ATTACHMENT A - EXHIBIT 1 - A

Appendix E - Noise Impact Analysis

Wildomar Walmart

NOISE IMPACT ANALYSIS

CITY OF WILDOMAR

PREPARED BY:

Bill Lawson, PE, INCE
blawson@urbanxroads.com
(949) 660-1994 x203

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating, Ventilation and Air-Conditioning
INCE	institute of Noise Control Engineering
Leq	Equivalent continuous (average) sound level
Lmax	Maximum level measured over the time interval
Lmin	Minimum level measured over the time interval
mph	Miles per hour
NLR	Noise Level Reduction
Project	Wildomar Walmart
RCNM	Roadway Construction Noise Model
REMEL	Reference Energy Mean Emission Level
STC	Sound Transmission Class
VdB	Vibration Decibels

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Wildomar Walmart ("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 traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational noise impacts and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Wildomar Walmart development is located south of Bundy Canyon Road and west of Monte Vista Drive in the City of Wildomar as shown on Exhibit 1-A. The Project site is currently vacant.

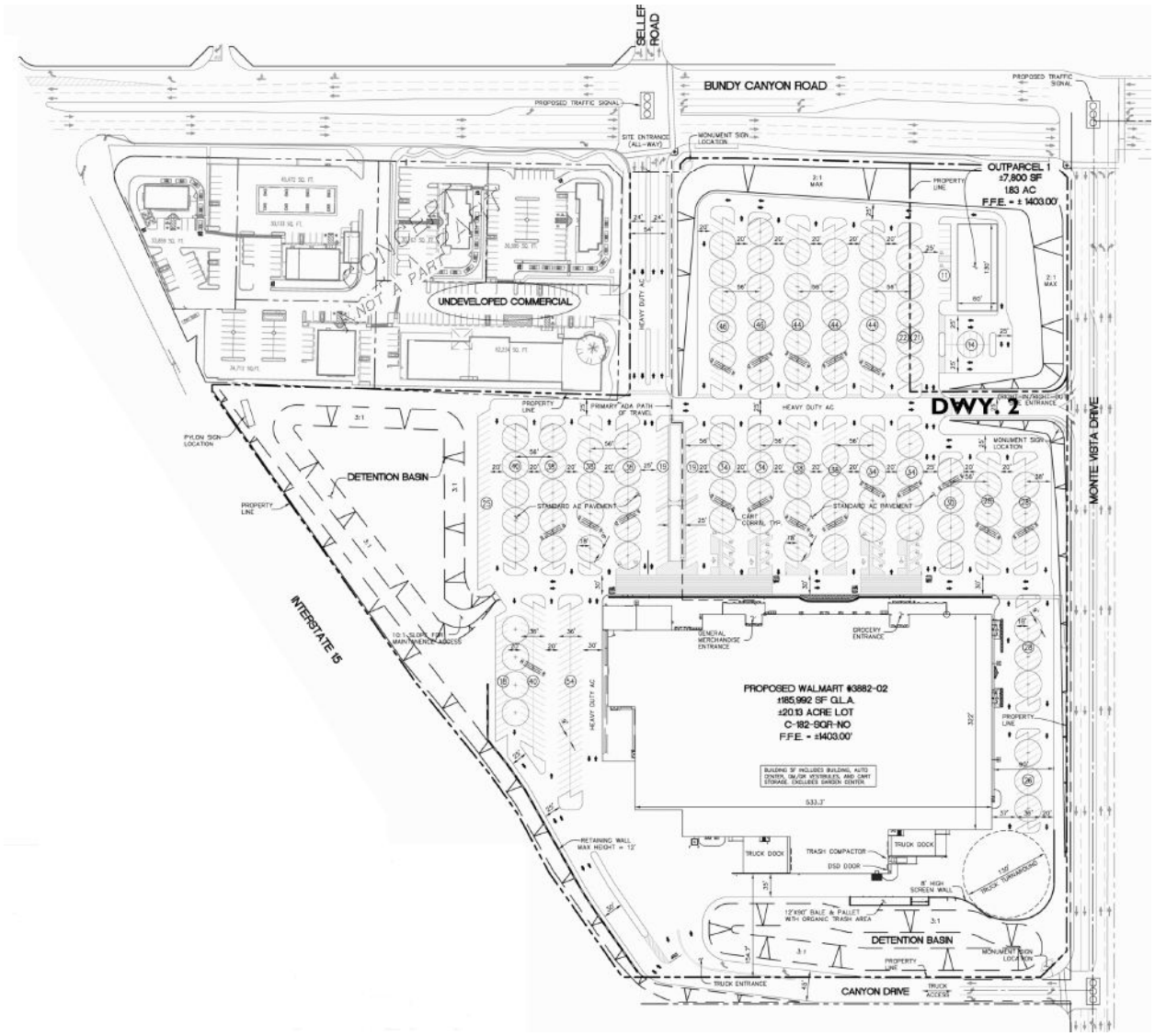
EXHIBIT 1-A: LOCATION MAP

1.2 PROJECT DESCRIPTION

The Project includes the development of approximately a 200,000 square foot Walmart, 3,900 square feet of specialty retail use and 3,900 square feet of fast-food with drive through window restaurant use as shown on Exhibit 1-B. A review of the preliminary site plan shows that the project will include five loading docks located at the rear of the Project to accommodate truck and vendor deliveries. A bale and pallet with organic waste storage area will be situated north

of the planned detention basin behind an 8-foot high screen wall. In addition, one screened trash compactor will be located near the loading docks. Finally, the Project will include high-efficiency HVAC rooftop units and air handling units that will be screened from the public right-of-way view using parapet walls. For the purposes of this analysis, it is assumed that the Project will be constructed and at full occupancy by 2016.

