58	-1.20	-4.69	0.0	000	0.00
Medium Trucks: 79.45 -15.		0.61	-1.20	-4.88	0.0		0.00
Heavy Trucks: 84.25 -14.	-	0.61	-1.20	-5.34	0.0	000	0.00
Unmitigated Noise Levels (without Topo a		,					
VehicleType Leq Peak Hour Leq E	,	g Evening	Leq Nigł		Ldn		NEL
Autos: 68.1 Medium Trucks: 63.3	66.7 62.3	64.9 55.9		58.9 54.4	67.5 62.8		68. 63
Heavy Trucks: 68.9	68.0	59.0		54.4 60.2	68.6		68.
Vehicle Noise: 72.2	71.0	66.3		63.2	71.7		72.
Centerline Distance to Noise Contour (in fe	eet)						
		70 dBA	65 dBA	f	60 dBA	55	dBA
		O UDA	00 004				
	Ldn:	78	00 UDA	167	360		776

	FHWA	-RD-77-108 HIG	HWAY N	OISE PF	REDICTIC	N MOD	EL			
Scenario: E Road Name: J Road Segment: w					Project N Job Nui	ame: Fo nber: 12		Commerc	ce Ctr.	
SITE SPE	CIFIC INP	UT DATA			NC	ISE M	DDEL	INPUT	s	
Highway Data			;	Site Con	ditions (I				-	
Average Daily Traft Peak Hour Perc Peak Hour	centage: 8	9,817 vehicles 8.98% 780 vehicles			dium Truc avy Truck	ks (2 Ax		15 15 15		
Vehicle	Speed:	45 mph	-	Vehicle I						
Near/Far Lane D	istance:	80 feet	-		wix icleType		ay E	vening	Night	Daily
Site Data				ven			ay [7.5%	12.9%	9.6%	
				M	edium Tru		4.8%	4.9%	10.3%	2.45
	Height:	0.0 feet			leavy Tru		4.0% 6.5%	4.9% 2.7%	10.3%	2.45
Barrier Type (0-Wall,	,	0.0		'	leavy IIu	UNS. 0	0.070	2.170	10.070	2.50
Centerline Dist. to		60.0 feet	1	Noise Sc	ource Ele	vations	(in fee	t)		
Centerline Dist. to O		60.0 feet			Autos:	0.00	0			
Barrier Distance to O		0.0 feet		Mediur	n Trucks:	2.29	7			
Observer Height (Abo	,	5.0 feet		Heav	y Trucks:	8.00	4 G	rade Adj	ustment.	0.0
	levation:	0.0 feet	-	ano Eg	uivalent l	Distance	(in fo	of)		
	levation: d Grade:	0.0 feet 0.0%	Ľ.		Autos:	45.00		ει)		
		0.0% -90.0 degrees		Modiu	n Trucks:					
	ht View:	90.0 degrees			ry Trucks:	44.82				
FHWA Noise Model C	alculations									
			Distance	Finite		Fresne		arrier Att		m Atter
Autos:	68.46	0.42	0.5		-1.20		1.69	0.0		0.00
Medium Trucks:	79.45	-15.44	0.6		-1.20		1.88		000	0.00
Heavy Trucks:	84.25	-14.62	0.6	1	-1.20	-8	5.34	0.0	000	0.00
Unmitigated Noise Le										
	Peak Hour	Leq Day		vening	Leq N	v	L	dn	-	VEL
Autos:	68.3	66.8	-	65.1		59.0		67.6		68
Medium Trucks:	63.4	62.4		56.0		54.5		62.9		63
Heavy Trucks:	69.0	68.1		59.0		60.3		68.7		68
Vehicle Noise:	72.3	71.1	1	66.5		63.3		71.8	3	72
Centerline Distance to	Noise Con	tour (in feet)								
			70 0		65 dl		60	dBA	55	dBA
		Ldn		79		170		367		79
		CNFL		83		179		386		83

Monday, February 3, 2020

		Project				Project	Name: Er	othill Commer	ce Ctr	
Road Name	D: Existing + F B: Jurupa Av.	TOJECI					umber: 12		ce cu.	
Road Segmen		Av.								
SITE S	SPECIFIC IN		Δ			N	OISE MO	DDEL INPUT	s	
Highway Data	Lonio		~		Site Con			0, Soft = 15)	<u> </u>	
Average Daily 7	raffic (Adt):	20,519 vel	hicles				AL	itos: 15		
Peak Hour I	Percentage:	8.98%			Mee	dium Tru	cks (2 Ax	<i>les):</i> 15		
Peak Ho	our Volume:	1,843 veh	icles		Hea	avy Truc	ks (3+ Ax	<i>les):</i> 15		
Veh	nicle Speed:	45 mpł	1 I	-	Vehicle I	Mix				
Near/Far Lan	e Distance:	80 feet		-		cleType		ay Evening	Night	Daily
Site Data					VCIII			7.5% 12.9%	9.6%	
	rier Height:	0.0 fee			Me	edium Tr		4.8% 4.9%	10.3%	
Barrier Type (0-Wa		0.0			F	leavy Tr	ucks: 8	6.5% 2.7%	10.8%	2.93%
Centerline Dis		60.0 fee	t	F						
Centerline Dist. ti		60.0 fee		-	Noise So		evations	, ,		
Barrier Distance t	o Observer:	0.0 fee	et			Autos				
Observer Height (A	Above Pad):	5.0 fee	ŧ			n Trucks				
	d Elevation:	0.0 fee	et		Heav	y Trucks	8.00	4 Grade Ad	ustmen	<i>t:</i> 0.0
Roa	d Elevation:	0.0 fee	et		Lane Eq	uivalent	Distance	e (in feet)		
F	Road Grade:	0.0%				Autos	: 45.00	00		
	Left View:	-90.0 de	grees		Mediur	n Trucks	: 44.80	03		
	Right View:	90.0 de	grees		Heav	y Trucks	44.82	22		
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flo	w D	listance	Finite	Road	Fresne	Barrier Att	en Be	rm Atten
Autos:	68.46	0	.58	0.5	8	-1.20	-4	4.69 0.0	000	0.00
Medium Trucks:	79.45	-15	.29	0.6	1	-1.20	-4	1.88 0.0	000	0.00
Heavy Trucks:	84.25	-14	.51	0.6	1	-1.20	-5	5.34 0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo a	and bar	rier atter	nuation)					
VehicleType	Leq Peak Hou	Ir Leq	Day	Leq E	vening	Leq	Vight	Ldn	C	NEL
Autos:	68	.4	67.0		65.2		59.2	67.8	-	68.4
Medium Trucks:	63		62.5		56.2		54.6	63.1		63.
Heavy Trucks:			68.2		59.2		60.4	68.8	-	68.
Vehicle Noise:	72		71.3		66.6		63.5	71.9	9	72.3
Centerline Distanc	e to Noise Co	ontour (in i	feet)	70	dBA	05	10.4	00 -/D4	5	- 104
			I dn:		<i>ава</i> 81	65 (174	60 dBA 374		5 dBA 806
			CNEL:		81		174	374		800

	FHWA	A-RD-77-108	HIGH	WAY N	IOISE PF	REDICTI	ON MOD	EL			
Scenario: Existin Road Name: Jurupa Road Segment: w/o Sie	Av.	,					Name: F umber: 1		II Commerc	e Ctr.	
SITE SPECIFIC	C INP	UT DATA				N	OISE M	ODE	L INPUTS	5	
Highway Data					Site Con	ditions	(Hard = 1	10, S	oft = 15)		
Average Daily Traffic (Ad	t): 19	9,852 vehicle	es				A	utos:	15		
Peak Hour Percentag	e:	8.98%			Me	dium Tru	icks (2 A)	des):	15		
Peak Hour Volum	e: 1	,783 vehicle	s		He	avy Truc	ks (3+ A)	(les):	15		
Vehicle Spee	d:	45 mph		-	Vehicle	Mix					
Near/Far Lane Distanc	e:	80 feet		-		icleType	ſ	Day	Evening	Night	Daily
Site Data					10/1			7.5%	•	9.6%	
Barrier Heigi		0.0 feet			Me	edium Tr		4.8%		10.3%	2.42%
Barrier Type (0-Wall, 1-Bern		0.0			ŀ	leavy Tr	ucks: 8	6.5%	2.7%	10.8%	2.70%
Centerline Dist. to Barrie	·	60.0 feet		L		,					
Centerline Dist. to Observe		60.0 feet		1	Noise So				eet)		
Barrier Distance to Observe		0.0 feet				Autos					
Observer Height (Above Pag		5.0 feet				n Trucks					
Pad Elevatio		0.0 feet			Heav	y Trucks	8.0	04	Grade Adjı	istment.	0.0
Road Elevation	n:	0.0 feet			Lane Eq	uivalent	Distanc	e (in	feet)		
Road Grad	le:	0.0%				Autos	: 45.0	00			
Left Vie	w:	-90.0 degree	s		Mediur	n Trucks	: 44.8	03			
Right Vie	w:	90.0 degree	s		Heav	y Trucks	: 44.8	22			
FHWA Noise Model Calcula	tions										
VehicleType REMEL	. 1	Traffic Flow	Dis	tance	Finite	Road	Fresne	e/	Barrier Atte	n Ber	m Atten
Autos: 68	3.46	0.44		0.5	8	-1.20	-	4.69	0.00	00	0.000
Medium Trucks: 79	9.45	-15.49		0.6	1	-1.20	-	4.88	0.00	00	0.000
Heavy Trucks: 84	1.25	-15.01		0.6	1	-1.20	-	5.34	0.00	00	0.000
Unmitigated Noise Levels (barrie	er atter	nuation)						
VehicleType Leq Peak		1 1		Leq E	vening	Leq	Night		Ldn	CI	VEL
Autos:	68.3		66.9		65.1		59.0		67.7		68.3
									62.9		63.1
Medium Trucks:	63.4		62.3		56.0		54.4				
Medium Trucks: Heavy Trucks:	68.7		67.7		58.7		59.9		68.3		
Medium Trucks: Heavy Trucks: Vehicle Noise:	68.7 72.1		67.7 71.0								
Medium Trucks: Heavy Trucks:	68.7 72.1		67.7 71.0		58.7 66.4		59.9 63.1		68.3 71.6		71.9
Medium Trucks: Heavy Trucks: Vehicle Noise:	68.7 72.1	tour (in feet	67.7 71.0	70 (58.7 66.4 dBA	65 (59.9 63.1	é	68.3 71.6 60 dBA	55	71.9 dBA
Medium Trucks: Heavy Trucks: Vehicle Noise:	68.7 72.1	tour (in feet	67.7 71.0	70 (58.7 66.4	65 (59.9 63.1	6	68.3 71.6	55	68.4 71.9 dBA 768 809

	FH\	NA-RD-77-108	B HIGH	HWAY N	IOISE PF	REDICTIO	N MOD	EL			
Scenario: O Road Name: Ci Road Segment: n/	trus Av.	,				Project Na Job Nun			l Commero	ce Ctr.	
SITE SPEC	CIFIC IN	IPUT DATA				NO	ISE MO	ODEI		S	
Highway Data					Site Con	ditions (H	lard = 1	0, So	oft = 15)		
Average Daily Traffic	c (Adt):	14,346 vehic	les				Au	utos:	15		
Peak Hour Perce	entage:	8.98%			Me	dium Truci	ks (2 Ax	les):	15		
Peak Hour V	olume:	1,288 vehicle	es		He	avy Trucks	s (3+ Ax	les):	15		
Vehicle		40 mph		F	Vehicle I	Mix					
Near/Far Lane Di	stance:	52 feet		-	Veh	icleType	D	av	Evening	Night	Daily
Site Data							tos: 7	7.5%	12.9%	9.6%	95.53%
Barrier I	leiaht [.]	0.0 feet			Me	edium Truc	ks: 8	4.8%	4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-		0.0			ŀ	leavy Truc	cks: 8	6.5%	2.7%	10.8%	2.15%
Centerline Dist. to		46.0 feet			Noise So	ource Elev	ations	(in fe	et)		
Centerline Dist. to Ob		46.0 feet		-		Autos:	0.00	00	,		
Barrier Distance to Ob		0.0 feet			Mediur	n Trucks:	2.29	97			
Observer Height (Abov		5.0 feet			Heav	y Trucks:	8.00)4	Grade Adj	ustment	0.0
Pad Ele		0.0 feet		-	Lono Fa	uivalent D	Viotonos	. (in 1	[0.04]		
Road Ele	evation: Grade:	0.0 feet		-	Lane Eq	Autos:	38.27		eel)		
	Grade: t View:	0.0% -90.0 degre			Modiu	n Trucks:	38.04	-			
	t View:	90.0 degre				y Trucks:	38.06				
FHWA Noise Model Ca	Iculation	15									
VehicleType RI	MEL	Traffic Flow	Di	istance	Finite	Road	Fresne	1 1	Barrier Atte	en Ber	rm Atten
Autos:	66.51	-0.42	2	1.6	4	-1.20	-4	1.63	0.0	000	0.00
Medium Trucks:	77.72	-16.56	6	1.6	8	-1.20	-4	4.87	0.0	00	0.00
Heavy Trucks:	82.99	-16.91		1.6	7	-1.20	-5	5.47	0.0	000	0.00
Unmitigated Noise Lev										-	
,, ,	Peak Ho		/	Leq E	vening	Leq Ni	<i>.</i>		Ldn		NEL
Autos:		3.5 1.6	65.1 60.6		63.3 54.2		57.3 52.7		65.9 61.1		66.
Medium Trucks: Heavy Trucks:	-	1.6 5.6	65.6		54.2 56.6		52.7 57.8		61.1		61. 66.
Vehicle Noise:		0.0	69.0		50.0 64.6		57.8 61.2		69.7		70.
Centerline Distance to					20				20.7		. 0.
Centernite Distance to	110/36 0	uniour (III lee	.9	70	dBA	65 dE	A	6	0 dBA	55	dBA
			I dn:						004		400
			Lun.		44		95		204		439

	FHWA	A-RD-77-108 I	HIGH	IWAY NO	DISE PF	REDICT	ION MO	DEL			
Scenario: OYC (Road Name: Junipe Road Segment: n/o Sa	er Av.	a Av.					Name: umber:		II Commer	ce Ctr.	
SITE SPECIF	IC INP	UT DATA				Ν		/IODE	L INPUT	s	
Highway Data				S	ite Con				oft = 15)		
Average Daily Traffic (A Peak Hour Percenta Peak Hour Volur	ge:	2,783 vehicle 8.98% 250 vehicles					ıcks (2 Å :ks (3+ Å		15		
Vehicle Spe		40 mph	;			·	:KS (3+ A	axies).	15		
Near/Far Lane Distan		40 mpn 14 feet		V	ehicle l						
	ice.	14 Ieel			Vehi	icleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	
Barrier Heig	ht:	0.0 feet				edium T		84.8%		10.3%	
Barrier Type (0-Wall, 1-Ber	m):	0.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	2.15
Centerline Dist. to Barr	rier:	34.0 feet		N	oise Sc	urce E	evation	s (in f	eet)		
Centerline Dist. to Observ	ver:	34.0 feet		-	0.00 00	Auto		000			
Barrier Distance to Observ	ver:	0.0 feet			Modiu	n Truck		297			
Observer Height (Above Pa	ad):	5.0 feet				y Truck		207	Grade Ad	iustment	
Pad Elevati	ion:	0.0 feet			neav	y muck	s. o.	004	Grade Adj	usunon	. 0.0
Road Elevat	ion:	0.0 feet		L	ane Eq	uivalen	t Distan	ce (in	feet)		
Road Gra	ide:	0.0%				Auto	s: 33.	645			
Left Vi	ew:	-90.0 degree	s		Mediur	n Truck	s: 33.	381			
Right Vi	ew:	90.0 degree	s		Heav	y Truck	s: 33.	407			
FHWA Noise Model Calcul											
VehicleType REME	EL 1	Fraffic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atter
	6.51	-7.55		2.48		-1.20		-4.53	0.0	000	0.00
	7.72	-23.68		2.53		-1.20		-4.86	0.0	000	0.00
Heavy Trucks: 8	32.99	-24.03		2.52		-1.20		-5.67	0.0	000	0.00
Unmitigated Noise Levels											
VehicleType Leq Pea		Leq Day		Leq Eve	·	Leq	Night		Ldn		NEL
Autos:	60.2		58.8		57.0		51.0		59.6		60
Medium Trucks:	55.4	-	54.3		48.0		46.4		54.9		55
Heavy Trucks:	60.3		59.3		50.3		51.5		59.9		60
Vehicle Noise:	63.9		52.8		58.3		54.9)	63.4	1	63.
Centerline Distance to Noi	se Con	tour (in feet)									
				70 dl		65	dBA	6	60 dBA		dBA
			Ldn: IFL :		12 13		27 28		58 61		12 13

Monday, February 3, 2020

		/A-RD-77-108 I							-
	OYC (2022)							thill Commerce	Ctr.
Road Name: Road Segment:						JOD N	umber: 129	80	
	ECIFIC IN	PUT DATA		_				DEL INPUTS	
Highway Data				s	ite Con	ditions	(Hard = 10	, Soft = 15)	
Average Daily Tra	. ,	3,674 vehicle	s				Aut		
Peak Hour Pe		8.98%					icks (2 Axle	,	
Peak Hour		330 vehicles			Hea	avy Truc	ks (3+ Axle	es): 15	
	le Speed:	40 mph		V	ehicle l	Mix			
Near/Far Lane	Distance:	14 feet		-	Vehi	icleType	Da	y Evening N	light Daily
Site Data								5% 12.9%	9.6% 95.53%
Barrio	r Heiaht:	0.0 feet			Me	edium Tr	ucks: 84.	8% 4.9%	10.3% 2.33%
Barrier Type (0-Wall,		0.0			F	leavy Tr	ucks: 86.	5% 2.7%	10.8% 2.15%
Centerline Dist. t	,	34.0 feet							
Centerline Dist. to 0		34.0 feet		N	loise Sc		evations (i	,	
Barrier Distance to (0.0 feet				Autos			
Observer Height (Abo		5.0 feet				n Truck			
	Elevation:	0.0 feet			Heav	y Trucks	8: 8.004	Grade Adjus	atment: 0.0
Road E	Elevation:	0.0 feet		L	ane Eq	uivalen	Distance	(in feet)	
Roa	ad Grade:	0.0%				Autos	33.645		
L	Left View:	-90.0 degree	s		Mediur	n Trucks	s: 33.381		
Ri	ight View:	90.0 degree			Heav	y Trucks	33.407		
FHWA Noise Model (Calculation	s		_					
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.34		2.48		-1.20	-4.	53 0.00	0.00 C
Medium Trucks:	77.72	-22.48		2.53		-1.20	-4.	86 0.00	0.00 C
Heavy Trucks:	82.99	-22.82		2.52		-1.20	-5.	67 0.00	0.00
Unmitigated Noise Le	evels (with	out Topo and	barrier a	tten	uation)				
VehicleType Le	q Peak Hou	r Leq Day	Le	q Ev	ening	Leq	Night	Ldn	CNEL
Autos:	61.	.4 6	60.0		58.3		52.2	60.8	61.4
Medium Trucks:	56.		5.5		49.2		47.6	56.1	56.
Heavy Trucks:	61.		60.5		51.5		52.8	61.1	61.3
	65.	.1 6	4.0		59.5		56.2	64.6	65.
Vehicle Noise:	to Noiso Co	ntour (in feet)			1				
	to Norse Co							60 dBA	55 dBA
	10 140/36 00			70 dl		65			
Vehicle Noise: Centerline Distance t	io noise co		.dn: IFI :	70 al	BA 15 16	00	32 34	69 73	149 157