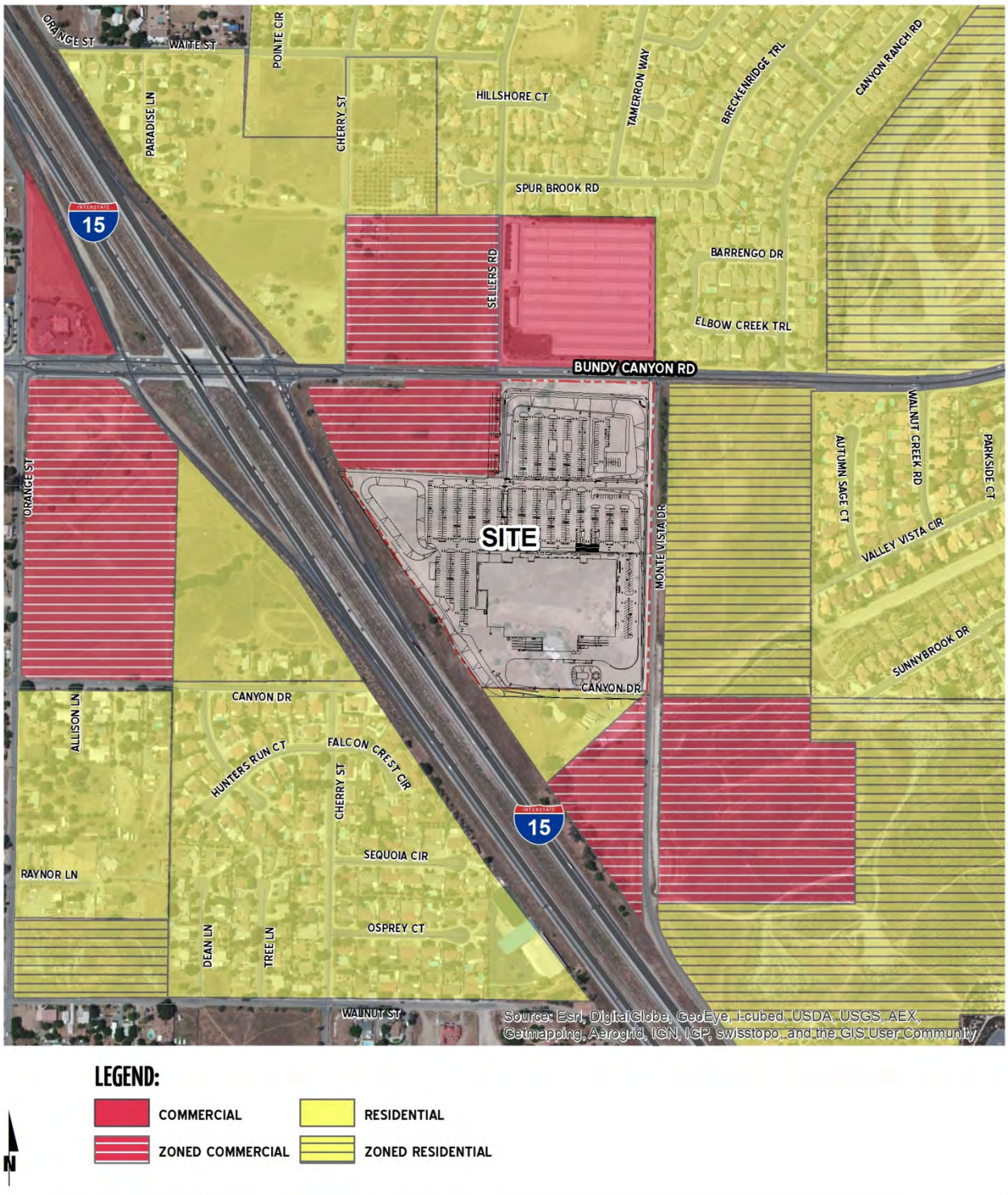
EXHIBIT 1-B: PRELIMINARY SITE PLAN



1.3 STUDY AREA

The project site is located within area developed mostly with residential land uses as shown on Exhibit 1-C. This includes the neighboring sensitive receptors located south of the project site, east of the of the project site across Monte Vista Drive and north of the project site across Bundy Canyon Road.

EXHIBIT 1-C: EXISTING LAND USES



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2 FUNDAMENTALS

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

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

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

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud.(1) 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.(2) 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 (Leq). 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 (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than the 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 twenty-four 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 Leq sound levels in the evening from 7 p.m. to 10 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10 p.m. and 7 a.m. These 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 particular time, but rather represents the total sound exposure. The City of Wildomar 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 manner in which noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

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

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor 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 receptor, 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 receptor 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.

2.3.3 ATMOSPHERIC EFFECTS

Receptors 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 ft) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. 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 resident. 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.