	FH\	VA-RD-77-108	HIGHWA	NO NO	ISE PRE	DICTI	ON MOD	EL			
	io: OYC (2022 le: Sierra Av. nt: n/o Santa /	/					Name: Fe Imber: 12		II Commerc	e Ctr.	
SITE	SPECIFIC IN	IPUT DATA				N	OISE M	ODE	L INPUT	S	
Highway Data				Sit	te Cond	itions	(Hard = 1	0, S	oft = 15)		
Average Daily Peak Hour	Traffic (Adt): Percentage:	38,693 vehicl 8,98%	es		Medii	um Tru	Ai cks (2 Ax	utos: (les):			
	our Volume:	3.475 vehicle	\$				ks (3+ Ax	~ ~ /			
	hicle Speed:	50 mph	0								
Near/Far Lar		90 feet		Ve	ehicle Mi						
	io Biotanoo.	30 1001			Vehicl	leType)ay	Evening	Night	Daily
Site Data								7.5%		9.6%	
Bar	rier Height:	0.0 feet				lium Tr		4.8%		10.3%	
Barrier Type (0-W	all, 1-Berm):	0.0			He	avy Tr	ucks: 8	6.5%	2.7%	10.8%	2.15%
Centerline Dis	st. to Barrier:	66.0 feet		No	oise Sou	rce El	evations	(in f	eet)		
Centerline Dist. I	to Observer:	66.0 feet				Autos			,		
Barrier Distance t	to Observer:	0.0 feet			Medium						
Observer Height (J	Above Pad):	5.0 feet			Heavy				Grade Adj	ustment	.00
Pa	ad Elevation:	0.0 feet								aounon	. 0.0
Roa	ad Elevation:	0.0 feet		La	ane Equi	valent	Distance	e (in	feet)		
F	Road Grade:	0.0%				Autos	: 48.53	39			
	Left View:	-90.0 degre	es	1	Medium	Trucks	: 48.3	56			
	Right View:	90.0 degre	es		Heavy	Trucks	: 48.3	74			
FHWA Noise Mode	el Calculatior	ıs									
	REMEL	Traffic Flow	Distar					. 1			
VehicleType	IVENILL	Traffic Flow	Distan	ce	Finite R	load	Fresne	/	Barrier Atte	en Bei	m Atten
VehicleType Autos:	70.20		Distai	ce 0.09		oad -1.20		1 4.71	Barrier Atte 0.0		
,1		2.92					-4			00	0.000
Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	2.92 -13.22 -13.57		0.09 0.11 0.11		-1.20	-4	4.71	0.0	00	0.000
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise	70.20 81.00 85.38 e Levels (with	2.92 -13.22 -13.57 out Topo and	barrier a	0.09 0.11 0.11	ation)	-1.20 -1.20 -1.20	 -{	4.71 4.88	0.0 0.0 0.0	00 00 00	0.000 0.000 0.000
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType	70.20 81.00 85.38 e Levels (with Leq Peak Ho	2.92 -13.22 -13.57 Iout Topo and ur Leq Day	barrier a	0.09 0.11 0.11	ation)	-1.20 -1.20		4.71 4.88	0.0 0.0 0.0	00 00 00 <i>C</i>	0.000 0.000 0.000 NEL
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos:	70.20 81.00 85.38 e Levels (with Leq Peak Hou 72	2.92 -13.22 -13.57 iout Topo and ur Leq Day 2.0	barrier a / Le 70.6	0.09 0.11 0.11	ation) ning 68.8	-1.20 -1.20 -1.20	 	4.71 4.88	0.0 0.0 0.0 <i>Ldn</i> 71.4	00 00 00 <i>C</i>	0.000 0.000 0.000 NEL 72.0
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	70.20 81.00 85.38 2 Levels (with Leg Peak Hou 72 66	2.92 -13.22 -13.57 Iout Topo and ur Leq Day 2.0 5.7	barrier a / Le 70.6 65.7	0.09 0.11 0.11	ation) ning 68.8 59.3	-1.20 -1.20 -1.20		4.71 4.88	0.0 0.0 0.0 <u>Ldn</u> 71.4 66.2	00 00 00 C	0.000 0.000 0.000 <u>NEL</u> 72.0 66.4
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38 e Levels (with Leq Peak Hot 72 66 70	2.92 -13.22 -13.57 iout Topo and ur Leq Day 2.0 5.7 0.7	barrier a / Le 70.6 65.7 69.8	0.09 0.11 0.11	ation) ening 68.8 59.3 60.7	-1.20 -1.20 -1.20		4.71 4.88	0.0 0.0 0.0 <i>Ldn</i> 71.4 66.2 70.3	00 00 00 <i>C</i>	0.000 0.000 0.000 NEL 72.0 66.4 70.5
Autos: Medium Trucks: Heavy Trucks: Unnitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.20 81.00 85.38 e Levels (with Leg Peak Hoi 72 66 70 75	2.92 -13.22 -13.57 nout Topo and <i>ur</i> Leq Day 2.0 3.7 5.1	barrier a / Le 70.6 65.7 69.8 73.9	0.09 0.11 0.11	ation) ning 68.8 59.3	-1.20 -1.20 -1.20		4.71 4.88	0.0 0.0 0.0 <u>Ldn</u> 71.4 66.2	00 00 00 <i>C</i>	0.000 0.000 0.000 <u>NEL</u> 72.0 66.4
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38 e Levels (with Leg Peak Hoi 72 66 70 75	2.92 -13.22 -13.57 nout Topo and <i>ur</i> Leq Day 2.0 3.7 5.1	barrier a / Le 70.6 65.7 69.8 73.9	0.09 0.11 0.11 attenua	ation) ming 68.8 59.3 60.7 69.8	-1.20 -1.20 -1.20 <i>Leq I</i>		4.71 4.88 5.30	0.0 0.0 0.0 71.4 66.2 70.3 74.6	00 00 00 00	0.000 0.000 0.000 NEL 72.0 66.4 70.5 75.0
Autos: Medium Trucks: Heavy Trucks: Unnitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.20 81.00 85.38 e Levels (with Leg Peak Hoi 72 66 70 75	2.92 -13.22 -13.57 nout Topo and <i>ur</i> Leq Day 2.0 3.7 5.1	barrier a 70.6 65.7 69.8 73.9	0.09 0.11 0.11	ation) ning 68.8 59.3 60.7 69.8	-1.20 -1.20 -1.20		4.71 4.88 5.30	0.0 0.0 0.0 71.4 66.2 70.3 74.6	00 00 00 00	0.000 0.000 0.000 NEL 72.0 66.4 70.5 75.0 dBA
Autos: Medium Trucks: Heavy Trucks: Unnitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.20 81.00 85.38 e Levels (with Leg Peak Hoi 72 66 70 75	2.92 -13.22 -13.57 nout Topo and <i>ur</i> Leq Day 0.0 3.7 5.1 ontour (in fee	barrier a / Le 70.6 65.7 69.8 73.9	0.09 0.11 0.11 attenua	ation) ening 68.8 59.3 60.7 69.8	-1.20 -1.20 -1.20 <i>Leq I</i>		4.71 4.88 5.30	0.0 0.0 0.0 71.4 66.2 70.3 74.6	00 00 00 00	0.000 0.000 0.000 NEL 72.0 66.4 70.5 75.0

	FHW.	A-RD-77-108 H	IGHWA	Y NO	ISE PF	REDICTI	ION MO	DEL			
Scenario: OY	'C (2022)					Project	Name:	oothi	II Commerc	ce Ctr.	
Road Name: Sie	erra Av.					Job N	umber:	12980			
Road Segment: s/o	Santa Ar	a Av.									
SITE SPEC	IFIC INF	PUT DATA				N	IOISE N	IODE	L INPUT	s	
Highway Data				Si	te Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic	(Adt): 3	8,896 vehicles						Autos:	15		
Peak Hour Perce	ntage:	8.98%			Me	dium Tru	ucks (2 A	(xles):	15		
Peak Hour Ve	olume: 3	3,493 vehicles			He	avy Truc	cks (3+ A	(xles):	15		
Vehicle S	Speed:	50 mph		Ve	hicle	Mix					
Near/Far Lane Dis	tance:	90 feet		-		icleType		Day	Evening	Night	Daily
Site Data						A	Autos:	77.5%	12.9%	9.6%	95.53%
Barrier H	leiaht [.]	0.0 feet			M	edium Tr	rucks:	84.8%	4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-		0.0			ŀ	leavy Ti	rucks:	86.5%	2.7%	10.8%	2.15%
Centerline Dist. to E	Barrier:	66.0 feet		No	oise So	ource El	levation	s (in f	eet)		
Centerline Dist. to Obs	server:	66.0 feet				Auto		000	,		
Barrier Distance to Obs	server:	0.0 feet			Mediu	m Truck		297			
Observer Height (Above	,	5.0 feet			Heav	v Truck	s: 8.0	004	Grade Adj	iustment	: 0.0
Pad Ele		0.0 feet		-					,		
Road Ele		0.0 feet		La	ine Eq	uivalen			feet)		
	Grade:	0.0%				Autos					
	View:	-90.0 degrees				m Trucks					
Right	View:	90.0 degrees			Heav	ry Trucks	s: 48.	374			
FHWA Noise Model Cal	culations										
		Traffic Flow	Distan		Finite	Road	Fresr	-	Barrier Atte		rm Atten
Autos:	70.20	2.94		0.09		-1.20		-4.71	0.0		0.00
Medium Trucks:	81.00	-13.20		0.11		-1.20		-4.88	0.0		0.000
Heavy Trucks:	85.38	-13.54		0.11		-1.20		-5.30	0.0	000	0.000
Unmitigated Noise Leve											
VehicleType Leq F	Peak Hour).6	q Eve	ning 68.8	Leq	Night 62.8		Ldn 71.4		NEL 72.0
Autos: Medium Trucks:	72.0	, ,,	J.6 5.7		68.8 59.3		62.8 57.8		71.4		72.0 66.5
	70.7	-	5.7 9.8		59.3 60.8		62.0		70.4	-	70.5
Heavy Trucks: Vehicle Noise:	70.1	-	3.9		69.9		66.1		70.4	-	70.
			J.J		09.9		00.1		/4.0	,	/ 5.0
Centerline Distance to I	voise Col	ntour (in feet)		70 dB	A	65	dBA		60 dBA	55	dBA
		1	dn:		134	001	288	L `	621	00	1.338
		CN			142		305		658		1,000
		0.11	-				000		000		.,.10

	FHW	A-RD-77-108	HIGHWA	Y NOISE	PREDIC		DEL			
Scenario: Road Name: Road Segment:						t Name: Number:		II Commer	ce Ctr.	
SITE SF	ECIFIC IN	PUT DATA				NOISE	MODE	L INPUT	s	
Highway Data				Site	Condition	s (Hard :	= 10, S	oft = 15)		
Average Daily Tra	affic (Adt):	30.835 vehicle	s				Autos:	15		
Peak Hour Pe		8.98%			Medium T	rucks (2	Axles):	15		
		2,769 vehicles	6		Heavy Tru	ICKS (3+	, Axles):	15		
Vehic	le Speed:	50 mph		Mahi			,			
Near/Far Lane	, Distance:	90 feet			l e Mix /ehicleTvp	-	0	Guardian	Allenter	Deile
0/4- D-4-					//	e Autos:	Day 77.5%	Evening 12.9%	Night 9.6%	Daily 95.53
Site Data				-	Medium		84.8%		9.6%	
	er Height:	0.0 feet				Trucks: Trucks:	84.8%		10.3%	
Barrier Type (0-Wall	,	0.0			neavy	TTUCKS.	00.3%	2.170	10.0%	2.15
Centerline Dist.		66.0 feet		Nois	Source E	Elevatio	ns (in f	eet)		
Centerline Dist. to		66.0 feet			Aut	os: 0	.000			
Barrier Distance to		0.0 feet		Me	dium Truc	ks: 2	297			
Observer Height (At	,	5.0 feet		E	eavy Truc	ks: 8	.004	Grade Ad	iustment	0.0
	Elevation:	0.0 feet								
	Elevation:	0.0 feet		Lane	Equivale			teet)		
	ad Grade:	0.0%			Aut		.539			
	Left View:	-90.0 degree			dium Truc		.356			
F	ight View:	90.0 degree	S	F	eavy Truc	ks: 48	.374			
FHWA Noise Model		-								
VehicleType	REMEL	Traffic Flow	Distant		nite Road	Fres		Barrier Att		m Atter
Autos:	70.20	1.93		0.09	-1.20		-4.71		000	0.00
Medium Trucks:	81.00	-14.21		0.11	-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-14.55		0.11	-1.20		-5.30	0.0	000	0.00
Unmitigated Noise L										
	eq Peak Hou	, ,		q Evenin		Night	_	Ldn		VEL
Autos:	71.	-	59.6		7.8	61.	-	70.4		71
Medium Trucks:	65.		54.7		B.3	56.		65.2		65
Heavy Trucks:	69.		58.8		9.7	61.	-	69.4		69
Vehicle Noise:	74.	-	72.9	6	8.9	65.	1	73.6	5	74.
Centerline Distance	to Noise Co	ntour (in feet	-				_			
				70 dBA		5 dBA		60 dBA		dBA
			Ldn: JFI :		15	247		532		1,14
					21	262		564		1.21

Monday, February 3, 2020

	FH\	WA-RD-77-108	HIGHW	/AY N	OISE PF	REDICTI	on Mode	EL	
Road Nan	io: OYC (2022 ne: Sierra Av. nt: s/o Jurupa	,					Name: Fo umber: 12	othill Commerce 980	e Ctr.
	SPECIFIC IN	NPUT DATA						DDEL INPUTS	
Highway Data				5	Site Con	ditions	(Hard = 1	0, Soft = 15)	
Average Daily	Traffic (Adt):	30,008 vehic	les				AL	itos: 15	
Peak Hour	Percentage:	8.98%			Mee	dium Tru	icks (2 Axi	les): 15	
Peak H	lour Volume:	2,695 vehicle	es		Hea	avy Truc	ks (3+ Ax	les): 15	
Ve	hicle Speed:	50 mph		1	/ehicle	Mix			
Near/Far La	ne Distance:	90 feet		-		cleType	Di	ay Evening	Night Daily
Site Data						Ā	utos: 77	7.5% 12.9%	9.6% 95.53%
Ba	rrier Height:	0.0 feet			Me	edium Tr	ucks: 84	4.8% 4.9%	10.3% 2.33%
Barrier Type (0-W		0.0			F	leavy Ti	ucks: 86	6.5% 2.7%	10.8% 2.15%
Centerline Di		66.0 feet			laisa Sa	urco El	evations	(in foot)	
Centerline Dist.	to Observer:	66.0 feet		-	10/36 30	Auto:		, ,	
Barrier Distance	to Observer:	0.0 feet			Modiur	n Truck			
Observer Height	(Above Pad):	5.0 feet				y Trucks			stment: 0.0
P	ad Elevation:	0.0 feet				, ,		,	Sumerit. 0.0
Ro	ad Elevation:	0.0 feet		L	.ane Eq	uivalen	Distance	(in feet)	
	Road Grade:	0.0%				Autos		9	
	Left View:	-90.0 degre	es			n Trucks		6	
	Right View:	90.0 degre	es		Heav	y Trucks	48.37	4	
FHWA Noise Mod	lel Calculation	15							
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	70.20	1.81		0.09)	-1.20	-4	.71 0.00	0.00
Medium Trucks:	81.00	-14.32		0.11	1	-1.20	-4	.88 0.00	0.00
Heavy Trucks:	05.00	-14.67		0.11	i i	-1.20	-5	.30 0.00	0.00
neavy mucks.	85.38	11.01		0.11		-1.20			
,		-				-1.20	-		
,		nout Topo and	l barrier	atten			Vight	Ldn	CNEL
Unmitigated Nois	e Levels (with Leq Peak Ho	nout Topo and	l barrier	atten	uation)		Vight 61.7	Ldn 70.3	CNEL 70.
Unmitigated Nois VehicleType	e Levels (with Leq Peak Ho 70	nout Topo and ur Leq Da	i barrier y L	atten	uation) rening		0		-
Unmitigated Nois VehicleType Autos:	e Levels (with Leq Peak Ho 70 65	ur Leq Da	barrier y L 69.5 64.6 68.7	atten	uation) vening 67.7		61.7	70.3	70.
Unmitigated Nois VehicleType Autos: Medium Trucks:	e Levels (with Leq Peak Ho 70 65 65	ur Leq Da	barrier y L 69.5 64.6	atten	uation) vening 67.7 58.2		61.7 56.6	70.3 65.1	70. 65.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	e Levels (with Leg Peak Hoi 65 65 74	nout Topo and ur Leq Da 0.9 5.6 9.6 1.0	barrier y L 69.5 64.6 68.7 72.8	eq Ev	uation) rening 67.7 58.2 59.6 68.7	Leq	61.7 56.6 60.9 65.0	70.3 65.1 69.2 73.5	70. 65. 69. 73.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hoi 65 65 74	nout Topo and ur Leq Da 0.9 5.6 9.6 1.0	t barrier y L 69.5 64.6 68.7 72.8 t)	atten	uation) rening 67.7 58.2 59.6 68.7	Leq	61.7 56.6 60.9 65.0	70.3 65.1 69.2 73.5 60 dBA	70. 65. 69. 73. 55 dBA
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hoi 65 65 74	Dout Topo and ur Leq Da 0.9 5.6 9.6 4.0 ontour (in fee	barrier y L 69.5 64.6 68.7 72.8	eq Ev	uation) rening 67.7 58.2 59.6 68.7	Leq	61.7 56.6 60.9 65.0	70.3 65.1 69.2 73.5	70. 65. 69. 73.

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PR	EDICTI	ON MOD	EL			
Road Nam	io: OYC (2022 ne: Jurupa Av. nt: w/o Citrus a	,					Name: F umber: 1		I Commere	ce Ctr.	
SITE	SPECIFIC IN	IPUT DATA				N	OISE M	ODE	L INPUT	s	
Highway Data				S	Site Con	ditions	(Hard = 1	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	24,619 vehicl	es				A	utos:	15		
Peak Hour	Percentage:	8.98%			Med	dium Tru	icks (2 A)	kles):	15		
Peak H	lour Volume:	2,211 vehicle	s		Hea	avy Truc	:ks (3+ A)	kles):	15		
Ve	hicle Speed:	45 mph		L.	/ehicle I	Mix					
Near/Far La	ne Distance:	80 feet		H		icleType	1	Day	Evening	Night	Daily
Site Data					VOIII			7.5%	~	· ·	95.53%
				-	Me	, dium Tr		34.8%		10.3%	
	rrier Height:	0.0 feet			H	leavy Tr		36.5%		10.8%	
Barrier Type (0-W Centerline Dis	. ,	0.0 60.0 feet				,	-			10.070	2.107
Centerline Dist.		60.0 feet		۸	loise So	urce El	evations	(in fe	eet)		
Barrier Distance		0.0 feet				Autos					
Observer Height (5.0 feet				n Trucks					
	ad Elevation:	0.0 feet			Heav	y Trucks	s: 8.0	04	Grade Adj	ustment	: 0.0
	ad Elevation:	0.0 feet		L	ane Equ	uivalent	t Distanc	e (in	feet)		
	Road Grade:	0.0%				Autos	s: 45.0	00	,		
	Left View:	-90.0 degree	s		Mediur	n Trucks	s: 44.8	03			
	Right View:	90.0 degree			Heav	y Trucks	s: 44.8	22			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	e/	Barrier Att	en Bei	m Atten
Autos:	68.46	1.41		0.58	3	-1.20	-	4.69	0.0	000	0.00
Medium Trucks:	79.45	-14.73		0.61	í .	-1.20	-	4.88	0.0	000	0.00
Heavy Trucks:	84.25	-15.07		0.61	l	-1.20	-	5.34	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrier	atten	uation)						
VehicleType	Leq Peak Hou			eq Ev		Leq	Night		Ldn		NEL
Autos:	69		67.8		66.1		60.0		68.6		69.
Medium Trucks:	64		63.1		56.7		55.2		63.6		63.
Heavy Trucks:	68	-	67.6		58.6		59.8		68.2		68.
Vehicle Noise:	72		71.4		67.2		63.6		72.1		72.
Centerline Distan	ce to Noise Co	ontour (in feet)	70 d		67	dBA		0 dBA		dBA
			I dn:	70 a	IBA 83	65 (ава 178	c	<i>о ава</i> 384		ава 828
			Lan: VFL:		83 88		178		384 406		828

FH	WA-RD-77-108 HIG	HWAY NO	DISE PR	EDICTIO	N MODEL			
Scenario: OYC (202						nill Commer	ce Ctr.	
Road Name: Jurupa Av				Job Nur	ber: 1298	0		
Road Segment: w/o Olean	der Av.							
SITE SPECIFIC II	NPUT DATA			NO	ISE MOD	EL INPUT	s	
Highway Data		s	ite Con	ditions (H	ard = 10,	Soft = 15)		
Average Daily Traffic (Adt):	23,641 vehicles				Auto:	s: 15		
Peak Hour Percentage:	8.98%		Med	dium Truck	is (2 Axles): 15		
Peak Hour Volume:	2,123 vehicles		Hea	avy Trucks	(3+ Axles): 15		
Vehicle Speed:	45 mph	V	ehicle I	Nix				
Near/Far Lane Distance:	80 feet		Vehi	cleType	Day	Evening	Night	Daily
Site Data				Aut	os: 77.5	% 12.9%	9.6%	95.53%
Barrier Height:	0.0 feet		Me	dium Truc	ks: 84.8	% 4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-Berm):	0.0		H	leavy Truc	ks: 86.5	% 2.7%	10.8%	2.15%
Centerline Dist. to Barrier:	60.0 feet	Δ	loise So	urce Elev	ations (in	feet)		
Centerline Dist. to Observer:	60.0 feet			Autos:	0.000	,		
Barrier Distance to Observer:	0.0 feet		Mediur	n Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet		Heav	v Trucks:	8.004	Grade Ad	iustment.	: 0.0
Pad Elevation:	0.0 feet	_				,		
Road Elevation:	0.0 feet	L	ane Equ		istance (il	1 feet)		
Road Grade:	0.0%			Autos:	45.000			
Left View:	-90.0 degrees			n Trucks:	44.803			
Right View:	90.0 degrees		Heav	y Trucks:	44.822			
FHWA Noise Model Calculation								
VehicleType REMEL		istance	Finite		Fresnel	Barrier Att		m Atten
Autos: 68.46		0.58		-1.20	-4.69		000	0.000
Medium Trucks: 79.45		0.61		-1.20	-4.88		000	0.000
Heavy Trucks: 84.25	-15.25	0.61		-1.20	-5.34	4 0.0	000	0.000
Unmitigated Noise Levels (with VehicleType Leg Peak Ho		Leg Ev		Leg Nig	~h4	Ldn	0	NEL
	0.1 67.6	,	65.9	Leq Mg	59.8	68.4		69.1
	10 62.9		56.6		59.0 55.0	63.5		63.7
	+.0 02.5 3.4 67.5		58.4		59.7	68.0		68.2
· ·	2.4 71.3		67.0		63.4	71.9		72.3
Centerline Distance to Noise C	ontour (in feet)							
	,,	70 d	BA	65 dB	A	60 dBA	55	dBA
	Ldn:		81		174	374		806

	FHW	A-RD-77-108 HI	GHWAY	NOISE PR	REDICTIO	N MODE	EL		
Scenario: C Road Name: J Road Segment: w	urupa Av.	Av.				ame: Fo nber: 12	othill Comm 980	erce Ctr.	
SITE SPE	CIFIC INF	PUT DATA			NC	ISE MO	DEL INPU	TS	
Highway Data				Site Con			0, Soft = 15)		
Average Daily Trafi Peak Hour Perc Peak Hour	centage:	23,718 vehicles 8.98% 2.130 vehicles			dium Truc avy Truck	ks (2 Axi	,		
	Speed:	45 mph				5 101 7 50	00). 10		
Near/Far Lane D		80 feet		Vehicle					
	istance.	00 1001		Veh	icleType	Da			Daily
Site Data							.5% 12.9%		
Barrier	Height:	0.0 feet			edium Tru		4.9%		
Barrier Type (0-Wall, 1	1-Berm):	0.0		ŀ	leavy Tru	cks: 86	6.5% 2.7%	6 10.89	6 2.159
Centerline Dist. to		60.0 feet		Noise So	ource Ele	vations	(in feet)		
Centerline Dist. to O	bserver:	60.0 feet			Autos:	0.00	,		
Barrier Distance to O	bserver:	0.0 feet		Mediu	n Trucks:	2.29			
Observer Height (Abo	ve Pad):	5.0 feet			v Trucks:	8.00		djustmer	t: 0.0
Pad E	levation:	0.0 feet			,		-		
Road E	levation:	0.0 feet		Lane Eq	uivalent L		, ,		
Road	d Grade:	0.0%			Autos:	45.00			
Le	eft View:	-90.0 degrees			n Trucks:	44.80			
Rig	ht View:	90.0 degrees		Heav	y Trucks:	44.82	2		
FHWA Noise Model C	alculations								
			Distance		Road	Fresnel			erm Atten
Autos:	68.46	1.25	0	.58	-1.20	-4	.69 (0.000	0.00
Medium Trucks:	79.45	-14.89		.61	-1.20			0.000	0.00
Heavy Trucks:	84.25	-15.23	0	.61	-1.20	-5	.34 (0.000	0.00
Unmitigated Noise Le									
, ,	Peak Hour		,	Evening	Leq N	•	Ldn		ONEL
Autos:	69.1			65.9		59.8		3.5	69.
Medium Trucks:	64.0	· •=	-	56.6		55.0		3.5	63.
Heavy Trucks:	68.4			58.4		59.7		3.0	68.
Vehicle Noise:	72.4		3	67.0		63.4	7.	1.9	72.
Centerline Distance to	Noise Cor	ntour (in feet)	_						
				0 dBA	65 dE		60 dBA	-	5 dBA
		Ld		81		174		75	808
		CNE		85		184	30	96	854