2.4 TRAFFIC NOISE PREDICTION

Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway. According to the *Highway Traffic Noise Analysis and Abatement Policy and Guidance,* provided by the Federal Highway Administration (FHWA), the level of traffic noise depends on three primary factors: the volume of the traffic, the speed of the traffic, and the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks.(3) A doubling of the traffic volume, assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase.

2.5 NOISE CONTROL

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

2.6 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. 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. (3)

2.7 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. (4)

2.8 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon each individual'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. (5) 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. (5)

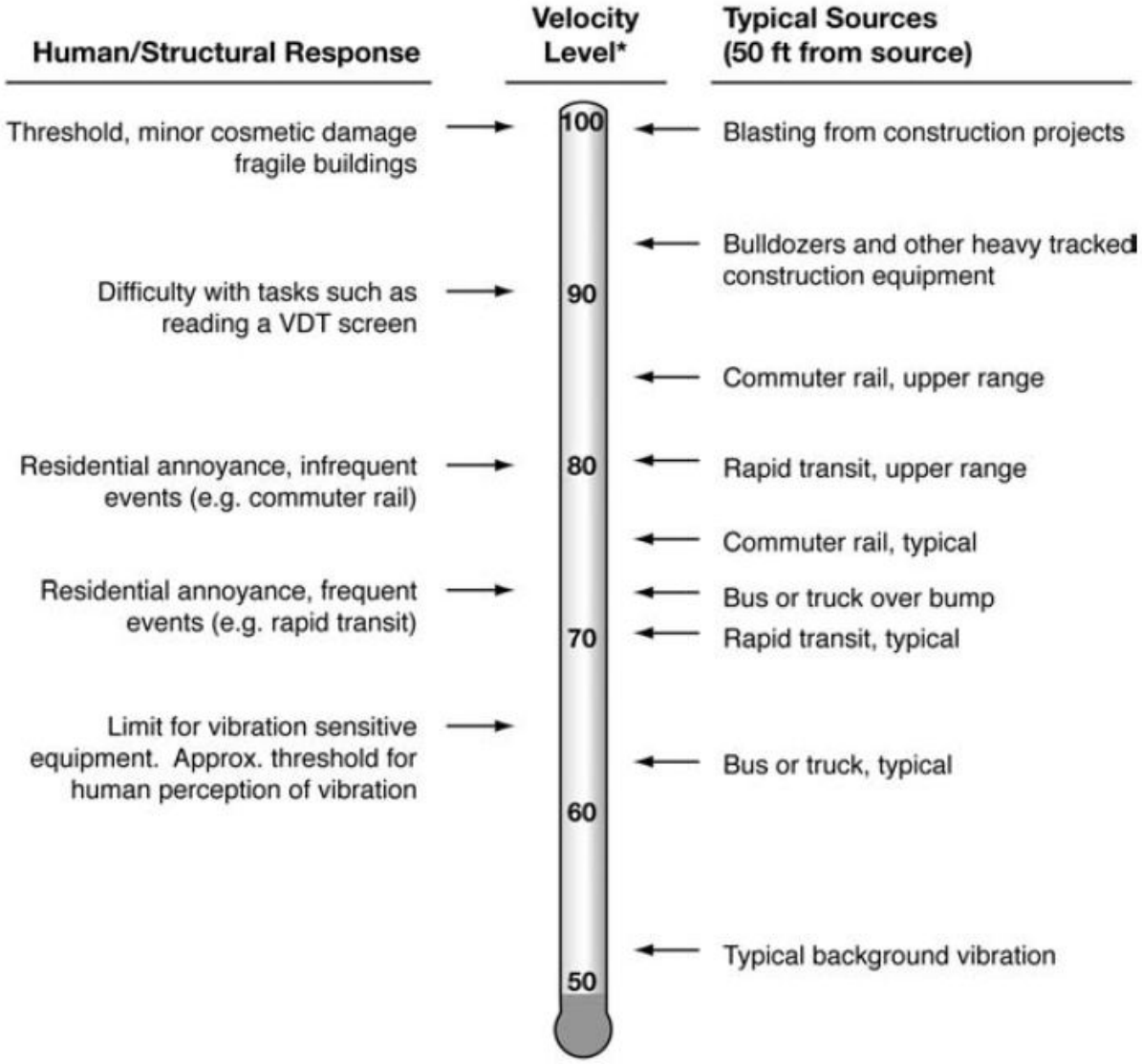
Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered "barely perceptible," and changes of 5 dBA are considered "readily perceptible." (3)

2.9 VIBRATION

According to the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment (6), 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. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts are generally associated with activities such as train operations, construction and heavy truck movements.