Monday, February 3, 2020

		/A-RD-77-108	HIGHW	AY NO	OISE PR				
	o: OYC (2022 ∋: Jurupa Av.)					Name: Fo umber: 12	othill Commerce	Ctr.
Road Segmen		Av.				300 11	umber. 12	960	
SITE S	SPECIFIC IN	PUT DATA				N	OISE MO	DEL INPUTS	
Highway Data				S	Site Con	ditions	(Hard = 1	0, Soft = 15)	
Average Daily T	raffic (Adt):	23,687 vehicle	s				AL	itos: 15	
Peak Hour I	Percentage:	8.98%			Mee	dium Tru	icks (2 Axi	les): 15	
Peak Ho	our Volume:	2,127 vehicles	6		Hea	avy Truc	ks (3+ Ax	les): 15	
	nicle Speed:	45 mph		v	/ehicle	Mix			
Near/Far Lan	e Distance:	80 feet		F	Vehi	icleType	D	ay Evening I	Vight Daily
Site Data						/	Autos: 77	7.5% 12.9%	9.6% 95.53%
Bari	rier Height:	0.0 feet			Me	edium Ti	ucks: 84	4.8% 4.9%	10.3% 2.33%
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy Ti	ucks: 86	6.5% 2.7%	10.8% 2.15%
Centerline Dis	t. to Barrier:	60.0 feet			loise Sc	ource E	evations	(in feet)	
Centerline Dist. t	o Observer:	60.0 feet		-		Auto		,	
Barrier Distance t	o Observer:	0.0 feet			Mediur	n Truck			
Observer Height (A		5.0 feet				v Truck			stment: 0.0
	d Elevation:	0.0 feet				,			
	d Elevation:	0.0 feet		L	ane Eq		Distance	1)	
F	Road Grade:	0.0%			Marthur	Auto n Truck			
	Left View:	-90.0 degree				n Truck v Truck		-	
	Right View:	90.0 degree	s		neav	y much	5. 44.02	2	
FHWA Noise Mode	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresnel		
Autos:	68.46	1.24		0.58		-1.20		.69 0.00	
Medium Trucks:	79.45	-14.89		0.61		-1.20		.88 0.00	
Heavy Trucks:	84.25	-15.24		0.61		-1.20	-5	.34 0.00	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	atten	uation)				
	Leq Peak Hou			.eq Ev	rening	Leq	Night	Ldn	CNEL
Autos:	69		57.7		65.9		59.8	68.5	69.
Medium Trucks:	64		52.9		56.6		55.0	63.5	63.7
Heavy Trucks:	68		67.5		58.4		59.7	68.0	68.3
	72	.4	71.3		67.0		63.4	71.9	72.3
Vehicle Noise:		and a constant for the add)						
	e to Noise Co	ontour (in teet,							
Vehicle Noise: Centerline Distanc	e to Noise Co	, ,		70 d		65	dBA	60 dBA	55 dBA
	e to Noise Co		Ldn:	70 d	IBA 81 85	65	dBA 174 184	60 dBA 375 396	55 dBA 807 853

	FHV	VA-RD-77-108	HIGHW	AY NC	DISE PR	EDICTI	ON MOD	EL			
Road Nam	io: OYC (2022 ie: Jurupa Av. nt: w/o Sierra	,					Name: F umber: 1		I Commere	ce Ctr.	
SITE	SPECIFIC IN	IPUT DATA				N	OISE M	ODE	L INPUT	s	
Highway Data				S	ite Cond	ditions	(Hard = 1	10, So	oft = 15)		
Average Daily	Traffic (Adt):	24,629 vehicl	es				Α	utos:	15		
Peak Hour	Percentage:	8.98%			Med	lium Tru	icks (2 Ax	des):	15		
Peak H	our Volume:	2,212 vehicle	s		Hea	vy Truc	ks (3+ Ax	des):	15		
Ve	hicle Speed:	45 mph		V	ehicle N	lix					
Near/Far La	ne Distance:	80 feet		F		leType	E	Day	Evening	Night	Daily
Site Data								7.5%	•	9.6%	
Bai	rier Height:	0.0 feet			Me	dium Tr	ucks: 8	4.8%		10.3%	
Barrier Type (0-W		0.0 1001			н	eavy Tr		6.5%		10.8%	
Centerline Dis		60.0 feet									
Centerline Dist.		60.0 feet		N	oise So		evations		eet)		
Barrier Distance		0.0 feet				Autos					
Observer Height (Above Pad):	5.0 feet			Medium				Out de Ad		
	ad Elevation:	0.0 feet			Heavy	/ Trucks	8: 8.00	J4	Grade Adj	ustment	: 0.0
Roa	ad Elevation:	0.0 feet		Li	ane Equ	ivalent	Distance	e (in i	feet)		
1	Road Grade:	0.0%				Autos	8: 45.0	00			
	Left View:	-90.0 degree	es		Medium	Trucks	: 44.8	03			
	Right View:	90.0 degree	es		Heavy	/ Trucks	: 44.8	22			
FHWA Noise Mod	el Calculation	15									
VehicleType	REMEL	Traffic Flow	Distar	се	Finite F	Road	Fresne	1	Barrier Att	en Bei	m Atten
Autos:	68.46	1.41		0.58		-1.20		4.69	0.0	000	0.000
Medium Trucks:	79.45	-14.72		0.61		-1.20		4.88	0.0	000	0.000
Heavy Trucks:	84.25	-15.07		0.61		-1.20	-	5.34	0.0	000	0.00
Unmitigated Noise											
VehicleType	Leq Peak Hou	1 ,		eq Eve		Leq	Vight		Ldn	-	NEL
Autos:	69		67.8		66.1		60.0		68.6		69.2
Medium Trucks:	64		63.1		56.7		55.2		63.7		63.9
Heavy Trucks:	68		67.6		58.6		59.8		68.2		68.3
Vehicle Noise:	72		71.4		67.2		63.6		72.1		72.5
Centerline Distand	ce to Noise C	ontour (in feel)	70 dE	54	65					dDA
			ட	70 dE		65 0	IBA	6	0 dBA 384		dBA 828
			Ldn: VFL:		83 88		178 189		304 406		876

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICTIO	N MOE	DEL			
Road Nan	io: OYC (2022) ne: Citrus Av. nt: n/o Jurupa	, , ,				Project N Job Nur			I Commere	ce Ctr.	
SITE	SPECIFIC I	NPUT DATA				NO	ISE M	IODE		s	
Highway Data					Site Cor	nditions (H	lard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	14,531 vehic	les				A	lutos:	15		
Peak Hour	Percentage:	8.98%			Me	dium Truc	ks (2 A	xles):	15		
Peak H	lour Volume:	1,305 vehicle	es		He	avy Trucks	s (3+ A	xles):	15		
	hicle Speed:	40 mph		F	Vehicle	Mix					
Near/Far La	ne Distance:	52 feet		-	Veh	icleType	1	Day	Evening	Night	Daily
Site Data						Au	tos:	77.5%	12.9%	9.6%	94.81%
Ba	rrier Height:	0.0 feet			М	edium Truc	cks: 8	34.8%	4.9%	10.3%	2.43%
Barrier Type (0-W		0.0			I	Heavy True	cks: 8	36.5%	2.7%	10.8%	2.77%
Centerline Di		46.0 feet		E	Noise Se	ource Elev	vations	; (in fe	et)		
Centerline Dist.		46.0 feet		F		Autos:	0.0		.,		
Barrier Distance		0.0 feet			Mediu	m Trucks:	2.2	97			
Observer Height	,	5.0 feet			Heav	v Trucks:	8.0	04	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet		-		, uivalent D	N-4	- //	(
	ad Elevation: Road Grade:	0.0 feet		÷	Lane Eq	Autos:	38.2		leel)		
	Road Grade: Left View:	0.0% -90.0 degre			Modiu	m Trucks:	38.0				
	Right View:	90.0 degre				y Trucks:	38.0				
FHWA Noise Mod	el Calculatio	ns									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	e/	Barrier Att	en Bei	rm Atten
Autos:	66.51	-0.40		1.6	4	-1.20	-	4.63	0.0	000	0.00
Medium Trucks:	77.72			1.6	-	-1.20		4.87		000	0.00
Heavy Trucks:	82.99	-15.75		1.6	7	-1.20		-5.47	0.0	000	0.00
Unmitigated Nois											
VehicleType	Leq Peak Ho		,	Leq E	vening	Leq Ni	•		Ldn		NEL
Autos:		3.5	65.1		63.3		57.3		65.9		66.
Medium Trucks: Heavy Trucks:		1.9 7.7	60.8 66.8		54.5 57.7		52.9 59.0		61.4 67.3		61. 67.
Vehicle Noise:		7.7).8	69.6		64.8		59.0 61.8		70.3		67. 70.
					04.8		01.8		70.3	,	70.
Centerline Distan	ce to Noise C	ontour (in fee	<i>t)</i>	70	dBA	65 dE	RA	A	0 dBA	55	dBA
			I dn:	701	48	00 UL	104	0	223		481
		C	NEL:		51		109		235		505
					21				200		500

	FHW	A-RD-77-108	HIGH	HWAY NO	DISE PR	EDICTI	ON MO	DEL			
Scenario: O		+ Project							I Commer	ce Ctr.	
Road Name: Ju						Job Ni	umber:	12980			
Road Segment: n/o	o Santa A	na Av.									
SITE SPEC	IFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic	: (Adt):	2,890 vehicle	es					Autos:	15		
Peak Hour Perce	ntage:	8.98%			Med	lium Tru	cks (2 A	Axles):	15		
Peak Hour V	olume:	260 vehicle	s		Hea	vy Truc	ks (3+ A	Axles):	15		
Vehicle 3	Speed:	40 mph		v	ehicle N	lix					
Near/Far Lane Dis	stance:	14 feet		-		cleType		Dav	Evening	Night	Dailv
Site Data								77.5%	•	9.6%	
Barrier H	loight:	0.0 feet			Me	dium Tr	ucks:	84.8%	4.9%	10.3%	2.249
Barrier Type (0-Wall, 1-		0.0			н	leavy Tr	ucks:	86.5%	2.7%	10.8%	2.079
Centerline Dist. to E		34.0 feet		-							
Centerline Dist. to Ob		34.0 feet		^	loise So				eet)		
Barrier Distance to Ob		0.0 feet				Autos		000			
Observer Height (Above		5.0 feet				n Trucks		297			
Pad Ele		0.0 feet			Heavy	/ Trucks	: 8.0	004	Grade Ad	ustment.	0.0
Road Ele	vation:	0.0 feet		L	ane Equ	iivalent	Distan	ce (in	feet)		
Road	Grade:	0.0%				Autos	: 33.	645			
Lef	t View:	-90.0 degree	es		Mediun	1 Trucks	: 33.	381			
Righ	t View:	90.0 degree	es		Heavy	/ Trucks	: 33.	407			
FHWA Noise Model Cal	culations	5		I							
VehicleType RE	MEL	Traffic Flow	Di	stance	Finite I	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-7.37		2.48		-1.20		-4.53	0.0	000	0.00
Medium Trucks:	77.72	-23.68		2.53		-1.20		-4.86	0.0	000	0.00
Heavy Trucks:	82.99	-24.03		2.52		-1.20		-5.67	0.0	000	0.00
Unmitigated Noise Leve											
	Peak Houi			Leq Ev	•	Leq I	· ·		Ldn		VEL
Autos:	60.		59.0		57.2		51.2		59.8		60.
Medium Trucks:	55.		54.3		48.0		46.4		54.9		55.
Heavy Trucks:	60.	-	59.3		50.3		51.5		59.9		60.
Vehicle Noise:	64.		62.8		58.4		55.0)	63.5	5	63.
Centerline Distance to	Noise Co	ntour (in feet)								
			, , L	70 d		65 0		6	60 dBA		dBA
			Ldn: NFL:		13 13		27 28		58 61		12 13

Monday, February 3, 2020

	io: OYC (2022						Name: Fo		nmerce	Ctr.	
	ne: Juniper Av. nt: s/o Santa A					JOD N	umber: 12	980			
Road Segme	nii. s/o Santa P	dia Av.									
	SPECIFIC IN	IPUT DATA					IOISE MO				
Highway Data				s	ite Con	ditions	(Hard = 1	0, Soft =	15)		
Average Daily	Traffic (Adt):	4,132 vehicle	s				AL	itos: 1	5		
Peak Hour	Percentage:	8.98%					ucks (2 Ax	/	-		
Peak H	lour Volume:	371 vehicles			Hea	avy Truc	cks (3+ Ax	les): 1	5		
Ve	hicle Speed:	40 mph		v	ehicle l	Nix					
Near/Far La	ne Distance:	14 feet		-	Vehi	cleType	. D	av Eve	ning N	ight	Daily
Site Data									•	٠	96.02%
Ba	rrier Height:	0.0 feet			Me	edium Ti	rucks: 84	4.8% 4	1.9% 1	0.3%	2.07%
Barrier Type (0-W	•	0.0			F	leavy Ti	rucks: 86	6.5% 2	2.7% 1	0.8%	1.91%
Centerline Di	. ,	34.0 feet		-	0-			(1			
Centerline Dist.		34.0 feet		N	oise Sc		evations				
Barrier Distance	to Observer:	0.0 feet				Auto n Truck		-			
Observer Height	Above Pad):	5.0 feet							de Adjust	mont	0.0
P	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.00	4 Grac	le Aujusi	ment.	0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Distance	(in feet)			
	Road Grade:	0.0%				Auto	s: 33.64	5			
	Left View:	-90.0 degrees	5		Mediur	n Truck	s: 33.38	1			
	Right View:	90.0 degrees	5		Heav	y Truck	s: 33.40	7			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresnel	Barri	er Atten	Bern	n Atten
Autos:	66.51	-5.81		2.48		-1.20	-4	.53	0.000		0.00
Medium Trucks:	77.72	-22.48		2.53		-1.20	-4	.86	0.000		0.00
Heavy Trucks:	82.99	-22.82		2.52		-1.20	-5	.67	0.000		0.00
Unmitigated Nois	e Levels (with	out Topo and I	barrier a	ttenı	uation)						
VehicleType	Leq Peak Hou	ır Leq Day	Le	q Ev	ening	Leq	Night	Ldn		CN	
Autos:	62		0.5	_	58.8		52.7		61.4		62.
Medium Trucks:	56		5.5		49.2		47.6		56.1		56.3
Heavy Trucks:			0.5		51.5		52.8		61.1		61.
Vehicle Noise:	65		4.2		59.9		56.4		64.9		65.3
Centerline Distan	ce to Noise Co	ontour (in feet)		70 di	-	05	dBA	60 dB		55 (04
		,	dn:	i u di	BA 15	60	33 aba	ou dB	72	33 (<i>IBA</i> 154
		-							. –		154
		CN			16		35		76		

	FHV	VA-RD-77-108	HIGHWA	Y NOISE P	REDICT		L		
Road Nan	io: OYC (2022 ne: Sierra Av. nt: n/o Santa A					Name: Fo umber: 12	othill Commerc 980	ce Ctr.	
SITE	SPECIFIC IN	IPUT DATA			N	IOISE MO	DEL INPUT	s	
Highway Data				Site Co.	nditions	(Hard = 10), Soft = 15)		
	Percentage:	38,861 vehicl 8.98%				ucks (2 Axl	,		
	lour Volume:	3,490 vehicle	s	He	eavy True	cks (3+ Axl	es): 15		
	hicle Speed:	50 mph		Vehicle	Mix				
Near/Far La	ne Distance:	90 feet		Vel	nicleType	e Da	ay Evening	Night	Daily
Site Data					,	Autos: 77	.5% 12.9%	9.6%	95.39%
Ba	rrier Height:	0.0 feet		N	ledium T	rucks: 84	.8% 4.9%	10.3%	2.34%
Barrier Type (0-W	•	0.0			Heavy T	rucks: 86	.5% 2.7%	10.8%	2.27%
Centerline Di	. ,	66.0 feet		Noice C	ouroo E	levations (in foot)		
Centerline Dist.	to Observer:	66.0 feet		Noise 3	Auto				
Barrier Distance	to Observer:	0.0 feet		14-16	Auto m Truck				
Observer Height	Above Pad):	5.0 feet							
P	ad Elevation:	0.0 feet		Hea	vy Truck	s: 8.004	Grade Adj	usuneni	. 0.0
Ro	ad Elevation:	0.0 feet		Lane Ed	quivalen	t Distance	(in feet)		
	Road Grade:	0.0%			Auto	s: 48.53	9		
	Left View:	-90.0 degree	es	Mediu	m Truck	s: 48.35	6		
	Right View:	90.0 degree	es	Hea	vy Truck	s: 48.374	4		
FHWA Noise Mod	lel Calculation	s							
VehicleType	REMEL	Traffic Flow	Distan	e Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten
Autos:	70.20	2.93		0.09	-1.20	-4.	.71 0.0	000	0.000
Medium Trucks:	81.00	-13.17		0.11	-1.20	-4.	.88 0.0	000	0.000
	85.38	-13.31		0.11	-1.20	-5.	.30 0.0	000	0.000
Heavy Trucks:	00.00								
,		out Topo and	barrier a	ttenuation)				
,				ttenuation , q Evening		Night	Ldn	C	NEL
Unmitigated Nois VehicleType Autos:	e Levels (with Leq Peak Hol 72	ır Leq Day		,	Leq	Night 62.8	Ldn 71.4	-	72.0
Unmitigated Nois VehicleType	e Levels (with Leq Peak Hol 72	ır Leq Day .0	' Le	q Evening	Leq	0		-	72.0
Unmitigated Nois VehicleType Autos:	e Levels (with Leq Peak Hou 72 66	ır Leq Day .0 .7	70.6	q Evening 68.8	Leq	62.8	71.4	1	72.0 66.5
Unmitigated Nois VehicleType Autos: Medium Trucks:	e Levels (with Leq Peak Hou 72 66 71	ir Leq Day .0 .7 .0	70.6 65.7	q Evening 68.8 59.3	Leq	62.8 57.8	71.4 66.3	1 3 3	72.0 66.5 70.7
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	e Levels (with Leq Peak Hou 72 66 71 75	<i>Ir</i> Leq Day .0 .7 .0 .2	/ Le 70.6 65.7 70.0 74.0	q Evening 68.8 59.3 61.0 69.9	Leq	62.8 57.8 62.2 66.2	71.4 66.3 70.6 74.7	3	72.0 66.5 70.7 75.1
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leq Peak Hou 72 66 71 75	Ir Leq Day .0 .7 .0 .2 Dontour (in feet	2 Le 70.6 65.7 70.0 74.0	q Evening 68.8 59.3 61.0 69.9 70 dBA	Leq	62.8 57.8 62.2 66.2 dBA	71.4 66.3 70.6 74.7 60 dBA	55	72.0 66.5 70.7 75.1 <i>dBA</i>
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leq Peak Hou 72 66 71 75	Ir Leq Day .0 .7 .0 .2 Dontour (in feet	/ Le 70.6 65.7 70.0 74.0	q Evening 68.8 59.3 61.0 69.9	Leq	62.8 57.8 62.2 66.2	71.4 66.3 70.6 74.7	55	72.0 66.5 70.7 75.1

FH	WA-RD-77-108 HIG	HWAY N	OISE PF	REDICTIO	N MODEL		
Scenario: OYC (202	2) + Project			Project N	ame: Foot	hill Commerce	e Ctr.
Road Name: Sierra Av.				Job Nur	nber: 1298	0	
Road Segment: s/o Santa	Ana Av.						
SITE SPECIFIC I	NPUT DATA			NO	ISE MOD	EL INPUT	\$
Highway Data		5	Site Con	ditions (H	lard = 10,	Soft = 15)	
Average Daily Traffic (Adt):	38,993 vehicles				Auto	s: 15	
Peak Hour Percentage:	8.98%		Me	dium Truc	ks (2 Axles	;): 15	
Peak Hour Volume:	3,502 vehicles		He	avy Truck	s (3+ Axles	<i>:):</i> 15	
Vehicle Speed:	50 mph	1	/ehicle	Mix			
Near/Far Lane Distance:	90 feet	Ľ		icleType	Dav	Evening	Night Daily
Site Data					tos: 77.5	•	9.6% 95.31%
Barrier Height:	0.0 feet		M	edium Tru	cks: 84.8	% 4.9%	10.3% 2.36%
Barrier Type (0-Wall, 1-Berm):	0.0		ŀ	leavy Tru	cks: 86.5	% 2.7%	10.8% 2.33%
Centerline Dist. to Barrier:	66.0 feet	/	loise So	ource Elev	vations (in	feet)	
Centerline Dist. to Observer:	66.0 feet			Autos:	0.000	,	
Barrier Distance to Observer:	0.0 feet		Mediu	m Trucks:	2,297		
Observer Height (Above Pad):	5.0 feet			v Trucks:	8.004	Grade Adi	ustment: 0.0
Pad Elevation:	0.0 feet	_					
Road Elevation:	0.0 feet	1	.ane Eq		Distance (i	n feet)	
Road Grade:	0.0%			Autos:	48.539		
Left View:	-90.0 degrees			m Trucks:	48.356		
Right View:	90.0 degrees		Heav	y Trucks:	48.374		
FHWA Noise Model Calculatio	ns						
VehicleType REMEL		Distance		Road	Fresnel	Barrier Atte	
Autos: 70.20		0.09		-1.20	-4.7		
Medium Trucks: 81.00		0.11		-1.20	-4.8		
Heavy Trucks: 85.38	-13.18	0.11		-1.20	-5.3	0 0.0	00 0.00
Unmitigated Noise Levels (with							
VehicleType Leq Peak Ho		Leq Ev	·	Leq N	0	Ldn	CNEL
/10100. //	2.0 70.6		68.8		62.8	71.4	
	6.8 65.7		59.4		57.8	66.3	
	1.1 70.2	-	61.1		62.4	70.7	
	5.3 74.1		69.9		66.3	74.8	75.
Centerline Distance to Noise C	contour (in feet)	70		05.15			55 104
	l dn	70 a		65 dE		60 dBA	55 dBA
	Ldn: CNFL		137 145		295	636 673	1,370
					312		1.450