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-B illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-B: 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

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 fairly 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 according to guidelines adopted by the Governor's Office of Planning and Research. (7) 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 BUILDING CODE

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

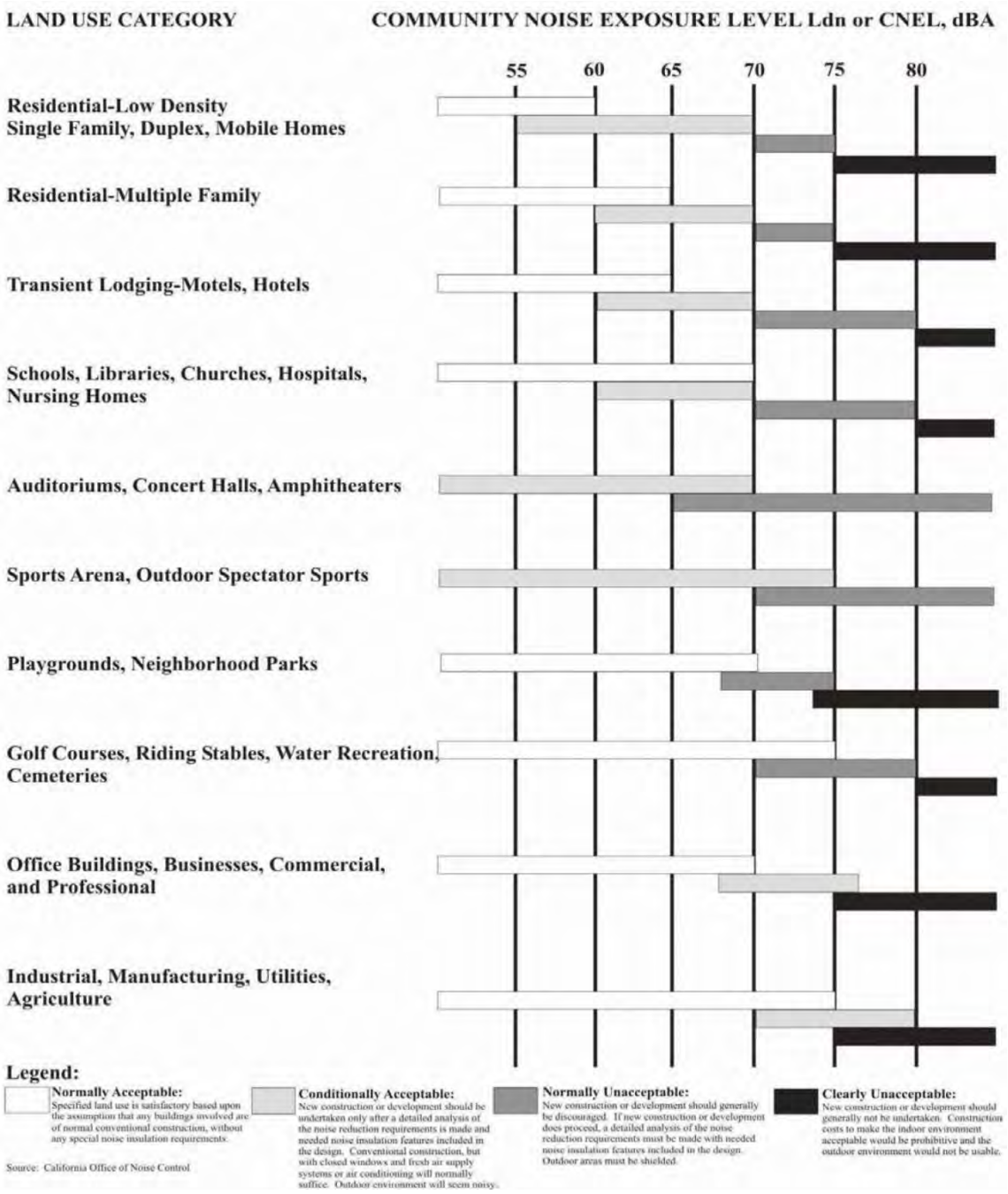
3.3 CITY OF WILDOMAR NOISE ELEMENT

The City of Wildomar incorporated from the County of Riverside on July 1, 2008. Although the Wildomar Walmart project is located in the incorporated City of Wildomar, the City has adopted the Riverside County General Plan. The County of Riverside Noise Element (8) identifies several policies to minimize the impacts of excessive noise levels throughout the community, and establishes noise level requirements for all and land uses. The County of Riverside Noise Element is included in Appendix 3.1.

3.3.1 LAND USE COMPATIBILITY

The policies included in the General Plan Noise Element consider land use compatibility and identify exterior noise level compatibility standards for transportation related noise. The Land Use Compatibility for Community Noise Exposure matrix shown on Exhibit 3-A provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels.

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE



The Land Use Compatibility for Community Noise Exposure matrix describes categories of compatibility and not specific noise standards. The existing noise level measurements collected near the project site (see Table 5-1) suggest that the proposed Wildomar Walmart land use is considered *normally acceptable* with unmitigated exterior levels of less than 70 dBA CNEL

For the residential land uses located near the project site, a community noise exposure level of less 60 dBA CNEL is considered *normally acceptable*, with *conditionally acceptable* exterior noise levels approaching 70 dBA CNEL, *normally unacceptable* noise levels ranging from 70 to 75 dBA CNEL and noise levels above 75 dBA considered as *Clearly Unacceptable.* For noise levels that are considered *normally unacceptable*, the General Plan Land Use Compatibility for Community Noise Exposure suggests that *new development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with the needed noise insulation features included in the design. Outdoor areas must be shielded.*

3.4 CITY OF WILDOMAR NOISE ORDINANCE

The most effective method to control community noise impacts from non-transportation stationary noise sources (such as loading docks, roof-top air condenser units, shopping cart carousels, parking lot, trash compactors and drive-thru speakerphones) is through the application of a noise control ordinance. To analyze noise impacts originating from a designated location or private property such as the Project site, area source (stationary source) noise such as the construction activities are evaluated against standards established under the City's Municipal Code (9). The City of Wildomar Noise Ordinance is included in Appendix 3.2.