	FHWA-	RD-77-108 HIG	HWAY N	OISE PF	REDICTIO	N MODE	EL			
Scenario: Road Name: Road Segment:		,				ame: Fo nber: 12	othill Com 980	merce	Ctr.	
SITE SP	ECIFIC INPL	JT DATA			NC	ISE MO	DEL INP	UTS		
Highway Data			1	Site Con			0, Soft = 1			
Average Daily Tra Peak Hour Pe Peak Hou	rcentage: 8	,931 vehicles .98% 778 vehicles			dium Truc avy Truck	ks (2 Axi	,			
	le Speed:	50 mph	-				,			
Near/Far Lane		90 feet	<u> </u>	Vehicle I			1.5			
				Vehi	icleType	Da			Night	Daily
Site Data							.5% 12.		9.6%	
	er Height:	0.0 feet			edium Tru				10.3%	2.379
Barrier Type (0-Wall	,	0.0		F	leavy Tru	CKS: 86	6.5% 2.	7%	10.8%	2.389
Centerline Dist.		66.0 feet	1	Voise Sc	ource Ele	vations ((in feet)			
Centerline Dist. to		66.0 feet			Autos:	0.00	0			
Barrier Distance to		0.0 feet		Mediur	n Trucks:	2.29				
Observer Height (Ab	ove Pad):	5.0 feet		Heav	y Trucks:	8.00	4 Grade	Adiu	stment:	0.0
Pad	Elevation:	0.0 feet			,		-			
	Elevation:	0.0 feet	1	ane Eq	uivalent I		. ,			
		.0%			Autos:	48.53				
		90.0 degrees			n Trucks:					
R	ight View:	90.0 degrees		Heav	y Trucks:	48.37	4			
FHWA Noise Model										
VehicleType			istance	Finite		Fresnel				m Atten
Autos:	70.20	1.93	0.09		-1.20		.71	0.00		0.00
Medium Trucks:	81.00	-14.12	0.11		-1.20		.88	0.00		0.00
Heavy Trucks:	85.38	-14.09	0.1	1	-1.20	-5	.30	0.00	0	0.00
Unmitigated Noise L										
<i>,</i> ,	eq Peak Hour	Leq Day	Leq Ev	•	Leq N	•	Ldn		Cl	IEL
Autos:	71.0	69.6		67.8		61.8		70.4		71.
Medium Trucks:	65.8	64.8		58.4		56.9		65.3		65.
Heavy Trucks:	70.2	69.2		60.2		61.5		69.8		69.
Vehicle Noise:	74.3	73.1		68.9		65.3		73.8		74.
Centerline Distance	to Noise Cont	our (in feet)								
			70 c		65 dE		60 dBA		55	dBA
		Ldn:		118		254		548		1,18
		CNFL:		125		269		580		1,249

Monday, February 3, 2020

		/A-RD-77-108									
Scenario: (+ Project							ill Commerce	Ctr.	
Road Name: s Road Segment: s						JOD N	umber: 1	2980			
Road Segment. S	so Jurupa P	AV.									
	CIFIC IN	PUT DATA							L INPUTS		
Highway Data					Site Con	ditions	(Hard = 1		,		
Average Daily Traf	. ,	30,063 vehicle	s					utos.			
Peak Hour Per		8.98%					icks (2 A)	~ ~ ~			
Peak Hour		2,700 vehicles	3		Hea	avy Truc	:ks (3+ A)	kles).	15		
	e Speed:	50 mph		F	Vehicle I	Mix					
Near/Far Lane D	Distance:	90 feet		F	Vehi	cleType	E	Day	Evening 1	light	Daily
Site Data							Autos: 7	7.5%	6 12.9%	9.6%	95.37%
Barrier	Height:	0.0 feet			Me	dium Ti	ucks: 8	4.8%	6 4.9%	10.3%	2.35%
Barrier Type (0-Wall,		0.0			F	leavy Ti	ucks: 8	6.5%	6 2.7%	10.8%	2.28%
Centerline Dist. to	,	66.0 feet		-		-					
Centerline Dist. to C		66.0 feet		-	Noise Sc		evations		eet)		
Barrier Distance to C	bserver:	0.0 feet				Auto					
Observer Height (Abo	ve Pad):	5.0 feet				n Truck			Orrende Anti-		0.0
	levation:	0.0 feet			Heav	y Truck	s: 8.00	04	Grade Adjus	ament:	0.0
Road E	levation:	0.0 feet			Lane Eq	uivalen	Distanc	e (in	feet)		
Roa	d Grade:	0.0%				Auto	s: 48.5	39			
L	eft View:	-90.0 degree	s		Mediur	n Truck	s: 48.3	56			
Rig	ght View:	90.0 degree	s		Heav	y Truck	s: 48.3	74			
FHWA Noise Model C	alculation	s									
VehicleType F	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresne	9	Barrier Atten	Berr	n Atten
Autos:	70.20	1.81		0.0	9	-1.20	-	4.71	0.00)	0.000
Medium Trucks:	81.00	-14.27		0.1	1	-1.20	-	4.88	0.00	D	0.000
Heavy Trucks:	85.38	-14.41		0.1	1	-1.20	-	5.30	0.00	D	0.000
Unmitigated Noise Le	vels (with	out Topo and	barrie	er atter	nuation)						
	r Peak Hou			Leq E	vening	Leq	Night		Ldn	CN	IEL
Autos:	70.		59.5		67.7		61.7		70.3		70.9
Medium Trucks:	65.		54.6		58.2		56.7		65.2		65.4
Heavy Trucks:	69.		58.9		59.9		61.1		69.5		69.6
Vehicle Noise:	74.		72.9		68.8		65.1		73.6		74.0
Centerline Distance to	o Noise Co	ntour (in feet))	70	dBA	CE.	dBA		60 dBA	55	dBA
			Ldn:	701	ава 114	CO	ава 247		531	001	ава 1.144
			JEL:		121		247		562		1,144

	FHV	VA-RD-77-108	HIGHWA	Y NOIS			L		
Road Nar	rio: OYC (2022 ne: Jurupa Av. ent: w/o Citrus :					Name: Fo lumber: 12	othill Commerc 980	e Ctr.	
	SPECIFIC IN	IPUT DATA					DEL INPUTS	5	
Highway Data				Site	Conditions	(Hard = 10), Soft = 15)		
Average Daily	Traffic (Adt):	24,863 vehicl	es			Au	tos: 15		
Peak Hour	Percentage:	8.98%			Medium Tr	ucks (2 Axl	es): 15		
Peak I	Hour Volume:	2,233 vehicle	s		Heavy Tru	cks (3+ Axl	es): 15		
Ve	ehicle Speed:	45 mph		Veh	icle Mix				
Near/Far La	ane Distance:	80 feet		Ven	VehicleType	e Da	evening	Night	Daily
Site Data							.5% 12.9%	•	5.20%
Ba	rrier Height:	0.0 feet		-	Medium T	rucks: 84	.8% 4.9%	10.3%	2.37%
Barrier Type (0-V	•	0.0			Heavy T	rucks: 86	.5% 2.7%	10.8%	2.44%
	ist. to Barrier:	60.0 feet		Mel	· Course - F	lovation - /	in fact)		
Centerline Dist.	to Observer:	60.0 feet		NOIS	e Source E Auto		,		
Barrier Distance	to Observer:	0.0 feet			Auto edium Truck				
Observer Height	(Above Pad):	5.0 feet						unternanti (
° P	ad Elevation:	0.0 feet			Heavy Truck	S: 8.004	Grade Adj	usument. u	1.0
Ro	ad Elevation:	0.0 feet		Lan	e Equivalen	t Distance	(in feet)		
	Road Grade:	0.0%			Auto	s: 45.00	D		
	Left View:	-90.0 degree	es	M	edium Truck	s: 44.80	3		
	Right View:	90.0 degree	es		Heavy Truck	s: 44.82	2		
FHWA Noise Mod	del Calculation	IS							
VehicleType	REMEL	Traffic Flow	Distand	e F	inite Road	Fresnel	Barrier Atte	en Berm	Atten
Autos:	68.46	1.44		0.58	-1.20	-4.	69 0.0	00	0.000
Medium Trucks:	79.45	-14.61		0.61	-1.20	-4	.88 0.0	00	0.000
medium mucks.	15.45								0.000
Heavy Trucks:		-14.48		0.61	-1.20		.34 0.0	00	0.000
Heavy Trucks:	84.25	-			-1.20		.34 0.0	00	0.000
Heavy Trucks:	84.25	out Topo and	barrier a		-1.20		34 0.0	00 CNE	
Heavy Trucks: Unmitigated Nois	84.25 Se Levels (with Leq Peak Hou	out Topo and	barrier a	ttenuat q Eveni	-1.20	-5.		CNE	EL
Heavy Trucks: Unmitigated Nois VehicleType	84.25 Se Levels (with Leq Peak Hou 69	out Topo and Ir Leq Day	barrier a	ttenuat q Eveni	-1.20 ion) ng Leq	-5. Night	Ldn	CNE	EL 69.3
Heavy Trucks: Unmitigated Nois VehicleType Autos:	84.25 e Levels (with Leq Peak Hou 69 64	out Topo and ur Leq Day 1.3	barrier a Le	ttenuat q Eveni	-1.20 ion) ng Leq 66.1	-5. Night 60.0	Ldn 68.7	CNE	EL 69.3 64.0
Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks:	84.25 Se Levels (with Leg Peak Hou 69 64 64	ut Topo and Leq Day .3 .2	barrier a Lei 67.8 63.2	ttenuat q Eveni	-1.20 ion) ng Leq 66.1 56.9	-5. Night 60.0 55.3	Ldn 68.7 63.8	CNE	EL 69.3 64.0 68.9
Heavy Trucks: <u>Unmitigated Nois</u> <u>VehicleType</u> Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	84.25 Re Levels (with Leq Peak Hou 69 64 69 72	out Topo and Ir Leq Day 1.3 1.3 1.2 1.9	barrier a 7 Lea 67.8 63.2 68.2 71.7	ttenuat q Eveni	-1.20 ion) ng Leq 66.1 56.9 59.2	-5. Night 60.0 55.3 60.4	Ldn 68.7 63.8 68.8	CNE	EL 69.3 64.0 68.9
Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	84.25 Re Levels (with Leq Peak Hou 69 64 69 72	out Topo and I Leq Day 1.3 1.3 1.2 1.9 Dontour (in feet	barrier a Lei 67.8 63.2 68.2 71.7	ttenuat q Eveni	-1.20 ion) ng Leq 66.1 56.9 59.2 67.3 65	-5. Night 60.0 55.3 60.4 63.9 dBA	Ldn 68.7 63.8 68.8 72.4 60 dBA	CNE	EL 69.3 64.0 68.9 72.7
Heavy Trucks: <u>Unmitigated Nois</u> <u>VehicleType</u> Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	84.25 Re Levels (with Leq Peak Hou 69 64 69 72	out Topo and rr Leq Day 1.3 1.3 1.2 1.9 Dontour (in feet	barrier a Lei 67.8 63.2 68.2 71.7)	ttenuat q Eveni	-1.20 ion) ng Leq 66.1 56.9 59.2 67.3	-5. Night 60.0 55.3 60.4 63.9	Ldn 68.7 63.8 68.8 72.4	CNE	69.3 64.0 68.9 72.7

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PF	REDICTI		DEL			
Scenario: C Road Name: J							Name: F Imber: 1		I Commerc	e Ctr.	
Road Segment: v											
SITE SPE	CIFIC IN	IPUT DATA				N	OISE M	ODE		5	
Highway Data				5	Site Con					-	
Average Daily Trafi Peak Hour Pero Peak Hour	centage:	24,068 vehicl 8.98% 2.161 vehicle					/ cks (2 A ks (3+ A		15 15 15		
	Speed:	45 mph	:5				ns (37 A	xies).	15		
Near/Far Lane D		80 feet		`	/ehicle I Vehi	Vix icleType		Dav	Evening	Night	Daily
Site Data							utos:	77.5%	12.9%	9.6%	
Barrier	Height:	0.0 feet			Me	edium Tr	ucks: 8	34.8%	4.9%	10.3%	2.43%
Barrier Type (0-Wall,	1-Berm):	0.0			ŀ	leavy Tr	ucks: 8	36.5%	2.7%	10.8%	2.82%
Centerline Dist. to		60.0 feet		٨	loise Sc	urce El	evations	; (in fe	et)		
Centerline Dist. to O		60.0 feet				Autos	: 0.0	00			
Barrier Distance to O		0.0 feet			Mediur	n Trucks	: 2.2	97			
Observer Height (Abo Pad F	ve Pad): levation:	5.0 feet 0.0 feet			Heav	y Trucks	: 8.0	04	Grade Adji	ustment	0.0
	levation:	0.0 feet		L	ane Eq	uivalent	Distanc	e (in	feet)		
Road	d Grade:	0.0%				Autos	: 45.0	00	,		
Le	eft View:	-90.0 degre	es		Mediur	n Trucks	: 44.8	03			
Rig	ht View:	90.0 degre	es		Heav	y Trucks	: 44.8	22			
FHWA Noise Model C	alculatior	ıs									
	REMEL	Traffic Flow	Dista		Finite		Fresne		Barrier Atte		m Atten
Autos:	68.46	1.28		0.58		-1.20		4.69	0.0		0.000
Medium Trucks:	79.45			0.61		-1.20		4.88	0.0		0.000
Heavy Trucks:	84.25			0.61		-1.20	-	-5.34	0.0	00	0.000
Unmitigated Noise Le											
VehicleType Leq	Peak Hou 69		67.7	eq Ev	ening 65.9	Leq I	59.9		Ldn 68.5		NEL
Autos: Medium Trucks:	65		63.2		65.9 56.8		59.9 55.3		68.5		69.1 64.0
	64				59.7		55.3 60.9		69.3		69.4
	60	7									09.4
Heavy Trucks: Vehicle Noise:	69 73		68.7 71.9		67.3		64.1		72.5		72.9
Heavy Trucks:	73	3.0	71.9						72.5		72.9
Heavy Trucks: Vehicle Noise:	73	3.0	71.9	70 d	67.3	65 (64.1	6	72.5 0 dBA		72.9 dBA
Heavy Trucks: Vehicle Noise:	73	3.0	71.9	70 d	67.3	65 0	64.1	6			72.9 dBA 885

F	HWA-F	RD-77-108 H	ligh	IWAY NO	DISE PR	REDICTI	ON MO	DEL			
Scenario: OYC (20		Project							I Commer	ce Ctr.	
Road Name: Jurupa						Job Ni	umber:	12980			
Road Segment: w/o Cyp											
SITE SPECIFIC	INPU	T DATA		-					L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, Se	oft = 15)		
Average Daily Traffic (Adt)	: 24,1	145 vehicles	S					Autos:			
Peak Hour Percentage	: 8.9	98%			Med	dium Tru	icks (2 A	Axles):	15		
Peak Hour Volume	: 2,10	68 vehicles			Hea	avy Truc	ks (3+ A	Axles):	15		
Vehicle Speed		45 mph		V	ehicle I	Mix					
Near/Far Lane Distance	: 1	B0 feet		-		icleType	1	Day	Evening	Night	Daily
Site Data					1011			77.5%	•	9.6%	
		0.0 feet			Me	dium Tr		84.8%		10.3%	
Barrier Height Barrier Type (0-Wall, 1-Berm)						leavy Tr		86.5%		10.8%	
Centerline Dist. to Barrie		0.0				ioury ii	uono.	00.070	2.170	10.070	2.017
Centerline Dist. to Barriel Centerline Dist. to Observe	-	0.0 feet		N	oise So	ource El	evation	s (in fe	eet)		
Barrier Distance to Observe	-	0.0 feet 0.0 feet				Autos	s: 0.0	000			
					Mediur	n Trucks	: 2.	297			
Observer Height (Above Pad,		5.0 feet			Heav	y Trucks	: 8.0	004	Grade Adj	ustment	0.0
Pad Elevation	-	0.0 feet			ano Ea	uivalent	Distan	aa (in	fa a 4)		
Road Elevation		0.0 feet		L	ane Equ				reet)		
Road Grade		0%				Autos					
Left View	-	0.0 degrees				n Trucks					
Right View	: 9	0.0 degrees	5		Heav	y Trucks	: 44.	822			
FHWA Noise Model Calculat	ions										
VehicleType REMEL	Tra	affic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos: 68.	46	1.29		0.58		-1.20		-4.69	0.0	000	0.00
Medium Trucks: 79.	45	-14.62		0.61		-1.20		-4.88	0.0	000	0.00
Heavy Trucks: 84.	25	-13.98		0.61		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Levels (w	ithout	Topo and b	barri	ier attenu	ation)						
VehicleType Leq Peak I	lour	Leq Day		Leq Eve	ening	Leq I	Night		Ldn	C	NEL
Autos:	69.1		7.7		65.9		59.9		68.5		69.
Medium Trucks:	64.2	6	3.2		56.8		55.3	3	63.8	3	64.
Heavy Trucks:	69.7	6	8.7		59.7		60.9)	69.3	3	69.
Vehicle Noise:	73.0	7	1.9		67.3		64.1		72.5	5	72.
Centerline Distance to Noise	Conto	ur (in feet)									
				70 dl	BA	65 0	'BA	e	0 dBA	55	dBA
		L	dn:		89		191		411		88
			FI :		93		201		433		933

Monday, February 3, 2020

									-
	OYC (2022)) + Project						thill Commerce	Ctr.
Road Name:		A				JOD N	lumber: 129	80	
Road Segment:	w/o Juniper	AV.							
	ECIFIC IN	PUT DATA						DEL INPUTS	
Highway Data				S	Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Tra	affic (Adt):	24,114 vehicle	es				Auto	os: 15	
Peak Hour Pe	rcentage:	8.98%			Med	dium Tru	ucks (2 Axle	s <i>):</i> 15	
Peak Hou	r Volume:	2,165 vehicle	5		Hea	avy Truc	cks (3+ Axle	s <i>):</i> 15	
	le Speed:	45 mph		v	/ehicle I	Nix			
Near/Far Lane	Distance:	80 feet		F		icleTvpe	e Dai	Evening I	light Daily
Site Data						- /	Autos: 77.	•	9.6% 94.76%
Barrie	er Height:	0.0 feet			Me	dium Ti	rucks: 84.	3% 4.9%	10.3% 2.43%
Barrier Type (0-Wall,		0.0			E	leavy Ti	rucks: 86.	5% 2.7%	10.8% 2.81%
Centerline Dist.		60.0 feet		-		-			
Centerline Dist. to		60.0 feet		N	loise So		levations (ii	1 feet)	
Barrier Distance to	Observer:	0.0 feet				Auto			
Observer Height (Ab	ove Pad):	5.0 feet				n Truck		Grade Adjus	imanti 0.0
Pad	Elevation:	0.0 feet			Heav	y Truck	s: 8.004	Grade Adjus	ament. 0.0
Road	Elevation:	0.0 feet		L	ane Equ	uivalen	t Distance (in feet)	
Ro	ad Grade:	0.0%				Auto	s: 45.000		
	Left View:	-90.0 degree	s		Medium	n Truck	s: 44.803		
R	ight View:	90.0 degree	s		Heav	y Truck	s: 44.822		
FHWA Noise Model	Calculation	s							
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresnel	Barrier Atter	Berm Atten
Autos:	68.46	1.28		0.58	l	-1.20	-4.6	9 0.00	0.00
Medium Trucks:	79.45	-14.63		0.61		-1.20		88 0.00	0.00 C
Heavy Trucks:	84.25	-13.99		0.61		-1.20	-5.3	34 0.00	0.00
Unmitigated Noise L	evels (with	out Topo and	barrier a	tten	uation)				
VehicleType Le	eq Peak Hou	r Leq Day	Le	q Ev	rening	Leq	Night	Ldn	CNEL
Autos:	69	.1	67.7		65.9		59.9	68.5	69.
Medium Trucks:	64.	2	63.2		56.8		55.3	63.7	64.
Heavy Trucks:	69.		68.7		59.7		60.9	69.3	69.4
Vehicle Noise:	73.	.0	71.9		67.3		64.1	72.5	72.
Centerline Distance	to Noise Co	ontour (in feet							
				70 d		65	dBA	60 dBA	55 dBA
			Ldn: VEL:		89 93		191 201	411 433	886 932

	FHV	VA-RD-77-108	HIGHWA	Y NOISE P	REDICT	ION MODEL			
Road Nam	io: OYC (2022 ne: Jurupa Av. nt: w/o Sierra /	, ,				Name: Foot lumber: 1298		ce Ctr.	
SITE	SPECIFIC IN	PUT DATA			N	IOISE MOD	EL INPUT	s	
Highway Data				Site Cor	nditions	(Hard = 10,	Soft = 15)		
Average Daily	. ,	24,801 vehicl 8,98%	es	Ma	dium Te	Auto ucks (2 Axles			
	Percentage: lour Volume:	2.227 vehicle	_			cks (2 Axles	/		
	hicle Speed:	,	s	THE	avy mu	SKS (3+ AXIES). 15		
	ne Distance:	45 mph 80 feet		Vehicle	Mix				
Neal/Fal La	ne Distance.	80 leet		Veh	icleType	e Day	Evening	Night	Daily
Site Data					,	Autos: 77.5	% 12.9%	9.6%	95.01%
Bai	rrier Height:	0.0 feet			edium T	01.0	% 4.9%	10.3%	2.40%
Barrier Type (0-W	'all, 1-Berm):	0.0			Heavy T	rucks: 86.5	% 2.7%	10.8%	2.59%
Centerline Dis	st. to Barrier:	60.0 feet		Noise S	ource E	levations (in	feet)		
Centerline Dist.		60.0 feet			Auto				
Barrier Distance	to Observer:	0.0 feet		Mediu	m Truck				
Observer Height (Above Pad):	5.0 feet			/y Truck		Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet							
Roa	ad Elevation:	0.0 feet		Lane Eq		t Distance (i	n feet)		
1	Road Grade:	0.0%			Auto	- 10.000			
	Left View:	-90.0 degree	es	Mediu	m Truck	s: 44.803			
	Right View:	90.0 degree	es	Hear	/y Truck	s: 44.822			
FHWA Noise Mod	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Distand	ce Finite	Road	Fresnel	Barrier Att	en Bei	m Atten
Autos:	68.46	1.42		0.58				200	0.000
	00.10			0.00	-1.20	-4.6	9 0.0	000	0.000
Medium Trucks:	79.45	-14.55		0.61	-1.20 -1.20	-4.6 -4.8		000	
Medium Trucks: Heavy Trucks:		-14.55 -14.22					8 0.0		0.000
Heavy Trucks: Unmitigated Noise	79.45 84.25 e Levels (with	-14.22 out Topo and	barrier a	0.61 0.61 <i>ttenuation)</i>	-1.20 -1.20	-4.8 -5.3	3 0.0 4 0.0	000	0.000
Heavy Trucks: Unmitigated Noise VehicleType	79.45 84.25 e Levels (with Leg Peak Hou	-14.22 out Topo and r Leq Day	barrier a	0.61 0.61 ttenuation) q Evening	-1.20 -1.20	-4.8 -5.3 Night	3 0.0 4 0.0	000 000 C	0.000 0.000 NEL
Heavy Trucks: Unmitigated Noise VehicleType Autos:	79.45 84.25 e Levels (with Leq Peak Hou 69	-14.22 out Topo and r Leq Day .3	barrier a / Lei 67.8	0.61 0.61 t tenuation) q Evening 66.1	-1.20 -1.20 Leq	-4.8 -5.3 Night 60.0	B 0.0 4 0.0 Ldn 68.6	000 000 C	0.000 0.000 NEL 69.2
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	79.45 84.25 e Levels (with Leq Peak Hou 69 64	-14.22 out Topo and r Leq Day .3 .3	barrier a / Lei 67.8 63.3	0.61 0.61 ttenuation) q Evening 66.1 56.9	-1.20 -1.20 Leq	-4.8i -5.3 <u>Night</u> 60.0 55.4	3 0.0 4 0.0 <u>Ldn</u> 68.6 63.8	000 000 C	0.000 0.000 <u>NEL</u> 69.2 64.1
Heavy Trucks: Unmitigated Noise VehicleType Autos:	79.45 84.25 e Levels (with Leq Peak Hou 69	-14.22 out Topo and r Leq Day .3 .3	barrier a / Lei 67.8	0.61 0.61 t tenuation) q Evening 66.1	-1.20 -1.20 Leq	-4.8 -5.3 Night 60.0	B 0.0 4 0.0 Ldn 68.6	000 000 C	0.000 0.000 <u>NEL</u> 69.2 64.1
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	79.45 84.25 e Levels (with Leq Peak Hou 69 64	-14.22 out Topo and r Leq Day .3 .3 .4	barrier a / Lei 67.8 63.3	0.61 0.61 ttenuation) q Evening 66.1 56.9	-1.20 -1.20 Leq	-4.8i -5.3 <u>Night</u> 60.0 55.4	3 0.0 4 0.0 <u>Ldn</u> 68.6 63.8	000 000 C 3 3	0.000 0.000 NEL 69.2 64.1 69.2
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	79.45 84.25 e Levels (with Leg Peak Hou 69 64 69 73	-14.22 out Topo and r Leq Day .3 .3 .4 .0	barrier a 2 Lei 67.8 63.3 68.5 71.8 ()	0.61 0.61 <u>q Evening</u> 66.1 56.9 59.4 67.3	-1.20 -1.20 <i>Leq</i>	-4.8, -5.3 Night 60.0 55.4 60.7 64.0	3 0.0 4 0.0 <u>Ldn</u> 68.6 63.8 69.7 72.5	000 000 3 3 5	0.000 0.000 NEL 69.2 64.1 69.2 72.8
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	79.45 84.25 e Levels (with Leg Peak Hou 69 64 69 73	-14.22 out Topo and r Leq Day .3 .3 .4 .0 Dontour (in feet	barrier a 2 Lei 67.8 63.3 68.5 71.8 2	0.61 0.61 (ttenuation) (7 Evening 66.1 56.9 59.4 67.3 70 dBA	-1.20 -1.20 <i>Leq</i>	-4.8, -5.3 Night 60.0 55.4 60.7 64.0	3 0.0 4 0.0 <u>Ldn</u> 68.6 63.6 69.7 72.5	000 000 200 3 3 1 5 5 5 5 5 5	0.000 0.000 NEL 69.2 64.1 69.2 72.8 dBA
Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	79.45 84.25 e Levels (with Leg Peak Hou 69 64 69 73	-14.22 out Topo and rr Leq Day 3 .3 .4 .0 ontour (in feet	barrier a 2 Lei 67.8 63.3 68.5 71.8 ()	0.61 0.61 <u>q Evening</u> 66.1 56.9 59.4 67.3	-1.20 -1.20 <i>Leq</i>	-4.8, -5.3 Night 60.0 55.4 60.7 64.0	3 0.0 4 0.0 <u>Ldn</u> 68.6 63.8 69.7 72.5	000 000 200 200 200 200 200 200 200 200	69.2 64.1 69.2 72.8

	FH)	WA-RD-77-108	B HIGI	HWAY I	NOISE PI	REDICTIC	on Mo	DEL			
Road Nan	io: HY (2040) ne: Citrus Av. nt: n/o Jurupa					Project N Job Nu			I Commer	ce Ctr.	
SITE	SPECIFIC I	NPUT DATA				NC	DISE N	/IODE	L INPUT	s	
Highway Data					Site Cor	nditions (l	Hard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	15,709 vehic	les					Autos:	15		
Peak Hour	Percentage:	8.98%			Me	dium Truc	:ks (2 A	(xles)	15		
	lour Volume:	1,411 vehicle	es		He	avy Truck	s (3+ A	(xles)	15		
	hicle Speed:	40 mph		ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	52 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily
Site Data						AL	itos:	77.5%	12.9%	9.6%	95.53%
Ba	rrier Height:	0.0 feet			М	edium Tru	cks:	84.8%	4.9%	10.3%	2.33%
Barrier Type (0-W		0.0				Heavy Tru	cks:	86.5%	2.7%	10.8%	2.15%
Centerline Di		46.0 feet		ŀ	Noise S	ource Ele	vation	s (in fe	eet)		
Centerline Dist.		46.0 feet		ŀ		Autos:	0.0	000			
Barrier Distance		0.0 feet			Mediu	m Trucks:	2.3	297			
Observer Height	,	5.0 feet			Hear	vy Trucks:	8.0	004	Grade Adj	iustment	0.0
	ad Elevation:	0.0 feet		ŀ	Long Ea	uivalent l	Distan	aa (in	fa a 4)		
	ad Elevation: Road Grade:	0.0 feet		ł	Lane Eq	Autos			leel)		
	Road Grade: Left View:	0.0% -90.0 degre			Modiu	m Trucks:					
	Right View:	90.0 degre				vy Trucks:					
FHWA Noise Mod	el Calculatio	ns									
VehicleType	REMEL	Traffic Flow	Di	istance	Finite	Road	Fresr	iel	Barrier Att	en Ber	m Atten
Autos:	66.51	-0.03	3	1.6	4	-1.20		-4.63	0.0	000	0.00
Medium Trucks:	77.72	-16.17	,	1.6	8	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-16.51		1.6	67	-1.20		-5.47	0.0	000	0.00
Unmitigated Nois					,						
VehicleType	Leq Peak Ho		,	Leq E	vening	Leq N	<u> </u>		Ldn		NEL
Autos:		6.9	65.5		63.7		57.7		66.3		66.
Medium Trucks:	-	2.0 7.0	61.0 66.0		54.6		53.1 58.2		61.5 66.6		61.
Heavy Trucks: Vehicle Noise:		7.0	69.4		57.0 65.0		58.2 61.6	-	70.1		66. 70.4
					03.0		01.0	,	70.		70.4
Centerline Distan	ce to Noise C	ontour (in fee	<i>it)</i>	70	dBA	65 d	BA	6	i0 dBA	55	dBA
			Ldn:	10	47	00 0.	101		217		467
		C	NEL:		49		106		228		492

	FHW	A-RD-77-108	HIGH	HWAY NO	DISE PR	EDICTI	ON MO	DEL			
Scenario:									I Commer	ce Ctr.	
Road Name:						Job N	umber:	12980			
Road Segment:	n/o Santa A	na Av.									
	ECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, Se	oft = 15)		
Average Daily Tra	fic (Adt):	3,042 vehicle	es					Autos:	15		
Peak Hour Per	centage:	8.98%			Med	lium Tru	icks (2 A	Axles):	15		
Peak Hour	Volume:	273 vehicle	s		Hea	ivy Truc	:ks (3+ A	Axles):	15		
Vehicl	e Speed:	40 mph		V	ehicle I	<i>liv</i>					
Near/Far Lane I	Distance:	14 feet		-		cleType		Dav	Evening	Night	Daily
Site Data								77.5%	•	9.6%	
Barrie	· Heiaht:	0.0 feet			Me	dium Tr	ucks:	84.8%	4.9%	10.3%	2.339
Barrier Type (0-Wall,		0.0			H	leavy Tr	ucks:	86.5%	2.7%	10.8%	2.15%
Centerline Dist. to		34.0 feet			oise So	urco El	ovation	e (in f	not)		
Centerline Dist. to C	bserver:	34.0 feet		~	0136 30	Autos			eel)		
Barrier Distance to C	bserver:	0.0 feet				Autos 1 Trucks		000 297			
Observer Height (Abo	ve Pad):	5.0 feet							Grade Adj	instruct	
Pad E	levation:	0.0 feet			Heav	/ Trucks	S. 8.I	004	Grade Adj	usimeni.	0.0
Road E	levation:	0.0 feet		L	ane Equ	iivalent	Distan	ce (in	feet)		
Roa	d Grade:	0.0%				Autos	s: 33.	645			
L	eft View:	-90.0 degree	es		Mediun	n Trucks	s: 33.	381			
Ri	ght View:	90.0 degree	es		Heav	/ Trucks	s: 33.	407			
FHWA Noise Model C	alculation	s									
	REMEL	Traffic Flow	Di	stance	Finite		Fresr		Barrier Att	en Ber	m Atten
Autos:	66.51	-7.16		2.48		-1.20		-4.53	0.0	000	0.00
Medium Trucks:	77.72	-23.30		2.53		-1.20		-4.86		000	0.00
Heavy Trucks:	82.99	-23.64		2.52		-1.20		-5.67	0.0	000	0.00
Unmitigated Noise Le											
	g Peak Hou			Leg Ev	·	Leq	Night		Ldn	-	VEL
Autos:	60.		59.2		57.4		51.4		60.0		60.
Medium Trucks:	55.		54.7		48.3		46.8		55.3		55.
Heavy Trucks:	60.		59.7		50.7		51.9		60.3		60.
Vehicle Noise:	64.	3	63.1		58.7		55.3	3	63.8	3	64
Centerline Distance t	o Noise Co	ntour (in feet)								
			[70 d		65 (dBA		60 dBA	55	dBA
			Ldn:		13		28		61		13
			VFI :		14		30		64		139

Monday, February 3, 2020

	FHW	/A-RD-77-108	HIGH	WAY N		REDICT		DEL			
Scenario: HY Road Name: Jun Road Segment: s/o	iper Av.	na Av.					Name: F umber: 1		II Commerce	e Ctr.	
SITE SPECI	IFIC IN	PUT DATA							L INPUTS		
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic	(Adt):	3,982 vehicle	s				A	utos:	15		
Peak Hour Percer	ntage:	8.98%			Mee	dium Tra	ucks (2 A	xles):	15		
Peak Hour Vo	lume:	358 vehicles	6		Hea	avy Truc	cks (3+ A.	xles):	15		
Vehicle S	peed:	40 mph		H	Vehicle I	Mix					
Near/Far Lane Dist	ance:	14 feet		-		cleType		Day	Evening	Night	Daily
Site Data					VCIII			7.5%	•	9.6%	
					Me	dium Ti		34.8%		10.3%	2.33%
Barrier He		0.0 feet				leavy Ti		36.5%		10.8%	2.15%
Barrier Type (0-Wall, 1-B Centerline Dist. to B		0.0 34.0 feet							2.170	10.070	2.10%
Centerline Dist. to Ba		34.0 feet			Noise Sc	ource El			ieet)		
Barrier Distance to Obs		0.0 feet				Auto		00			
Observer Height (Above		5.0 feet			Mediur	n Truck	s: 2.2	97			
Pad Flev		0.0 feet			Heav	y Truck	s: 8.0	04	Grade Adju	stment:	0.0
Road Elev		0.0 feet		H	Lane Eq	uivalen	t Distanc	e (in	feet)		
Road G		0.0%		F		Auto			,		
	View:	-90.0 degree	e		Mediur	n Truck					
Right		90.0 degree				y Truck					
FHWA Noise Model Cald	ulation	s									
VehicleType REI	MEL	Traffic Flow	Dist	ance	Finite	Road	Fresne	e/	Barrier Atter	n Ben	m Atten
Autos:	66.51	-5.99		2.4	8	-1.20	-	4.53	0.00	10	0.000
Medium Trucks:	77.72	-22.13		2.5	3	-1.20	-	4.86	0.00	0	0.000
Heavy Trucks:	82.99	-22.47		2.5	2	-1.20	-	5.67	0.00	0	0.000
Unmitigated Noise Level					,	1	h E - da t		Ldn	0	VEL
VehicleType Leq Pe Autos:	eak Hou 61.	. ,	50.4	Ley E	vening 58.6	Leq	Night 52.5		61.2	CI	VEL 61.8
Medium Trucks:	56		55.9		49.5		48.0		56.4		56.7
Heavy Trucks:	61.		50.9 50.9		49.5 51.9		40.0		61.5		61.6
Vehicle Noise:	65.		34.3		59.9		56.5		65.0		65.3
Centerline Distance to N					33.3		50.5		05.0		00.0
Centerine Distance to N	0/38 00	mour (milleet)	,	70	dBA	65	dBA		60 dBA	55	dBA
			dn:		10		34		73		157
					16		34				

	FH\	WA-RD-77-108 H	IGHWAY	Y NOISE P	REDICTIC	N MODEL			
Scenari	io: HY (2040)				Project N	lame: Footl	nill Commerc	ce Ctr.	
Road Nam	e: Sierra Av.				Job Nu	nber: 1298	0		
Road Segmer	nt: s/o Santa /	Ana Av.							
	SPECIFIC IN	IPUT DATA					EL INPUT	s	
Highway Data				Site Cor	nditions (I	lard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	42,740 vehicles				Auto	s: 15		
Peak Hour	Percentage:	8.98%		Me	edium Truc	ks (2 Axles): 15		
Peak H	our Volume:	3,838 vehicles		He	avy Truck	s (3+ Axles): 15		
Ve	hicle Speed:	50 mph		Vehicle	Mix				
Near/Far Lar	ne Distance:	90 feet			nicleType	Dav	Evening	Night	Daily
Site Data						tos: 77.5	0	9.6%	
Bar	rier Height:	0.0 feet		M	ledium Tru	cks: 84.8	% 4.9%	10.3%	2.33%
Barrier Type (0-W		0.0			Heavy Tru	cks: 86.5	% 2.7%	10.8%	2.15%
Centerline Dis	st. to Barrier:	66.0 feet		Noise S	ource Ele	vations (in	feet)		
Centerline Dist.	to Observer:	66.0 feet			Autos:		,		
Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet			vy Trucks:		Grade Adj	iustment:	0.0
	ad Elevation:	0.0 feet							
	ad Elevation:	0.0 feet		Lane Eq		Distance (ii	1 feet)		
F	Road Grade:	0.0%			Autos:	48.539			
	Left View:	-90.0 degrees			m Trucks:	48.356			
	Right View:	90.0 degrees		Hea	vy Trucks:	48.374			
FHWA Noise Mode									
VehicleType	REMEL	Traffic Flow	Distanc		Road	Fresnel	Barrier Atte		m Atten
Autos:	70.20			0.09	-1.20	-4.7			0.000
Medium Trucks:	81.00).11	-1.20	-4.88			0.000
Heavy Trucks:	85.38			0.11	-1.20	-5.30	0.0	000	0.000
Unmitigated Noise	e Levels (with Leq Peak Ho					int	Ldn	0	VEL
VehicleType Autos:			1.0	Evening 69.2	Leq N	63.2	Lan 71.8		VEL 72.4
Medium Trucks:			1.0 3.1	69.2 59.7		58.2	66.6		66.9
Heavy Trucks:).1).2	61.2		62.4	70.8		70.9
Vehicle Noise:			1.3	70.3		66.5	75.0	-	75.4
Centerline Distance				. 0.0			. 0.0		. 0.
Centernile Distant		ontour (III leel)	7	0 dBA	65 dl	BA	60 dBA	55	dBA
		Lo	dn:	143		307	661		1,425
		CNE	EL:	151		325	701		1,510

	FHWA	-RD-77-108 HIG	GHWAY	NOISE PR	EDICTI	ON MOI	DEL			
Scenario: Road Name: Road Segment:		<i>ı</i> .				Name: F ımber: 1		I Commerc	ce Ctr.	
SITE SP	ECIFIC INP	UT DATA			N	OISE M	IODE	L INPUT	5	
Highway Data				Site Con						
Average Daily Tra Peak Hour Pe Peak Hou	rcentage: 8	3,170 vehicles 8.98% ,248 vehicles				/ cks (2 A ks (3+ A		15 15 15		
Vehic	le Speed:	50 mph		Vehicle N	liv					
Near/Far Lane	Distance:	90 feet			cleType		Day	Evening	Night	Daily
Site Data				Verm			77.5%		9.6%	
				Me	dium Tr		34.8%		10.3%	
	r Height:	0.0 feet			leavy Tr		36.5%		10.8%	
Barrier Type (0-Wall,	,	0.0			cuvy m	uono. (50.070	2.170	10.070	2.10
Centerline Dist.		66.0 feet		Noise So	urce El	evations	s (in fe	eet)		
Centerline Dist. to		66.0 feet			Autos	: 0.0	00			
Barrier Distance to		0.0 feet		Mediun	n Trucks	: 2.2	97			
Observer Height (Ab	,	5.0 feet		Heavy	/ Trucks	: 8.0	04	Grade Adj	ustment.	0.0
	Elevation:	0.0 feet		Lana Fra		Distant	- //	(4)		
	Elevation:	0.0 feet		Lane Equ	Autos			reet)		
		0.0%								
	Left View:	-90.0 degrees 90.0 degrees			1 Trucks / Trucks					
FHWA Noise Model										
			Distance	Finite		Fresn		Barrier Atte		m Atten
Autos:	70.20	2.62	0.0		-1.20		4.71	0.0		0.00
Medium Trucks:	81.00	-13.51	0.		-1.20		4.88	0.0		0.00
Heavy Trucks:	85.38	-13.86	0.	11	-1.20		5.30	0.0	00	0.00
Unmitigated Noise L	evels (withou	it Topo and bai	rrier atte	enuation)						
VehicleType Le	q Peak Hour	Leq Day	Leq I	Evening	Leq I	Vight		Ldn	CI	VEL
Autos:	71.7	70.3	3	68.5		62.5		71.1		71.
Medium Trucks:	66.4	65.4	4	59.0		57.5		65.9		66
Heavy Trucks:	70.4	69.5	5	60.4		61.7		70.0)	70.
Vehicle Noise:	74.8	73.6	6	69.5		65.8		74.3		74
Centerline Distance	to Noise Con	tour (in feet)								
			70	dBA	65 0	1BA	6	0 dBA	55	dBA
		Ldn	n:	127		275		592		1,27

Monday, February 3, 2020

			mGr	IWAT P	NOISE PI						
Scenario: HY (2040									II Commerce	e Ctr.	
Road Name: Sierra Av						Job N	umber: 1	2980			
Road Segment: s/o Jurup	a Av.										
SITE SPECIFIC	INPUT I	DATA							L INPUTS		
Highway Data					Site Cor	ditions	(Hard = 1	10, S	oft = 15)		
Average Daily Traffic (Adt):	38,135	o vehicle	s					utos:			
Peak Hour Percentage:	8.98	%					icks (2 A)	,			
Peak Hour Volume:	3,425	vehicles	;		He	avy Truc	ks (3+ A)	des):	15		
Vehicle Speed:	50	mph		-	Vehicle	Mix					
Near/Far Lane Distance:	90	feet		-		icleType	L	Day	Evening	Night	Daily
Site Data								7.5%	•	9.6%	
Barrier Height	0.0) feet			M	edium Tr	ucks: 8	4.8%	4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-Berm).					1	leavy Tr	ucks: 8	6.5%	2.7%	10.8%	2.15%
Centerline Dist. to Barrier.) feet		-	Noise Se	ourco El	ovations	(in f	oot)		
Centerline Dist. to Observer.	66.0) feet		-	NUISE 3	Autos			eel)		
Barrier Distance to Observer.	0.0) feet			Madiu	m Trucks					
Observer Height (Above Pad)	5.0) feet				v Trucks			Grade Adju	ofmont	0.0
Pad Elevation	0.0) feet			neat	y mucks	. 0.01	J4	Graue Auju	Sunen	0.0
Road Elevation.	0.0) feet			Lane Eq	uivalent	Distance	e (in	feet)		
Road Grade	0.0%			Γ		Autos	: 48.5	39			
Left View.	-90.0) degree	s		Mediu	m Trucks	48.3	56			
Right View.	90.0) degree	s		Heav	y Trucks	48.3	74			
FHWA Noise Model Calculati	ons										
VehicleType REMEL	Traffie	c Flow	Dis	stance	Finite	Road	Fresne	e/	Barrier Atte	n Ber	m Atten
Autos: 70.2	0	2.85		0.0	19	-1.20	-	4.71	0.00)0	0.00
Medium Trucks: 81.0	0	-13.28		0.1	1	-1.20	-	4.88	0.00	00	0.00
Heavy Trucks: 85.3	8	-13.63		0.1	1	-1.20	-	5.30	0.00	00	0.00
Unmitigated Noise Levels (wi	thout To	po and	barri	ier attei	nuation)						
VehicleType Leq Peak H	our	Leq Day		Leq E	vening	Leq	Vight		Ldn	C	NEL
	71.9	7	0.5		68.7		62.7		71.3		71.
Medium Trucks:	6.6	6	65.6		59.2		57.7		66.1		66.4
	70.7		69.7		60.7		61.9		70.3		70.4
Vehicle Noise:	75.0	7	73.8		69.8		66.0		74.5		74.9
Centerline Distance to Noise	Contour	(in feet)	1								
			L	70	dBA	65 (1BA	6	60 dBA	55	dBA
			dn:		132		285		613		1,321
		CN	IEL:		140		301		650		1,399