3.4.1 OPERATIONAL NOISE STANDARDS

The City of Wildomar Noise Ordinance included the Municipal Code (Chapter 9.48) establishes the maximum permissible noise level that may intrude into a neighbor's property. The Noise Ordinance (Section 9.48.040) establishes the exterior noise level criteria for residential properties affected by operational (stationary) noise sources. For residential properties the exterior noise level shall not exceed 55 dBA Leq during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA Leq during the nighttime hours (10:00 p.m. to 7:00 a.m.)

3.4.2 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed project, the City has established limits to the hours of operation. Section 9.48.020 of the City's Noise Ordinance indicates that noise sources associated with private construction projects located within one-quarter of a mile or more from an inhabited dwelling, are exempted from the provisions of the noise ordinance. The exemption requires that said activities do not occur between the hours of six p.m. to six a.m. during the month of June through September, and between the hours of six p.m. and seven a.m. during the months of October through May. The City of Wildomar has not identified or adopted any specific construction noise standards to assess the direct project construction noise level impacts. For the purpose of this analysis, construction noise levels will be evaluated against the (operational) stationary source standards established under the City's

Municipal Code (Section 9.48.040) that establishes the exterior noise level criteria for residential properties. For residential properties the exterior noise level shall not exceed 55 dBA Leq during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA Leq during the nighttime hours (10:00 p.m. to 7:00 a.m.)

3.5 VIBRATION STANDARDS

The City of Wildomar has not identified or adopted vibration standards. However, the United States Department of Transportation Federal Transit Administration (FTA) provides guidelines (6) for maximum-acceptable vibration criteria for different types of land uses. These guidelines allow 80 VdB for residential uses and buildings where people normally sleep.

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. While not enforceable regulations within the City of Wildomar, the FTA guidelines of 80 VdB for sensitive land uses provide the basis for determining the relative significance of potential Project related vibration impacts.

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. For the purposes of this report, impacts would be potentially significant if the Project is determined to result in or cause:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- A substantial permanent increase in ambient noise levels in the Project vicinity above existing levels without the proposed Project; or
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above noise levels existing without the proposed Project.

While the CEQA Guidelines and the City of Wildomar 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 under the first threshold, they do not define the levels at which increases are considered substantial for use under the second, third and fourth threshold. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels and the location of noise-sensitive receptors in order to determine if a noise increase represents a significant adverse environmental impact.

4.1 DIRECT PROJECT IMPACTS

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development:

- If project related operational or construction (stationary source) activities exceed the maximum noise levels of 55 dBA Leq during daytime hours (7:00 a.m. to 10:00 p.m.) or exceed 45 dBA Leq during the nighttime hours (10:00 p.m. to 7:00 a.m. (City of Wildomar Noise Ordinance Section 9.48.040).
- If project-related construction activities occur on any weekday between the hours of six p.m. to six a.m. during the month of June through September, and between the hours of six p.m. and seven a.m. during the months of October through May.
- If short-term project generated construction source vibration levels could exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) at noise sensitive receiver locations.

4.2 CUMULATIVE PROJECT IMPACTS

According to the U.S. Environmental Protection Agency (EPA) (10), cumulative impacts represent the combined incremental effects of human activities that accumulate over time. While the incremental impacts may be insignificant by themselves, the combined affect may result in a significant impact. The level of significance attributed to a cumulative project noise impact is based on a comparison of the noise levels with and without the project. The

significance of cumulative noise impacts varies depending on the condition of the environment and the project related noise level increases. For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increase the noise levels, an impact may occur even though the noise criteria might not be exceeded. Therefore, for the purpose of this analysis, a "readily perceptible" 5 dBA or greater project related noise level increase is considered a significant impact.

According to the EPA (2), in areas where the without project noise levels range from 60 to 65 dBA a 3 dBA "barely perceptible" noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact since it likely contributes to an existing noise deficiency. Table 4.1 below provides a summary of the cumulative noise impact significance criteria.

TABLE 4-1: SIGNIFICANCE OF CUMULATIVE NOISE IMPACTS

Without Project Noise Level (CNEL)	Project Related Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Based on the Community Response to Noise Surveys contained in the U.S. Environmental Protection Agency Office of Noise Abatement and Control, Noise Effects Handbook-A Desk Reference to Health and Welfare Effect of Noise, October 1979 (revised July 1981).

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, four long-term noise level measurements were taken at receptor locations in the Project study area. The noise receptor 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. The noise level measurements were recorded by Urban Crossroads, Inc. on Wednesday, January 22, 2014. Appendix 5.1 includes study area photos.