FHWA-RD-77-108 HIG	HWAY NO	ISE PREDICT		L	
Scenario: HY (2040) Road Name: Jurupa Av. Road Segment: w/o Citrus av.			Name: Foo lumber: 129	thill Commerc 80	e Ctr.
SITE SPECIFIC INPUT DATA				DEL INPUTS	
Highway Data	Si	te Conditions	(Hard = 10	, Soft = 15)	
Average Daily Traffic (Adt): 27,005 vehicles			Aut	os: 15	
Peak Hour Percentage: 8.98%		Medium Tr	ucks (2 Axle	s): 15	
Peak Hour Volume: 2,425 vehicles		Heavy Tru	cks (3+ Axle	s): 15	
Vehicle Speed: 45 mph	Ve	ehicle Mix			
Near/Far Lane Distance: 80 feet		VehicleType	e Da	v Evening	Night Daily
Site Data			Autos: 77.		9.6% 95.53%
Barrier Height: 0.0 feet		Medium T	rucks: 84.	8% 4.9%	10.3% 2.33%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy T	rucks: 86.	5% 2.7%	10.8% 2.15%
Centerline Dist. to Barrier: 60.0 feet	AL.	oise Source E	lovationo (i	n foot)	
Centerline Dist. to Observer: 60.0 feet	///	Auto			
Barrier Distance to Observer: 0.0 feet		Auto Medium Truck			
Observer Height (Above Pad): 5.0 feet		Heavy Truck			istment: 0.0
Pad Elevation: 0.0 feet		neavy muck	8. 0.004	Graue Aujo	isunenii. 0.0
Road Elevation: 0.0 feet	Lá	ane Equivalen	t Distance ('in feet)	
Road Grade: 0.0%		Auto			
Left View: -90.0 degrees		Medium Truck	s: 44.803		
Right View: 90.0 degrees		Heavy Truck	s: 44.822		
FHWA Noise Model Calculations					
VehicleType REMEL Traffic Flow Di	stance	Finite Road	Fresnel	Barrier Atte	en Berm Atten
Autos: 68.46 1.81	0.58	-1.20	-4.0	69 0.0	0.00 00.00
Medium Trucks: 79.45 -14.32	0.61	-1.20	-4.8		
Heavy Trucks: 84.25 -14.67	0.61	-1.20	-5.3	34 0.0	00.00
Unmitigated Noise Levels (without Topo and barr					
VehicleType Leq Peak Hour Leq Day	Leq Eve		Night	Ldn	CNEL
Autos: 69.7 68.2		66.5	60.4	69.0	69.
Medium Trucks: 64.5 63.5		57.1	55.6	64.1	64.
Heavy Trucks: 69.0 68.0		59.0	60.2	68.6	68.
Vehicle Noise: 73.0 71.8		67.6	64.0	72.5	72.
Centerline Distance to Noise Contour (in feet)					
	70 dE		dBA	60 dBA	55 dBA
Ldn:		88	190	409	881
CNEL:		93	201	432	931

	FH\	WA-RD-77-108	B HIGH	IWAY N	IOISE PR	REDICTIC	ON MO	DEL						
	io: HY (2040) e: Jurupa Av. nt: w/o Oleano					Project N Job Nu			I Commer	ce Ctr.				
SITE	SPECIFIC IN	NPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Con	ditions (l	Hard =	10, Se	oft = 15)					
Average Daily	Traffic (Adt):	25,859 vehic	les					Autos:	15					
Peak Hour	Percentage:	8.98%			Me	dium Truc	:ks (2 A	(xles):	15					
Peak H	our Volume:	2,322 vehicle	es		He	avy Truck	:s (3+ A	(xles):	15					
	hicle Speed:	45 mph			Vehicle	Mix								
Near/Far La	ne Distance:	80 feet		F	Veh	icleType		Day	Evening	Night	Daily			
Site Data							itos:	77.5%	12.9%	9.6%	95.53%			
Bai	rier Height:	0.0 feet			M	edium Tru	icks:	84.8%	4.9%	10.3%	2.33%			
Barrier Type (0-W		0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%	2.15%			
Centerline Dis		60.0 feet			Noise So	ource Ele	vation	s (in fe	eet)					
Centerline Dist.		60.0 feet				Autos:	0.0	000	,					
Barrier Distance		0.0 feet			Mediu	m Trucks:		97						
Observer Height (,	5.0 feet			Heav	v Trucks:	8.0	004	Grade Ad	iustment	: 0.0			
	ad Elevation:	0.0 feet		F		·								
	ad Elevation:	0.0 feet		4	Lane Eq	uivalent l			teet)					
1	Road Grade:	0.0%				Autos:								
	Left View: Right View:	-90.0 degre 90.0 degre				m Trucks: vy Trucks:								
	0		.03		near	y mucks.		522						
FHWA Noise Mod VehicleType	el Calculation REMEI	ns Traffic Flow	Dis	stance	Finito	Road	Fresr		Barrier Att	on Ro	rm Atten			
Autos:	68.46			0.5		-1.20		-4.69		000	0.00			
Medium Trucks:	79.45	5 -14.51		0.6	-	-1.20		-4.88	0.0	000	0.00			
Heavy Trucks:	84.25	-14.86	5	0.6	1	-1.20		-5.34	0.0	000	0.00			
Unmitigated Noise	e Levels (with	hout Topo and	d barri	er atter	nuation)									
VehicleType	Leq Peak Ho	ur Leq Da	У	Leq E	vening	Leq N	light		Ldn	С	NEL			
Autos:	69	9.5	68.0		66.3		60.2		68.8	3	69.4			
Medium Trucks:	-	4.3	63.3		56.9		55.4		63.9		64.			
Heavy Trucks:		8.8	67.8		58.8		60.1		68.4		68.			
Vehicle Noise:	72	2.8	71.6		67.4		63.8		72.3	3	72.			
Centerline Distant	ce to Noise C	ontour (in fee	et)											
			L	70 (dBA	65 di		6	i0 dBA		dBA			
		-	Ldn:		86		184		397		856			
		C	NEL:		90		195		420		905			

	FHW	/A-RD-77-108	HIGH	IWAY N	OISE PR	REDICT	ION MO	DEL			
Scenario: H Road Name: Ju Road Segment: w	urupa Av.	s Av.					Name: lumber:		II Commere	ce Ctr.	
SITE SPE	CIFIC IN	PUT DATA				ľ		IODE		s	
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffi	c (Adt):	25,943 vehicl	es					Autos:	15		
Peak Hour Perc	entage:	8.98%			Med	dium Tr	ucks (2 A	(xles):	15		
Peak Hour \	/olume:	2,330 vehicle	s		Hea	avy Tru	cks (3+ A	(xles):	15		
Vehicle	Speed:	45 mph			Vehicle I	Mix					
Near/Far Lane Di	istance:	80 feet		F		cleType		Day	Evening	Night	Daily
Site Data					1011			77.5%		9.6%	
	Uniorhti	0.0 feet			Me	dium T		84.8%		10.3%	2.33
Barrier Barrier Type (0-Wall, 1		0.0 feet						86.5%		10.8%	
Centerline Dist. to	,	0.0 60.0 feet				,					
Centerline Dist. to Ot		60.0 feet		1	Noise So				eet)		
Barrier Distance to Ol		0.0 feet				Auto		000			
Observer Height (Abov		5.0 feet			Mediun			297			
	evation:	0.0 feet			Heav	y Truck	's: 8.0	004	Grade Adj	ustment	0.0
Road El		0.0 feet			Lane Equ	uivalen	t Distan	ce (in	feet)		
	Grade:	0.0%				Auto					
Le	ft View:	-90.0 degree	es		Mediun	n Truck	s: 44.	B03			
Rigi	ht View:	90.0 degree	es		Heav	y Truck	s: 44.	822			
FHWA Noise Model Ca		-									
,,	EMEL	Traffic Flow	Dis	stance	Finite		Fresr		Barrier Att		m Atter
Autos:	68.46	1.64		0.5	-	-1.20		-4.69	0.0		0.00
Medium Trucks:	79.45	-14.50		0.6		-1.20		-4.88		000	0.00
Heavy Trucks:	84.25	-14.85		0.6	1	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Lev			-							-	
, ,	Peak Hou			Leq E	•	Leq	Night		Ldn	-	VEL
Autos:	69. 64.	-	68.0 63.3		66.3		60.2 55.4		68.8		69 64
Medium Trucks:	64. 68.	-	63.3 67.9		57.0 58.8		55.4 60.1		63.9 68.4		64. 68.
Heavy Trucks: Vehicle Noise:	68. 72	-	71.7		58.8 67.4		63.8		72.3		72
		-			67.4		63.6	•	72.3)	12
Centerline Distance to	Noise Co	ntour (in feet)	70 0		6E	dBA		30 dBA	55	dBA
			Ldn:	700	3BA 86	05	<i>dBA</i> 185		398 398	55	dBA 85
			VFL:		80 91		185		398 421		85 90
			VLL.		91		195		421		90

Monday, February 3, 2020

Cooperior 107 (00 fr						Drojos'	Vama: E	the ill Community		
Scenario: HY (2040 Road Name: Jurupa A	·						vame: Foo imber: 129	othill Commerco	e Ctr.	
Road Segment: w/o Junip						300 140	Inder. 128	60		
SITE SPECIFIC Highway Data	INPUT	DATA			Site Con			DEL INPUTS Soft = 15)		
Average Daily Traffic (Adt):	26.00	6 vehicle			one oon	andons	Aut	,		
Peak Hour Percentage:			s		Mar	ium Tru	cks (2 Axle			
Peak Hour Volume:		vehicles					ks (3+ Axle	,		
Vehicle Speed:		mph	•			,	13 [07 71/10	.3). 10		
Near/Far Lane Distance:		feet			Vehicle I					
	00	1001			Vehi	cleType	Da		Night	Daily
Site Data								5% 12.9%	9.6%	
Barrier Height	0.	0 feet				dium Tr		8% 4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-Berm).	0.	0			H	leavy Tr	ucks: 86.	5% 2.7%	10.8%	2.15%
Centerline Dist. to Barrier.	60.	0 feet			Noise So	urce Ele	evations (i	n feet)		-
Centerline Dist. to Observer.	60.	0 feet		F		Autos		,		
Barrier Distance to Observer.	0.	0 feet			Mediur	n Trucks				
Observer Height (Above Pad)		0 feet			Heav	y Trucks	8.004	Grade Adju	stment:	0.0
Pad Elevation.	0.	0 feet				·		,		
Road Elevation.	0.	0 feet		-	Lane Equ		Distance	, ,		
Road Grade.		-				Autos				
Left View.	00.	0 degree				n Trucks				
Right View.	90.	0 degree	s		Heav	y Trucks	: 44.822			
FHWA Noise Model Calculati	ons			l						-
VehicleType REMEL	Traffi	ic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Atte	n Berr	m Atten
Autos: 68.4	6	1.65		0.5	8	-1.20	-4.	69 0.00	00	0.00
Medium Trucks: 79.4	5	-14.49		0.6	1	-1.20	-4.	88 0.00	00	0.00
Heavy Trucks: 84.2	5	-14.84		0.6	1	-1.20	-5.	34 0.00	00	0.00
Unmitigated Noise Levels (wi	thout To	po and	barrie	er atter	nuation)					-
VehicleType Leq Peak H	our	Leq Day		Leq E	vening	Leq I	light	Ldn	CI	VEL
Autos:	59.5	6	58.1		66.3		60.2	68.9		69.
Medium Trucks:	54.4	e	63.3		57.0		55.4	63.9		64.
Heavy Trucks:	68.8	6	67.9		58.8		60.1	68.4		68.
Vehicle Noise:	72.8	7	71.7		67.4		63.8	72.3		72.
Centerline Distance to Noise	Contour	r (in feet)								
				70	dBA	65 0	IBA	60 dBA	55	dBA
		L	dn:		86		185	399		859
			IFI :		91		196	421		908

FHWA-RD-77-108 HIGH	WAY N	OISE PR	EDICT	ON MODE	ΞL			
Scenario: HY (2040) Road Name: Jurupa Av. Road Segment: w/o Sierra Av.				Name: Fo umber: 12		Commerc	e Ctr.	
SITE SPECIFIC INPUT DATA				OISE MO			;	
Highway Data	S	Site Con	ditions	(Hard = 1	0, So	ft = 15)		
Average Daily Traffic (Adt): 27,015 vehicles				Au	itos:	15		
Peak Hour Percentage: 8.98%		Med	lium Tru	icks (2 Axl	les):	15		
Peak Hour Volume: 2,426 vehicles		Hea	avy Truc	ks (3+ Axl	les):	15		
Vehicle Speed: 45 mph	V	/ehicle I	<i>lix</i>					
Near/Far Lane Distance: 80 feet	F		cleType	Di	ay	Evening	Night	Daily
Site Data					7.5%	12.9%	9.6%	
Barrier Height: 0.0 feet		Me	dium Ti	ucks: 84	1.8%	4.9%	10.3%	2.33%
Barrier Type (0-Wall, 1-Berm): 0.0		H	leavy Ti	ucks: 86	6.5%	2.7%	10.8%	2.15%
Centerline Dist. to Barrier: 60.0 feet		laise Ca	uree El	evations ((in fa	a.4)		
Centerline Dist. to Observer: 60.0 feet	~	voise So	Auto:			et)		
Barrier Distance to Observer: 0.0 feet		Mediun						
Observer Height (Above Pad): 5.0 feet			v Truck			Grade Adju	istmont	0.0
Pad Elevation: 0.0 feet		neav	y TTUCK	s. 0.00	4 (Siaue Auju	isuneni.	0.0
Road Elevation: 0.0 feet	L	ane Equ	iivalen	Distance	(in fe	eet)		
Road Grade: 0.0%			Auto		0			
Left View: -90.0 degrees		Mediun	n Truck	s: 44.80	3			
Right View: 90.0 degrees		Heav	y Truck:	s: 44.82	2			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow Dis	stance	Finite	Road	Fresnel	E	Barrier Atte	n Ber	m Atten
Autos: 68.46 1.81	0.58	3	-1.20	-4	.69	0.0	00	0.00
Medium Trucks: 79.45 -14.32	0.61		-1.20		.88	0.0		0.00
Heavy Trucks: 84.25 -14.67	0.61		-1.20	-5	.34	0.0	00	0.00
Unmitigated Noise Levels (without Topo and barri								
VehicleType Leq Peak Hour Leq Day	Leq Ev		Leq	Night		Ldn	CI	VEL
Autos: 69.7 68.2		66.5		60.4		69.0		69.
Medium Trucks: 64.5 63.5		57.1		55.6		64.1		64.
Heavy Trucks: 69.0 68.0		59.0		60.3		68.6		68.
Vehicle Noise: 73.0 71.8		67.6		64.0		72.5		72.
Centerline Distance to Noise Contour (in feet)								
	70 d		65	dBA	60) dBA	55	dBA
Ldn: CNEL:		88		190 201		409 432		881 931
		93						

FI	IWA-RD-77-108 I	HIGHWA	Y NOISE P	REDICTIO	N MODEL			
Scenario: HY (2040						ill Commerc	e Ctr.	
Road Name: Citrus Av				Job Nur	nber: 12980)		
Road Segment: n/o Jurup	a Av.							
SITE SPECIFIC	NPUT DATA			NO	ISE MOD	EL INPUTS	5	
Highway Data			Site Col	nditions (H	ard = 10, S	Soft = 15)		
Average Daily Traffic (Adt):	15,894 vehicle	s			Autos	: 15		
Peak Hour Percentage:	8.98%		Me	edium Truck	is (2 Axles)	: 15		
Peak Hour Volume:	1,427 vehicles		He	avy Trucks	(3+ Axles)	: 15		
Vehicle Speed:	40 mph		Vehicle	Mix				
Near/Far Lane Distance:	52 feet		Veł	nicleTvpe	Dav	Evening	Niaht	Dailv
Site Data				Aut	os: 77.5		9.6%	94.87%
Barrier Height:	0.0 feet		M	ledium Truc	ks: 84.89	% 4.9%	10.3%	2.42%
Barrier Type (0-Wall, 1-Berm):				Heavy Truc	ks: 86.5	% 2.7%	10.8%	2.71%
Centerline Dist. to Barrier:	46.0 feet		Noise S	ource Elev	ations (in	feet)		
Centerline Dist. to Observer:	46.0 feet			Autos:	0.000	,		
Barrier Distance to Observer:	0.0		Mediu	m Trucks:	2.297			
Observer Height (Above Pad):				vy Trucks:	8.004	Grade Adj	ustment:	0.0
Pad Elevation:	0.0							
Road Elevation:	0.0		Lane Ec	uivalent D		i feet)		
Road Grade:	0.070			Autos:	38.275			
Left View:	00.09			m Trucks:	38.043			
Right View:	90.0 degree	s	Hea	vy Trucks:	38.066			
FHWA Noise Model Calculation								
VehicleType REMEL	Traffic Flow	Distanc			Fresnel	Barrier Atte		n Atten
Autos: 66.5			1.64	-1.20	-4.63			0.000
Medium Trucks: 77.7			1.68	-1.20	-4.87			0.000
Heavy Trucks: 82.9			1.67	-1.20	-5.47	0.0	00	0.000
Unmitigated Noise Levels (wi VehicleType Leg Peak H			ttenuation) g Evening	Leg Nig	what .	Ldn	CN	
,, ,		5.5	4 Evening 63.7		57.7	66.3		EL 66.9
		5.5 1.2	54.8		53.3	61.8		62.0
		57.1	58.0		59.3	67.6		67.8
		0.0	65.2		62.2	70.6		71.0
Centerline Distance to Noise	Contour (in feet)							-
	. ,					00 104	FF	ID A
			70 dBA	65 dB	A	60 dBA	55 d	IDM .
	L	dn:	70 dBA 51	65 dB	A 109	60 ава 235	55 0	507

	FHW/	A-RD-77-108 H	IGHWA	Y NO	ISE PRI	EDICTIO		DEL			
Scenario: + Road Name: J Road Segment: n		,			ŀ		Vame: F Imber: 1		II Commer	ce Ctr.	
SITE SPE	CIFIC INP	UT DATA				N	DISE N	IODE		s	
Highway Data				Si	te Cond				oft = 15)	-	
Average Daily Trafi	fic (Adt):	3,149 vehicles						Autos:			
Peak Hour Pere	centage:	8.98%				ium Tru					
Peak Hour	Volume:	283 vehicles			Hear	vy Trucl	ks (3+ A	xles):	15		
	Speed:	40 mph		Ve	hicle M	lix					
Near/Far Lane D	listance:	14 feet				leType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	
	Height:	0.0 feet		1	Med	dium Tru		84.8%		10.3%	2.25
Barrier Type (0-Wall,		0.0 1001			He	eavy Tru	icks:	86.5%	2.7%	10.8%	2.07
Centerline Dist. to	,	34.0 feet				,					
Centerline Dist. to O		34.0 feet		No	oise Sou				eet)		
Barrier Distance to O		0.0 feet				Autos		000			
Observer Height (Abo		5.0 feet			Medium			297			
	levation:	0.0 feet			Heavy	Trucks	: 8.0	004	Grade Ad	ustment.	0.0
	levation:	0.0 feet		La	ne Equ	ivalent	Distand	ce (in	feet)		
	d Grade:	0.0%				Autos					
	aft View:	-90.0 degrees			Medium						
	ht View:	90.0 degrees				Trucks					
FHWA Noise Model C	alculations										
VehicleType F	REMEL	Traffic Flow	Distant	ce	Finite F	Road	Fresn	el	Barrier Att	en Ber	m Atter
Autos:	66.51	-7.00		2.48		-1.20		-4.53	0.0	000	0.00
Medium Trucks:	77.72	-23.30		2.53		-1.20		-4.86	0.0	000	0.00
Heavy Trucks:	82.99	-23.64		2.52		-1.20		-5.67	0.0	000	0.00
Unmitigated Noise Le											
, ,	Peak Hour	1 1		q Eve	·	Leq N			Ldn		VEL
Autos:	60.8				57.6		51.5		60.2		60
Medium Trucks:	55.7				48.3		46.8		55.3		55
Heavy Trucks:	60.7				50.7		51.9		60.3		60
Vehicle Noise:	64.4		.2		58.8		55.4		63.9)	64
Centerline Distance to	Noise Cor	ntour (in feet)	-	-		05					10.4
				70 dB		65 a		6	60 dBA	55	dBA
		CNE	in:		13 14		29		62		13
		CINE	:L.:				30		65		14

Monday, February 3, 2020

Scenario: HY (2040	Dreiget				Project	Nama: E-	othill Commerce	Ctr
Road Name: Juni							umber: 129		Ctr.
Road Segment: s/o S						00014	umber. 123	000	
•									
SITE SPECIE Highway Data		PUIDAIA		5	Site Con			DEL INPUTS , Soft = 15)	
Average Daily Traffic ()	A alk);	4,440 vehicle		Ť		andonio	Au	. ,	
Peak Hour Percent		4,440 Verificie 8.98%	:5		Mo	dium Tri	icks (2 Axle		
Peak Hour Volu	~	399 vehicles					ks (3+ Axle		
Vehicle Sp		40 mph							
Near/Far Lane Dista		14 feet		V	/ehicle l				
		14 1001			Veh	icleType		, .	light Daily
Site Data								.5% 12.9%	9.6% 95.99%
Barrier Hei	ight:	0.0 feet				edium Ti			10.3% 2.09%
Barrier Type (0-Wall, 1-Be	erm):	0.0			ŀ	leavy Ti	ucks: 86	.5% 2.7%	10.8% 1.93%
Centerline Dist. to Ba		34.0 feet			loise So	ource El	evations (in feet)	
Centerline Dist. to Obse		34.0 feet				Auto	s: 0.000)	
Barrier Distance to Obse		0.0 feet			Mediur	n Truck	3: 2.297	,	
Observer Height (Above F		5.0 feet			Heav	y Trucks	8: 8.004	Grade Adjus	tment: 0.0
Pad Eleva		0.0 feet							
Road Eleva		0.0 feet		4	ane Eq		Distance	, ,	
Road Gr		0.0%				Auto: n Truck:	. 00.010		
Left V		-90.0 degree					. 00.00		
Right V	new:	90.0 degree	s		neav	y Truck	33.407		
FHWA Noise Model Calcu	ulation	s							
VehicleType REM	IEL	Traffic Flow	Distar	ce	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.50		2.48	3	-1.20	-4.	53 0.000	0.00
Medium Trucks:	77.72	-22.13		2.53	3	-1.20	-4.	86 0.000	D.00
Heavy Trucks:	82.99	-22.47		2.52	2	-1.20	-5.	67 0.000	0.00 C
Unmitigated Noise Levels	s (with	out Topo and	barrier a	atten	uation)				
VehicleType Leq Pe					ening	Leq	Night	Ldn	CNEL
	62.	.3 6	60.9		59.1		53.0	61.7	62.
Autos:		.9 5	55.9		49.5		48.0	56.4	56.
Autos: Medium Trucks:	56.				51.9		53.1	61.5	61.
	56. 61.	.8 6	60.9						65
Medium Trucks:		-	60.9 64.5		60.2		56.7	65.2	05.
Medium Trucks: Heavy Trucks: Vehicle Noise:	61. 65.	.7 6	64.5		60.2		56.7	65.2	03.
Medium Trucks: Heavy Trucks:	61. 65.	.7 6	64.5	70 d		65	56.7 dBA	65.2 60 dBA	55 dBA
Medium Trucks: Heavy Trucks: Vehicle Noise:	61. 65.	7 (in feet)	64.5	70 d		65			

	FHV	Y NOISE PREDICTION MODEL												
Road Nan	rio: HY (2040) · ne: Sierra Av. nt: n/o Santa A	,			,	t Name: Fe Number: 12		Commerc	e Ctr.					
SITE	SPECIFIC IN	IPUT DATA				NOISE M			5					
Highway Data				Site Conditions (Hard = 10, Soft = 15)										
Average Daily	Traffic (Adt):	42,676 vehicl	es			A	utos:	15						
Peak Hour	Percentage:	8.98%			Medium T	rucks (2 Ax	(les):	15						
Peak H	our Volume:	3,832 vehicle	s		Heavy Tru	icks (3+ Ax	(les):	15						
Ve	hicle Speed:	50 mph		Vehi	cle Mix									
Near/Far La	ne Distance:	90 feet			VehicleTyp	e D	ay E	vening	Night	Daily				
Site Data							7.5%	12.9%	9.6%					
Ba	rrier Height:	0.0 feet		-	Medium	Frucks: 8	4.8%	4.9%	10.3%	2.34%				
Barrier Type (0-W		0.0			Heavy	Frucks: 8	6.5%	2.7%	10.8%	2.26%				
Centerline Di		66.0 feet		Noio	- Course I	levations	/in feet	0						
Centerline Dist.	to Observer:	66.0 feet		14013	Auto			9						
Barrier Distance	to Observer:	0.0 feet			dium Truc									
Observer Height	(Above Pad):	5.0 feet			leavy Truc			rade Adji	ustmont	0.0				
P	ad Elevation:	0.0 feet			icavy muci	13. 0.00	,4 O	auc Auji	Journerit	0.0				
Ro	ad Elevation:	0.0 feet		Lane	Equivaler	nt Distance	e (in fee	et)						
	Road Grade:	0.0%			Aut	10.00	39							
	Left View:	-90.0 degree	es	Me	dium Truc	ks: 48.3	56							
	Right View:	90.0 degree	es	ŀ	leavy Truc	ks: 48.3	74							
FHWA Noise Mod	lel Calculation	s		1										
VehicleType	REMEL	Traffic Flow	Distan	ce F	nite Road	Fresne	I Ba	arrier Atte	en Ber	m Atten				
Autos:	70.20	3.34		0.09	-1.20		4.71	0.0	00	0.000				
Medium Trucks:	81.00	-12.77		0.11	-1.20	-4	4.88	0.0	00	0.000				
Heavy Trucks:	85.38	-12.92		0.11	-1.20	-{	5.30	0.0	00	0.000				
Unmitigated Nois	e Levels (with	out Topo and	barrier a	attenuati	on)									
VehicleType	Leq Peak Hou			eq Evenir	0	Night	Le	dn		VEL				
	72		71.0		9.2	63.2		71.8		72.4				
Autos:			66.1	5	9.7	58.2		66.7		66.9				
Medium Trucks:														
Medium Trucks: Heavy Trucks:	71	.4	70.4		1.4	62.6		71.0						
Medium Trucks: Heavy Trucks: Vehicle Noise:	71 75	.4	70.4 74.4			62.6 66.6		71.0 75.1						
Medium Trucks: Heavy Trucks: Vehicle Noise:	71 75	.4	70.4 74.4	7	0.3	66.6		75.1		75.5				
Medium Trucks: Heavy Trucks: Vehicle Noise:	71 75	.4 .6 ontour (in feet	70.4 74.4	70 dBA	0.3 65	66.6 dBA	60 (75.1 dBA		71.1 75.5 dBA				
Medium Trucks: Heavy Trucks:	71 75	.4 .6 ontour (in feet	70.4 74.4	70 dBA	0.3	66.6	60 (75.1		75.5				

F	HWA-RD-77-108 HIG	HWAY N	OISE PI	REDICTIO	N MODEL		
Scenario: HY (204	0) + Project			Project N	ame: Footh	nill Commerc	e Ctr.
Road Name: Sierra A	۷.			Job Nur	nber: 1298	0	
Road Segment: s/o Sant	a Ana Av.						
SITE SPECIFIC	INPUT DATA					EL INPUTS	5
Highway Data		5	Site Cor	nditions (H	lard = 10, 3	Soft = 15)	
Average Daily Traffic (Adt)	42,836 vehicles				Autos	s: 15	
Peak Hour Percentage	: 8.98%		Me	dium Truc	ks (2 Axles): 15	
Peak Hour Volume	3,847 vehicles		He	avy Trucks	s (3+ Axles): 15	
Vehicle Speed	: 50 mph	1	/ehicle	Mix			
Near/Far Lane Distance	90 feet	F		nicleType	Dav	Evening	Night Daily
Site Data					tos: 77.5	•	9.6% 95.33
Barrier Height	: 0.0 feet		М	edium Trud	cks: 84.8	% 4.9%	10.3% 2.36
Barrier Type (0-Wall, 1-Berm)			1	Heavy True	cks: 86.5	% 2.7%	10.8% 2.32
Centerline Dist. to Barrier	66.0 feet	1	Voise Se	ource Elev	vations (in	feet)	
Centerline Dist. to Observer	66.0 feet	Ē		Autos:	0.000	,	
Barrier Distance to Observer	: 0.0 feet		Mediu	m Trucks:	2.297		
Observer Height (Above Pad)	: 5.0 feet			vy Trucks:	8.004	Grade Adi	ustment: 0.0
Pad Elevation							
Road Elevation	0.0	1	ane Eq		Distance (ii	n feet)	
Road Grade	0.070			Autos:	48.539		
Left View	00.0 3			m Trucks:	48.356		
Right View	90.0 degrees		Heav	vy Trucks:	48.374		
FHWA Noise Model Calculate	ons						
VehicleType REMEL		Distance		Road	Fresnel	Barrier Atte	
Autos: 70.		0.09		-1.20	-4.71		
Medium Trucks: 81.		0.11		-1.20	-4.88		
Heavy Trucks: 85.	38 -12.80	0.11	1	-1.20	-5.30	0.0	0.0
Unmitigated Noise Levels (w							01/5/
VehicleType Leq Peak H		Leq Ev		Leq Ni	0	Ldn	CNEL
Autos: Medium Trucks:	72.4 71.0		69.2 59.8		63.2 58.2	71.8 66.7	
	71.5 70.5	-	59.8 61.5		58.2 62.8	71.1	
Heavy Trucks: Vehicle Noise:	71.5 70.5		70.3		66.7	71.1	
)	70.3		00.7	75.2	/5
Centerline Distance to Noise	Contour (in feet)	70 a	IRΔ	65 dF	84	60 dBA	55 dBA
	l dn		146	00 02	314	676	1.45
	CNFL		154		332	715	1,40
	SIVEL		104		562	715	1,54

	FHWA	-RD-77-108 HI	GHWAY	NOISE PR	REDICT	ION MOI	DEL			
Scenario: HY Road Name: Sie Road Segment: n/o	erra Av.	,				Name: I umber: 1		I Commerc	ce Ctr.	
SITE SPEC	IFIC INPU	UT DATA			N	IOISE N	IODE	L INPUTS	5	
Highway Data				Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Traffic Peak Hour Perce Peak Hour V	entage: 8	3,266 vehicles 3.98% 257 vehicles) ucks (2 A cks (3+ A		15 15 15		
Vehicle 3		50 mph		Vehicle	Mix					
Near/Far Lane Dis	stance:	90 feet			icleType		Day	Evening	Night	Daily
Site Data							77.5%		9.6%	
Barrier H	loiaht.	0.0 feet		M	edium T	rucks:	84.8%	4.9%	10.3%	2.369
Barrier Type (0-Wall, 1-		0.0		1	leavy T	rucks:	86.5%	2.7%	10.8%	2.359
Centerline Dist. to E	,	66.0 feet								
Centerline Dist. to Ob		66.0 feet		Noise So				eet)		
Barrier Distance to Ob		0.0 feet			Auto		000			
Observer Height (Above	e Pad):	5.0 feet			n Truck		297	Out of a diff		
Pad Ele	,	0.0 feet		Heav	y Truck	s: 8.0	004	Grade Adj	ustment.	0.0
Road Ele	vation:	0.0 feet		Lane Eq	uivalen	t Distand	ce (in i	feet)		
Road	Grade: (0.0%			Auto	s: 48.5	539			
Lef	t View:	90.0 degrees		Mediu	n Truck	s: 48.3	356			
Righ	t View:	90.0 degrees		Heav	y Truck	s: 48.3	374			
FHWA Noise Model Cal	lculations									
		raffic Flow	Distance	e Finite	Road	Fresn		Barrier Atte	en Ber	m Atter
Autos:	70.20	2.62		0.09	-1.20		-4.71	0.0		0.00
Medium Trucks:	81.00	-13.44).11	-1.20		-4.88	0.0		0.00
Heavy Trucks:	85.38	-13.46	().11	-1.20		-5.30	0.0	00	0.00
Unmitigated Noise Leve										
, i	Peak Hour	Leq Day		Evening	Leq	Night		Ldn		VEL
Autos:	71.7	70		68.5		62.5		71.1		71.
Medium Trucks:	66.5	65		59.1		57.5		66.0		66
Heavy Trucks:	70.8	69		60.8		62.1		70.4		70
Vehicle Noise:	75.0	73	.8	69.6		66.0		74.5		74.
Centerline Distance to	Noise Con	tour (in feet)								
				'0 dBA	65	dBA	6	i0 dBA	55	dBA
		Lo		131		282		607		1,30
		CNF		138		298		642		1.384

Monday, February 3, 2020

Scenario: HY (204))) + D	troject				Project	Name: F	oothil	I Commerce	Ctr	
Road Name: Sierra Av		Tojeci					umber: 12		Commerce	GII.	
Road Segment: s/o Jurup						00011	11001. 12				
SITE SPECIFIC	INDI	ΙΤ ΠΑΤΑ		1		N	OISE M	ODE	L INPUTS		
Highway Data					Site Cor		(Hard = 1)				
Average Daily Traffic (Adt).	38	,190 vehicle	s				A	utos:	15		
Peak Hour Percentage		.98%			Me	dium Tru	icks (2 Ax	les):	15		
Peak Hour Volume.	3,4	429 vehicles	3		He	avy Truc	ks (3+ Ax	les):	15		
Vehicle Speed.		50 mph		-	Vehicle	Mix					
Near/Far Lane Distance.		90 feet		-		icleType		ay	Evening 1	Vight	Daily
Site Data					10.1			7.5%	•	•	95.41%
Barrier Height		0.0 feet			M	edium Ti	ucks: 8	4.8%	4.9%	10.3%	2.34%
Barrier Type (0-Wall, 1-Berm)		0.0			1	Heavy Tr	ucks: 8	6.5%	2.7%	10.8%	2.25%
Centerline Dist. to Barrier		66.0 feet		-	Naina C	ouroo El	evations	lin fe	a41		
Centerline Dist. to Observer		66.0 feet		÷	NUISE 3	Auto:			el)		
Barrier Distance to Observer		0.0 feet			Madiu	m Trucks					
Observer Height (Above Pad)		5.0 feet				/v Trucks			Grade Adjus	tmont	0.0
Pad Elevation		0.0 feet			neat	y muck	s. 0.00	14	Grade Adjus	sunen.	0.0
Road Elevation		0.0 feet		_	Lane Eq	uivalen	Distance	e (in i	feet)		
Road Grade	0	0.0%				Autos		39			
Left View	-	90.0 degree	s			m Trucks		56			
Right View	: !	90.0 degree	s		Heav	/y Trucks	8: 48.37	74			
FHWA Noise Model Calculati	ons										
VehicleType REMEL		raffic Flow	Di	stance	Finite	Road	Fresne	1	Barrier Atten	Bern	n Atten
Autos: 70.2	20	2.85		0.0	9	-1.20	-4	4.71	0.00	0	0.00
Medium Trucks: 81.0	00	-13.24		0.1	1	-1.20	-4	1.88	0.00	0	0.000
Heavy Trucks: 85.3	88	-13.42		0.1	1	-1.20	-{	5.30	0.00	0	0.00
Unmitigated Noise Levels (w	thou	t Topo and	barr	ier atter	nuation)						
VehicleType Leq Peak H	lour	Leq Day		Leq E	vening	Leq	Night		Ldn	CN	EL
Autos:	71.9		70.5		68.7		62.7		71.3		71.
	66.7		65.6		59.3		57.7		66.2		66.4
Medium Trucks:			59.9		60.9		62.1		70.5		70.
Medium Trucks: Heavy Trucks:	70.9				69.8		66.1		74.6		75.
Medium Trucks: Heavy Trucks:	70.9 75.1		73.9		09.0						
Medium Trucks: Heavy Trucks: Vehicle Noise:	75.1										
Medium Trucks: Heavy Trucks: Vehicle Noise:	75.1	our (in feet)	70	dBA		dBA	6	0 dBA	55 d	
Medium Trucks: Heavy Trucks:	75.1	our (in feet		70			288 305	6	0 dBA 621 658	55 d	IBA 1,338 1,417

	FHWA-F	D-77-108 H	IGHWAY	NOISE PR	EDICTIO	N MODEL			
Scenario: HY Road Name: Jur Road Segment: w/c	upa Av.	oject				ame: Footh nber: 12980	ill Commere)	ce Ctr.	
SITE SPEC	IFIC INPU	T DATA			NO	ISE MOD	EL INPUT	S	
Highway Data				Site Con	ditions (H	lard = 10, S	Soft = 15)		
Average Daily Traffic	(Adt): 27,2	48 vehicles				Autos	: 15		
Peak Hour Perce	ntage: 8.9	98%		Med	dium Truc	ks (2 Axles)	: 15		
Peak Hour Vo	olume: 2,44	7 vehicles		Hea	avy Trucks	s (3+ Axles)	: 15		
Vehicle S	peed: 4	15 mph		Vehicle I	Niv				
Near/Far Lane Dis	tance: {	30 feet			cleType	Day	Evening	Night	Daily
Site Data				veni		tos: 77.59	•	9.6%	95.23%
Barrier H	olahti	0.0 feet		Me	dium Tru			10.3%	2.36%
Barrier Type (0-Wall, 1-E	•	0.0 leet		F	leavy True	cks: 86.5%	6 2.7%	10.8%	2.41%
Centerline Dist. to B	,	0.0 feet							
Centerline Dist. to Obs		0.0 feet		Noise So		ations (in	feet)		
Barrier Distance to Obs		0.0 feet			Autos:	0.000			
Observer Height (Above		5.0 feet			n Trucks:	2.297			
Pad Fle	,	0.0 feet		Heav	y Trucks:	8.004	Grade Adj	ustment:	0.0
Road Ele		0.0 feet		Lane Equ	uivalent E	Distance (in	feet)		
Road ()%			Autos:	45.000	,		
Left	View: -9	0.0 degrees		Mediur	n Trucks:	44.803			
Right		0.0 degrees		Heav	y Trucks:	44.822			
FHWA Noise Model Cal	culations								
VehicleType RE	MEL Tra	ffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Beri	m Atten
Autos:	68.46	1.84	0.	58	-1.20	-4.69	0.0	000	0.000
Medium Trucks:	79.45	-14.21	0.	61	-1.20	-4.88	0.0	000	0.000
Heavy Trucks:	84.25	-14.13	0.	61	-1.20	-5.34	0.0	000	0.000
Unmitigated Noise Leve	ls (without	Topo and b	arrier atte	enuation)					
VehicleType Leq P	eak Hour	Leq Day	Leq	Evening	Leq Ni	ight	Ldn		VEL
Autos:	69.7	68	.2	66.5		60.4	69.0)	69.7
Medium Trucks:	64.6	63		57.2		55.7	64.2		64.4
Heavy Trucks:	69.5	68		59.5		60.8	69.1		69.3
Vehicle Noise:	73.3	72	.1	67.7		64.3	72.8	3	73.1
Centerline Distance to I	loise Conto	ur (in feet)							
) dBA	65 dE		60 dBA		dBA
			in:	92		197	425		916
		CNE	:L.:	97		208	449		966

Fł	IWA-RD-77-108	HIGHWA	Y NOISE P	REDICTIO	N MODEL			
Scenario: HY (2040 Road Name: Jurupa A Road Segment: w/o Olea	v.				ame: Footh 1ber: 12980	ill Commero	ce Ctr.	
SITE SPECIFIC			1	NO			c	
Highway Data	INPOT DATA		Site Co	nditions (H		-	3	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed:	8.98%		Me He	edium Truck eavy Trucks	Autos (s (2 Axles)	: 15 : 15		
Near/Far Lane Distance:			Vehicle			1		
			Vei	nicleType Aut	Day 05: 77.5%	Evening	Night 9.6%	Daily
Site Data Barrier Height: Barrier Type (0-Wall, 1-Berm):				Aut Iedium Truc Heavy Truc	ks: 84.89	6 4.9%	9.6% 10.3% 10.8%	94.82% 2.42% 2.76%
Centerline Dist. to Barrier:	60.0 feet		Noise S	ource Elev	ations (in	feet)		-
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation:	0.0 feet 5.0 feet 0.0 feet 0.0 feet		Hea	Autos: Im Trucks: vy Trucks: quivalent D		Grade Adj	iustment:	0.0
Road Grade: Left View: Right View:	-90.0 degre			Autos: Im Trucks: vy Trucks:	45.000 44.803 44.822			
FHWA Noise Model Calculation	ons							-
VehicleType REMEL Autos: 68.4	6 1.66	Distan	ce Finite 0.58	e Road -1.20	Fresnel -4.69	Barrier Atte 0.0		m Atten 0.000
Medium Trucks: 79.4 Heavy Trucks: 84.2			0.61 0.61	-1.20 -1.20	-4.88 -5.34			0.00
Unmitigated Noise Levels (wi	thout Topo and	l barrier a	ttenuation)				-
VehicleType Leq Peak H			q Evening	Leq Ni		Ldn		NEL
	39.5	68.1	66.3		60.3	68.9		69.5
	54.6	63.6	57.2		55.6	64.1		64.3
	70.0	69.0	60.0		61.2	69.6		69.7
	73.4	72.2	67.6)	64.4	72.9	1	73.
Centerline Distance to Noise	Contour (in fee	,		05 :-				
		I dn:	70 dBA	65 dB		60 dBA		dBA
		Lan: NFL:	201 100			932 982		

	FHW	A-RD-77-108 H	IGHWA	Y NO	ISE PR	EDICTI	ON MOI	DEL			
Road Name:		,					Vame: F Imber: 1		I Commere	ce Ctr.	
Road Segment:	,,			-							
	ECIFIC INI	PUT DATA		-					L INPUT	5	
Highway Data				Sit	e Con	ditions (Hard =	10, Se	,		
Average Daily Trat	fic (Adt):	26,370 vehicles						Autos:	15		
Peak Hour Per	centage:	8.98%			Med	dium Tru	cks (2 A	xles):	15		
Peak Hour	Volume:	2,368 vehicles			Hea	avy Truci	ks (3+ A	xles):	15		
Vehicle	e Speed:	45 mph		Ve	hicle I	Mix					
Near/Far Lane L	Distance:	80 feet				cleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	
Parrio	Height:	0.0 feet		-	Me	dium Tri	icks:	84.8%	4.9%	10.3%	2.429
Barrier Type (0-Wall,		0.0			H	leavy Tri	icks:	86.5%	2.7%	10.8%	2.769
Centerline Dist. to	,	60.0 feet				,					
Centerline Dist. to C		60.0 feet		No	ise So	urce Ele			eet)		
Barrier Distance to C		0.0 feet				Autos		000			
Observer Height (Abo		5.0 feet		1	Medium Trucks: 2.297						
0 (Elevation:	0.0 feet			Heavy Trucks: 8.004 Grade Adjustment: 0.0						
	levation:	0.0 feet		La	ne Eau	uivalent	Distand	ce (in	feet)		
	d Grade:	0.0%				Autos					
	eft View:	-90.0 degrees			Mediun	n Trucks					
-	ght View:	-90.0 degrees 90.0 degrees				y Trucks					
FHWA Noise Model C	alculations	;									
,,	REMEL	Traffic Flow	Distand	ce	Finite		Fresn		Barrier Att	en Ber	m Atten
Autos:	68.46	1.68		0.58		-1.20		-4.69	0.0	00	0.00
Medium Trucks:	79.45	-14.25		0.61		-1.20		-4.88	0.0	00	0.00
Heavy Trucks:	84.25	-13.69		0.61		-1.20		-5.34	0.0	00	0.00
Unmitigated Noise Le											
	g Peak Hour	,		q Eve	~	Leq I			Ldn		VEL
Autos:	69.				66.3		60.3		68.9		69.
Medium Trucks:	64.6				57.2		55.7		64.1		64.
Heavy Trucks:	70.0		-		60.0		61.2		69.6		69.
Vehicle Noise:	73.4		.2		67.6		64.4		72.9		73.
Centerline Distance t	o Noise Co	ntour (in feet)									
				70 dB		65 c		6	60 dBA	55	dBA
			in:		93		201		433		93
		CNF	:L:	98 212 457				984			