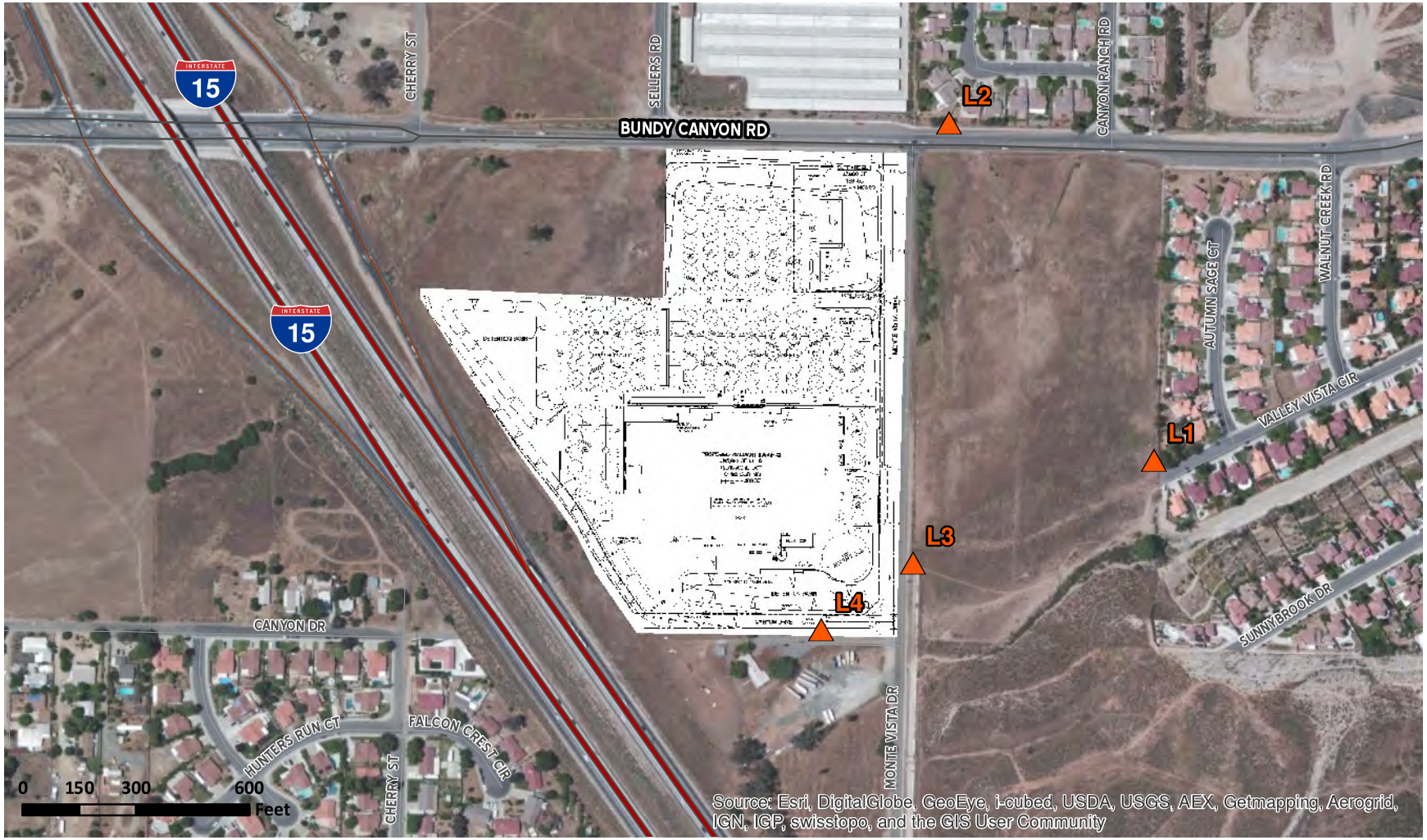
5.1 MEASUREMENT PROCEDURE AND CRITERIA

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 meets American National Standards Institute (ANSI) specifications for sound level meters (Standard S1.4-1983) (11).

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned at the nearest noise sensitive receptor locations to assess the existing ambient hourly noise levels surrounding the Project site. To describe the existing noise environment, it is not necessary to collect measurements at each individual building or residence, because each receptor measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receptor shares similar shielding, terrain, and geometric relationship to the reference noise source. While receptors represent a location of noise sensitive areas, receivers represent noise modeling locations used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receptor locations allows for a comparison of the before and after project noise levels and is necessary to assess the potential cumulative noise impacts.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



N

LEGEND:

▲ **Noise Measurement Locations**

08809_Measurements.mxd

URBAN CROSSROADS

5.3 NOISE MEASUREMENT RESULTS

To describe the existing ambient noise environment, the noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 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:

- Located approximately 760 feet east of the planned Wildomar Walmart, location L1 represents the off-site unmitigated exterior noise levels at the backyard noise barrier for the residential homes on Autumn Sage Court. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 47.4 to 60.4 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 53.3 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 48.6 to 60.0 dBA Leq producing an energy (logarithmic) average nighttime noise level of 55.5 dBA Leq. A review of the 24-hour Community Noise Equivalent Level (CNEL) indicates that the overall exterior noise level is 61.7 dBA CNEL which is considered *conditionally acceptable* for single family residential land use according to the Land Use Compatibility for Community Noise Exposure. (8)
- Location L2 represents the unmitigated noise levels at a distance of roughly 320 feet northeast of the project site across Bundy Canyon Road. The noise level measurements collected within the landscaped parkway of Bundy Canyon Road show an overall 24-hour unmitigated exterior noise level of 76.7 dBA CNEL. The hourly noise levels measured at Location L2 ranged from 68.7 to 74.4 dBA Leq during the daytime hours and from 61.5 to 74.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 72.0 dBA Leq with an average nighttime noise level of 69.6 dBA Leq.
- Location L3 represents the vacant lot located approximately 100 feet east of the planned Walmart loading docks. The 24-hour Community Noise Equivalent Level (CNEL) indicates that the overall unmitigated exterior noise level is 71.1 dBA CNEL. At Location L3 the background ambient noise levels ranged from 62.9 to 70.6 dBA Leq during the daytime hours to levels of 55.3 to 68.9 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 66.0 dBA Leq with an average nighttime noise level of 64.0 dBA Leq.
- Located approximately 70 feet south of the planned Walmart loading docks behind the 8-foot high screen wall, location L4 represents the existing residential homes across Canyon Drive. The existing noise levels at this location are heavily influenced by traffic noise from the nearby I-15 Freeway creating a *normally unacceptable* 24-hour CNEL of 70.1 dBA. The hourly noise levels suggest that the daytime noise levels range from 54.5 to 63.8 dBA Leq, with nighttime noise levels ranging from 56.2 to 67.0 dBA Leq. The energy (logarithmic) average daytime noise level was calculated at 60.8 dBA Leq with an average nighttime noise level of 63.7 dBA Leq.

TABLE 5-1: LONG-TERM AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Distance from Project Site (Feet)	Description	Hourly Noise Level (Leq dBA)[2]		CNEL
			Daytime (7am to 10pm)	Nighttime (10pm to 7am)	
L1	760'	East of the project site near the residential community located on Autumn Sage Court	53.3	55.5	61.7
L2	320'	North of Bundy Canyon Road near the fence line for homes on Elbow Creek Trail	72.0	69.6	76.7
L3	100'	East of the project site across Monte Vista Drive	66.0	64.0	71.1
L4	70'	East of the I-15 Freeway south of the project site across Canyon Drive	60.8	63.7	70.1

[1] See Exhibit 5-A for the location of the noise level measurement locations.
[2] Energy (logarithmic) average hourly levels. The long-term measurements printouts are included in Appendix 5.1.

6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108.(12) 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.(13) 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 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 25 study area roadway segments, the functional roadway classifications according to the General Plan Circulation Element, the number of lanes and the vehicle speeds. For the purpose of this analysis, soft site conditions were used to analyze the traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.

The Existing, Year 2016 and Year 2035 average daily traffic volumes used for this study are presented in Table 6-2 were provided by the *Wildomar Walmart Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (14) Table 6-3 presents the hourly traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Vehicle Speed (MPH)
1	Grand Av.	n/o Corydon St.	Secondary	40
2	Grand Av.	s/o Corydon St.	Secondary	40
3	Mission Tr.	n/o Corydon St.	Arterial	45
4	Mission Tr.	n/o Bundy Cyn. Rd.	Arterial	45
5	Mission Tr.	s/o Bundy Cyn. Rd.	Arterial	45
6	Palomar St.	n/o Central St.	Arterial	45
7	Palomar St.	s/o Central St.	Arterial	45
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	Secondary	40
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	Arterial	45
10	Corydon St.	e/o Grand Av.	Arterial	45
11	Corydon St.	w/o Mission Tr.	Arterial	45
12	Bundy Cyn. Rd.	e/o Mission Tr.	Urban Arterial	50
13	Bundy Cyn. Rd.	e/o Orchard St.	Urban Arterial	50
14	Bundy Cyn. Rd.	e/o Almond St.	Urban Arterial	50
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	Urban Arterial	50
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	Urban Arterial	50
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	Urban Arterial	50
18	Bundy Cyn. Rd.	w/o The Farm Rd.	Urban Arterial	50
19	Bundy Cyn. Rd.	e/o The Farm Rd.	Urban Arterial	50
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	Urban Arterial	50
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	Urban Arterial	50
22	Central St.	w/o Palomar St.	Secondary	40
23	Central St.	e/o Palomar St.	Arterial	45
24	Baxter Rd.	w/o I-15 Fwy.	Arterial	45
25	Baxter Rd.	e/o I-15 Fwy.	Secondary	40

[1] Road Classifications based upon the General Plan Circulation Element.