Monday, February 3, 2020

Sconari	p: HY (2040) ·	Draiget				Project	Nomo: Fee	thill Commerce	Ctr
): Hit (2040). ∋: Jurupa Av.						umber: 129		Gu.
Road Segmen						00071	120	50	
SITES	PECIFIC IN					N	OISE MOI	DEL INPUTS	
Highway Data		or brint			Site Con		(Hard = 10,		
Average Daily 1	raffic (Adt):	26,433 vehicle	es				Auto	s: 15	
Peak Hour I	Percentage:	8.98%			Mee	dium Tru	icks (2 Axle	s): 15	
Peak He	our Volume:	2,374 vehicle	s		Hea	avy Truc	ks (3+ Axle	s): 15	
Vel	icle Speed:	45 mph		-	Vehicle I	<i>Niv</i>			
Near/Far Lar	e Distance:	80 feet		-		cleType	Day	Evening	light Daily
Site Data					10/1		Autos: 77.	•	9.6% 94.82
Par	rier Height:	0.0 feet			Me	dium Ti			0.3% 2.42
Barrier Type (0-Wa		0.0			F	leavy Tr	ucks: 86.	5% 2.7%	0.8% 2.76
Centerline Dis	. ,	60.0 feet		-					
Centerline Dist. t		60.0 feet		1	Noise Sc		evations (ii	i feet)	
Barrier Distance t	o Observer:	0.0 feet				Autos			
Observer Height ()		5.0 feet				n Trucks		Oranda Artica	
	d Elevation:	0.0 feet			Heav	y Trucks	s: 8.004	Grade Adjus	tment: 0.0
Roa	d Elevation:	0.0 feet			Lane Eq	uivalen	Distance (in feet)	
F	load Grade:	0.0%				Autos	s: 45.000		
	Left View:	-90.0 degree	es		Mediur	n Trucks	s: 44.803		
	Right View:	90.0 degree	es		Heav	y Trucks	s: 44.822		
FHWA Noise Mode	Calculation	s							
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresnel	Barrier Atten	Berm Atter
Autos:	68.46	1.69		0.5	8	-1.20	-4.6	9 0.000	0.00
Medium Trucks:	79.45	-14.24		0.6	1	-1.20	-4.8	8 0.000	0.00
Heavy Trucks:	84.25	-13.68		0.6	1	-1.20	-5.3	4 0.000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atter	nuation)				
VehicleType	Leq Peak Hou	ir Leq Day	r	Leq E	vening	Leq	Night	Ldn	CNEL
Autos:	69	.5	68.1		66.3		60.3	68.9	69
Medium Trucks:	64	.6	63.6		57.2		55.7	64.1	64
Heavy Trucks:	70	-	69.0		60.0		61.2	69.6	69
Vehicle Noise:	73	.4	72.2		67.7		64.4	72.9	73
Centerline Distanc	e to Noise Co	ontour (in feet)						
				70 (dBA	65	dBA	60 dBA	55 dBA
			Ldn:		94		201	434	93
			VFI :		98		212	457	98

	FHWA	A-RD-77-108 F	HIGHWAY	NOISE P	REDICTI		EL	
Road Nan	rio: HY (2040) + ne: Jurupa Av. nt: w/o Sierra Av	,				Name: Fo umber: 12	oothill Commerce 1980	e Ctr.
SITE	SPECIFIC INP	UT DATA					DDEL INPUTS	5
Highway Data				Site Col	nditions	(Hard = 1	0, Soft = 15)	
Average Daily	Traffic (Adt): 2	7,188 vehicle	s			A	utos: 15	
Peak Hour	Percentage:	8.98%		Me	edium Tru	ıcks (2 Ax	<i>les):</i> 15	
Peak H	lour Volume: 2	,441 vehicles		He	eavy Truc	:ks (3+ Ax	<i>les):</i> 15	
Ve	hicle Speed:	45 mph		Vehicle	Mix			
Near/Far La	ne Distance:	80 feet			nicleType	D	ay Evening	Night Daily
Site Data					A	utos: 7	7.5% 12.9%	9.6% 95.05%
Ba	rrier Height:	0.0 feet		M	ledium Tr	ucks: 8	4.8% 4.9%	10.3% 2.40%
Barrier Type (0-W	•	0.0			Heavy Tr	ucks: 8	6.5% 2.7%	10.8% 2.55%
Centerline Di	st. to Barrier:	60.0 feet		Noise S	ource Fl	evations	(in feet)	
Centerline Dist.	to Observer:	60.0 feet			Autos		, ,	
Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks			
Observer Height	(Above Pad):	5.0 feet			vy Trucks			ustment: 0.0
	ad Elevation:	0.0 feet			·		,	
	ad Elevation:	0.0 feet		Lane Ec		Distance	. ,	
		0.0%			Autos			
		-90.0 degrees			m Trucks			
	Right View:	90.0 degrees	S	Hea	vy Trucks	s: 44.82	22	
FHWA Noise Mod	lel Calculations			1				
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresne	Barrier Atte	en Berm Atten
Autos:	68.46	1.82	(0.58	-1.20	-4	4.69 0.0	00 0.000
Medium Trucks:	79.45	-14.17	().61	-1.20	-4	4.88 0.0	00 0.000
Heavy Trucks:	84.25	-13.89	0).61	-1.20	-8	5.34 0.0	00 0.000
Unmitigated Nois	e Levels (withou	ut Topo and I	barrier at	tenuation))			
VehicleType	Leq Peak Hour	Leq Day	Leq	Evening	Leq	Night	Ldn	CNEL
Autos:	69.7	6	8.2	66.5	i	60.4	69.0	69.6
Medium Trucks:		-	3.7	57.3		55.7	64.2	
Heavy Trucks:			8.8	59.8	;	61.0	69.4	
Vehicle Noise:	73.4	7	2.2	67.7	,	64.4	72.9	73.2
Centerline Distan	ce to Noise Con	tour (in feet)						
-			7	'0 dBA	65 (dBA	60 dBA	55 dBA
		L	dn:	93		200	432	931
		CN	EL:	98		211	455	981

Monday, February 3, 2020

APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS





12980

CadnaA Noise Prediction Model: 12980_03.cna Date: 18.04.20 Analyst: B. Lawson

Receiver Noise Levels

Name	М.	ID		Level Lr		Lir	nit. Valı	ue		Land	Use	Height	:	Co	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	41.9	40.6	47.0	70.0	65.0	0.0				5.00	а	6201490.04	2329937.01	5.00
RECEIVERS		R2	43.9	42.7	49.2	70.0	65.0	0.0				5.00	а	6202703.83	2328599.95	5.00
RECEIVERS		R3	63.5	62.5	68.9	70.0	65.0	0.0				5.00	а	6202174.11	2327722.48	5.00
RECEIVERS		R4	37.9	35.7	42.3	70.0	65.0	0.0				5.00	а	6201615.15	2327051.40	5.00
RECEIVERS		R5	49.7	48.2	54.7	70.0	65.0	0.0				5.00	а	6200457.23	2327517.52	5.00
RECEIVERS		R6	55.9	53.8	60.4	70.0	65.0	0.0				5.00	а	6201129.69	2327718.05	5.00

Point Source(s)

	-	- (- /												_			
Name	М.	ID	R	esult. PW	'L		Lw / Li			Operating Time			Height		C	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night				Х	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6201340.68	2327343.27	48.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6202069.31	2327335.66	48.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6201405.36	2328079.50	48.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6201420.76	2329064.13	48.00
POINTSOURCE		TRASH01	94.0	94.0	94.0	Lw	94		300.00	0.00	180.00	0.0	5.00	а	6201269.09	2328127.73	5.00
POINTSOURCE		TRASH02	94.0	94.0	94.0	Lw	94		300.00	0.00	180.00	0.0	5.00	а	6201413.33	2327874.88	5.00

Line Source(s)

Name	М.	ID	R	esult. PW	Ľ	R	esult. PW	Ľ	Lw / Li			Operating Time				Moving	Pt. Src		Height
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night		Number		Speed	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)
LINESOURCE		DWY1	88.1	-31.5	78.9	69.3	-50.3	60.1	PWL-Pt	89.7					92.0	0.0	11.0	6.2	0
LINESOURCE		DWY2	89.5	-32.7	81.1	71.9	-50.3	63.5	PWL-Pt	89.7					165.0	0.0	24.0	6.2	0
LINESOURCE		DWY2	93.8	-28.4	85.5	71.9	-50.3	63.5	PWL-Pt	89.7					165.0	0.0	24.0	6.2	0
LINESOURCE		DWY2	91.7	-30.4	83.4	71.9	-50.3	63.5	PWL-Pt	89.7					165.0	0.0	24.0	6.2	0
LINESOURCE		DWY4	88.0	-28.6	79.2	66.2	-50.3	57.5	PWL-Pt	89.7					45.0	0.0	6.0	6.2	0

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	х	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	0.00	а		6201244.53	2329159.06	0.00	0.00
				6201353.83	2329154.26	0.00	0.00
				6201357.43	2329016.13	0.00	0.00
LINESOURCE	0.00	а		6201236.89	2327885.60	0.00	0.00
				6201325.61	2327835.90	0.00	0.00
				6201368.34	2327812.67	0.00	0.00
				6201406.43	2327812.67	0.00	0.00
LINESOURCE	0.00	а		6201785.56	2327827.73	0.00	0.00
				6201783.83	2327903.33	0.00	0.00
				6201346.70	2327910.72	0.00	0.00
LINESOURCE	0.00	а		6201236.89	2327885.60	0.00	0.00
				6201346.70	2327910.72	0.00	0.00
				6201345.58	2328115.05	0.00	0.00
LINESOURCE	0.00	а		6202131.68	2327693.92	0.00	0.00
				6202127.73	2327297.59	0.00	0.00
				6202102.59	2327210.83	0.00	0.00

Area Source(s)

-		• •					I								
ID	R	esult. PW	/L	Re	esult. PW	L''	Lw	/Li	Ор	erating Ti	me	M	oving Pt. S	Src	Height
	Day	Evening	Night	Day	Evening	Night	Туре	Value	Day	Special	Night	Number			
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day	Evening	Night	(ft)
COLD01	105.7	105.7	105.7	64.1	64.1	64.1	Lw	105.7	900.00	0.00	540.00				8
COLD02	105.7	105.7	105.7	65.0	65.0	65.0	Lw	105.7	900.00	0.00	540.00				8
PARKING02	79.0	79.0	79.0	40.5	40.5	40.5	Lw	79	900.00	0.00	540.00				5
PARKING03	79.0	79.0	79.0	45.5	45.5	45.5	Lw	79	900.00	0.00	540.00				5
PARKING04	79.0	79.0	79.0	50.2	50.2	50.2	Lw	79	900.00	0.00	540.00				5
PARKING05	79.0	79.0	79.0	52.9	52.9	52.9	Lw	79	900.00	0.00	540.00				5
PARKING06	79.0	79.0	79.0	44.5	44.5	44.5	Lw	79	900.00	0.00	540.00				5

Name	ł	lei	ght		Coordinat	es	
	Begin End			х	у	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а		6201269.10	2329010.56	8.00	0.00
				6201444.62	2329007.25	8.00	0.00
				6201435.51	2328118.87	8.00	0.00
				6201260.82	2328120.53	8.00	0.00

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	x	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а		6201406.54	2327881.26	8.00	0.00
				6201725.04	2327879.79	8.00	0.00
				6201723.97	2327827.78	8.00	0.00
				6201838.65	2327826.05	8.00	0.00
				6201839.19	2327878.99	8.00	0.00
				6202150.02	2327872.98	8.00	0.00
				6202145.88	2327694.15	8.00	0.00
				6201407.36	2327706.56	8.00	0.00
AREASOURCE	5.00	а		6202079.02	2327295.12	5.00	0.00
				6202075.28	2327233.52	5.00	0.00
				6201269.80	2327242.85	5.00	0.00
				6201267.93	2327260.59	5.00	0.00
				6201251.13	2327262.45	5.00	0.00
				6201257.66	2327809.40	5.00	0.00
				6201305.27	2327800.07	5.00	0.00
				6201299.67	2327307.26	5.00	0.00
AREASOURCE	5.00	а		6201406.07	2327997.94	5.00	0.00
				6201795.28	2327994.20	5.00	0.00
				6201796.21	2327972.74	5.00	0.00
				6201697.27	2327926.07	5.00	0.00
				6201403.27	2327933.54	5.00	0.00
AREASOURCE	5.00	а		6201257.66	2328095.01	5.00	0.00
				6201318.33	2328095.94	5.00	0.00
				6201315.53	2327958.74	5.00	0.00
				6201256.73	2327960.60	5.00	0.00
AREASOURCE	5.00	а		6201288.47	2329124.49	5.00	0.00
				6201312.73	2329123.56	5.00	0.00
				6201312.73	2329070.36	5.00	0.00
				6201332.33	2329071.29	5.00	0.00
				6201332.33	2329033.03	5.00	0.00
				6201268.87	2329033.03	5.00	0.00
				6201269.80	2329103.96	5.00	0.00
				6201285.67	2329103.96	5.00	0.00
AREASOURCE	5.00	а		6201289.40	2329195.43	5.00	0.00
				6201847.54	2329187.96	5.00	0.00
				6201847.54	2329169.29	5.00	0.00
				6201806.48	2329139.43	5.00	0.00
				6201806.48	2329120.76	5.00	0.00
				6201409.80	2329130.09	5.00	0.00
				6201409.80	2329166.49	5.00	0.00
				6201287.53	2329170.23	5.00	0.00

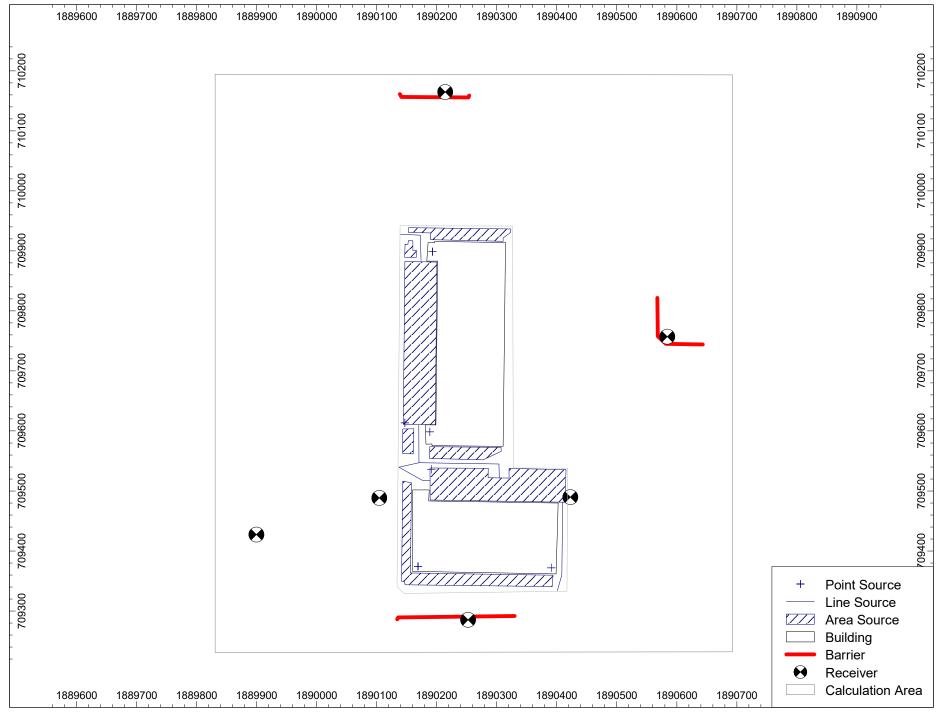
Barrier(s)

Name	М.	ID	Abso	rption	Z-Ext.	Canti	ilever	F	leią	ght		Coordinat	es	
			left	right		horz.	vert.	Begin		End	х	У	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6201227.36	2327054.24	6.00	0.00
											6201232.57	2327064.65	6.00	0.00
											6201869.29	2327072.47	6.00	0.00
BARRIERS		BARRIERS00002						6.00	а		6202897.62	2328556.52	6.00	0.00
											6202696.23	2328560.68	6.00	0.00
											6202652.48	2328600.96	6.00	0.00
											6202649.70	2328811.38	6.00	0.00
BARRIERS		BARRIERS00003						6.00	а		6201242.62	2329925.82	6.00	0.00
											6201250.43	2329909.67	6.00	0.00
											6201617.09	2329907.07	6.00	0.00
											6201621.26	2329917.49	6.00	0.00

Building(s)

Name	М.	ID	RB	Residents	Absorption	Height	:		Coordinat	es	
						Begin		х	у	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	х	0		43.00	а	6201819.50	2329114.28	43.00	0.00
								6201806.63	2327999.62	43.00	0.00
								6201418.27	2328003.91	43.00	0.0
								6201417.19	2328012.50	43.00	0.0
								6201385.01	2328011.42	43.00	0.0
								6201380.72	2328117.63	43.00	0.0
								6201438.65	2328116.56	43.00	0.0
								6201448.31	2329012.36	43.00	0.0
								6201389.30	2329012.36	43.00	0.0
								6201395.74	2329113.20	43.00	0.0
								6201431.14	2329113.20	43.00	0.0
								6201431.14	2329119.64	43.00	0.0
BUILDING		BUILDING00002	х	0		43.00	а	6201400.03	2327701.38	43.00	0.0

Name	M.	ID	RB	Residents	Absorption	Height		Coordinat	es	
						Begin	x	у	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)
							6202107.02	2327689.58	43.00	0.00
							6202096.29	2327302.29	43.00	0.00
							6201310.99	2327316.24	43.00	0.00
							6201310.99	2327761.46	43.00	0.00
							6201402.18	2327761.46	43.00	0.00



Noise Source		Distance to Receiver Location (Feet)											
Noise Source	R1	R2	R3	R4	R5	R6							
Cold Storage Loading Dock Activity	932'	902'	15'	651'	982'	278'							
Entry Gate & Truck Movements	800'	1,104'	51'	512'	862'	198'							
Roof-Top Air Conditioning Units	875'	1,398'	414'	400'	900'	454'							
Parking Lot Vehicle Movements	744'	1,103'	437'	187'	797'	126'							
Trash Enclosure Activity	1,822'	1,480'	775'	847'	1,020'	324'							

Appendix 9.2 - Distance from Noise Source to Receiver

¹ See Exhibit 8-A for the receiver locations







APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS



12980

CadnaA Noise Prediction Model: 12980_03 Construction.cna Date: 18.04.20 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Valı	ue		Land	Use	Height	:	C	Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
RECEIVERS		R1	66.5	66.5	73.2	70.0	65.0	0.0				5.00	а	6201490.04	2329937.01	5.00	
RECEIVERS		R2	68.1	68.1	74.8	70.0	65.0	0.0				5.00	а	6202703.83	2328599.95	5.00	
RECEIVERS		R3	77.2	77.2	83.9	70.0	65.0	0.0				5.00	а	6202174.11	2327722.48	5.00	
RECEIVERS		R4	73.1	73.1	79.8	70.0	65.0	0.0				5.00	а	6201615.15	2327051.40	5.00	
RECEIVERS		R5	67.9	67.9	74.6	70.0	65.0	0.0				5.00	а	6200457.23	2327517.52	5.00	
RECEIVERS		R6	74.6	74.6	81.2	70.0	65.0	0.0				5.00	а	6201129.69	2327718.05	5.00	

Area Source(s)

ID	R	esult. PW	/L	Re	esult. PW	L''	Lw	/ Li	Op	erating Ti	me	M	oving Pt. S	Src	Height
	Day	Evening	Night	Day	Evening	Night	Type	Value	Day	Special	Night		Number		
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	Day Evening Night		Night	(ft)
SITEBOUNDARY00001	126.6	126.6	126.6	75.3	75.3	75.3	Lw"	75.3							8

Name	ł	lei	ght			Coordinat	es	
	Begin		End		х	У	z	Ground
	(ft) (ft)		(ft)	(ft)	(ft)	(ft)		
SITEBOUNDARY	8.00	а			6201857.57	2329203.75	8.00	0.00
					6201862.24	2327881.31	8.00	0.00
					6202160.19	2327880.72	8.00	0.00
					6202155.08	2327207.64	8.00	0.00
					6201264.62	2327195.47	8.00	0.00
					6201226.70	2327233.56	8.00	0.00
					6201242.76	2329205.84	8.00	0.00





April 18, 2020

SUBJECT: FONTANA FOOTHILLS COMMERCE CENTER NOISE IMPACT ANALYSIS RESPONSE TO COMMENTS LETTER

Urban Crossroads, Inc. is pleased to submit this Response to Comments for the Fontana Foothills Commerce Center ("Project"), which is in the City of Fontana. This letter has been prepared in response to the April 7nd, 2020 comments prepared by Michael Baker on the March 3, 2020 *Fontana Foothills Commerce Center Noise Impact Analysis* ("NIA") prepared by Urban Crossroads, Inc.

RESPONSE 1: P18

Reference to Municipal Code Section 30-259 has been revised to correctly refence Section 30-543.

RESPONSE 2: P18

Reference to Municipal Code Section 30-183 has been revised to correctly refence Section 30-543.

RESPONSE 3: P30

The traffic volumes shown on Table 6-1 have been updated for consistency with TIA and now show volumes in (1,000's).

RESPONSE 4: P31-33

The with Project traffic vehicle mix is needed to account for the number of actual vehicles since the traffic volumes provided in the *Traffic Impact Analysis* are expressed as passenger car equivalents (PCE) and artificially overstate the actual number of vehicle and truck trips. Standard traffic engineering practice still requires the use of PCE's which convert trucks into passenger cars. This approach increases the traffic volumes in an effort to account for the truck impacts on level of service. However, while this legacy approach may be useful for traffic impact analysis purposes, it does not adequately account for the noise level impacts associated with heavy trucks. The use of PCE in the traffic study is consistent with industry practice and should be included in the TIA, and the use of actual vehicles is appropriate for use in the Noise Study. Additional text has been added to the report to reflect the comment.

RESPONSE 5: P43

Rounding has been added to the formulas and these tables have been corrected.

RESPONSE 6: P47

A review of the parcel boundaries shows that the primary residential structure at 11216 Sierra Avenue is located 200 feet east of the Project site. The secondary structure is located 15 feet east of the Project site. Receiver R3 has been updated to reflect this distance.

Mr. Rob Gonzalez Riverside County Planning Department April 18, 2020 Page 2 of 2

RESPONSE 7: P52

Table 9-2 has been modified in response to this comment.

RESPONSE 8: P54

The operational noise analysis is based on the CadnaA noise prediction model that calculates the distances from each source to each receiver. With multiple point, area and line noise sources, a graphic showing the distances from each individual noise source will not fully describe the CadnaA noise prediction model inputs. In addition, to avoid confusion the noise study by design presents only one distance, the distance from the Project site boundary to the receiver location. However, in response to this comment we have added a table in Appendix 9.1 showing the distance from the nearest project operational noise source to each receiver locations. In addition, we have modified Exhibit 9-A to include the receivers and scaled representation of the CadnaA noise model to support manual calculations.

RESPONSE 9: P55

See response 8.

RESPONSE 10: P57

Tables 9-6 and 9-7 has been modified in response to this comment.

RESPONSE 11: P60

Exhibit 10-A has been revised in response to this comment.

RESPONSE 12: P62

Table 10-2 has been revised in response to this comment.

RESPONSE 13: P62

The distances have been updated in response to this comment.

RESPONSE 14: P63

Table 10-3 has been revised in response to this comment.