TABLE 6.2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic (1,000's)[1]					
			Existing		Year 2016		Year 2035	
			No Project	With Project	No Project	With Project	No Project	With Project
1	Grand Av.	n/o Corydon St.	16.3	16.6	18.3	18.6	25.7	26.0
2	Grand Av.	s/o Corydon St.	8.2	8.4	9.5	9.7	10.8	11.0
3	Mission Tr.	n/o Corydon St.	15.8	16.2	22.4	22.8	34.6	35.0
4	Mission Tr.	n/o Bundy Cyn. Rd.	12.4	14.2	19.1	20.9	26.2	28.0
5	Mission Tr.	s/o Bundy Cyn. Rd.	7.6	7.9	13.2	13.5	21.7	22.0
6	Palomar St.	n/o Central St.	10.2	10.4	15.2	15.4	33.8	34.0
7	Palomar St.	s/o Central St.	7.6	7.8	12.6	12.8	30.8	31.0
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	1.4	3.6	3.9	6.1	13.9	16.0
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	7.0	7.4	16.4	16.8	17.6	18.0
10	Corydon St.	e/o Grand Av.	9.7	10.2	10.6	11.1	16.5	17.0
11	Corydon St.	w/o Mission Tr.	15.4	16.5	16.8	17.9	19.7	20.8
12	Bundy Cyn. Rd.	e/o Mission Tr.	9.5	11.8	11.5	13.6	41.9	44.0
13	Bundy Cyn. Rd.	e/o Orchard St.	10.2	12.7	19.5	22.0	33.5	36.0
14	Bundy Cyn. Rd.	e/o Almond St.	10.8	13.7	21.4	24.2	37.2	40.0
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	19.9	23.6	31.9	35.6	49.3	53.0
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	21.5	26.2	33.7	38.4	39.3	44.0
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	18.5	20.2	29.2	30.9	35.4	37.0
18	Bundy Cyn. Rd.	w/o The Farm Rd.	15.9	17.3	32.4	33.8	32.4	33.8
19	Bundy Cyn. Rd.	e/o The Farm Rd.	14.7	15.9	31.1	32.3	31.1	32.3
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	12.9	13.7	28.2	29.0	30.7	31.5
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	11.4	11.8	28.3	28.7	37.7	38.1
22	Central St.	w/o Palomar St.	8.0	8.4	9.2	9.6	9.6	10.0
23	Central St.	e/o Palomar St.	11.2	12.1	12.8	13.6	16.2	17.0
24	Baxter Rd.	w/o I-15 Fwy.	12.8	14.1	19.2	20.4	30.8	32.0
25	Baxter Rd.	e/o I-15 Fwy.	4.6	6.6	10.0	12.0	20.0	22.0

Source: Wildomar Walmart Traffic Impact Analysis, Urban Crossroads, Inc. December 2013.

TABLE 6-3: VEHICLE MIX

Vehicle Type	Daytime (7 am - 7 pm)	Evening (7 pm - 10 pm)	Nighttime (10 pm - 7 am)	Total % Traffic Flow
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

6.3 VIBRATION ASSESSMENT

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

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:

$$L_{VdB}(D) = L_{VdB}(25\text{ ft}) - 30\log(D/25)$$

TABLE 6-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

[1] Source::Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

7 TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Wildomar Walmart Traffic Impact Analysis*. (14) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Traffic noise contour boundaries are typically calculated at distances of 100 feet from a roadway centerline. Noise contours were developed for the following traffic scenarios:

- Existing Without / With Project: This scenario refers to the existing present-day noise conditions, without the Project and with the construction of the proposed Project.
- Year (2016) Without / With Project: This scenario refers to the background noise conditions at future Year 2016 with and without the proposed Project. This scenario corresponds to 2016 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.
- Year (2035) Without / With Project: This scenario refers to the background noise conditions at future Year 2035 with and without the proposed Project. This scenario corresponds to 2035 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

7.1 TRAFFIC NOISE CONTOURS

To quantify the Project's traffic noise impacts on the surrounding areas, the changes in traffic noise levels on 25 roadway segments surrounding the Project were calculated based on the changes in the average daily traffic volumes. The noise contours were used to assess the Project's incremental traffic-related cumulative noise impacts at land uses adjacent to roadways conveying Project traffic. Based on the cumulative noise impact significance criteria described in Section 4.2, a significant off-site traffic noise level impact occurs when, the without project noise levels:

- are less than 60 dBA and the project creates a “readily perceptible” 5 dBA or greater project related noise level increase, or:
- range from 60 to 65 dBA and the project creates a “barely perceptible” 3 dBA or greater project noise level increase, or;
- already exceed 65 dBA, and the project creates a community noise level impact of greater than 1.5 dBA.

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, 60 and 55 dBA noise levels. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise along area roadways, they appropriately do not reflect noise contribution from the surrounding commercial and industrial uses or airport activities within the Project study area. Tables 7-1 through 7-6 presents a summary of the unmitigated exterior traffic noise levels for the 25 study area roadway segments analyzed from the without Project to the with Project conditions in each of three timeframes: Existing; Year 2016 and Year 2035 conditions. Appendix 7.1 includes a summary of the traffic noise level contours for each of the six traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Grand Av.	n/o Corydon St.	62.9	RW	73	156	337
2	Grand Av.	s/o Corydon St.	59.9	RW	RW	99	213
3	Mission Tr.	n/o Corydon St.	64.1	RW	87	188	406
4	Mission Tr.	n/o Bundy Cyn. Rd.	63.1	RW	74	160	345
5	Mission Tr.	s/o Bundy Cyn. Rd.	60.9	RW	54	116	249
6	Palomar St.	n/o Central St.	62.2	RW	65	141	303
7	Palomar St.	s/o Central St.	60.9	RW	54	116	249
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	52.2	RW	RW	RW	66
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	60.6	RW	51	110	236
10	Corydon St.	e/o Grand Av.	62.0	RW	63	136	293
11	Corydon St.	w/o Mission Tr.	64.0	RW	86	185	399
12	Bundy Cyn. Rd.	e/o Mission Tr.	63.2	RW	75	162	350
13	Bundy Cyn. Rd.	e/o Orchard St.	63.5	RW	79	170	367
14	Bundy Cyn. Rd.	e/o Almond St.	63.7	RW	82	177	381
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	66.4	57	123	266	573
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	66.7	60	130	280	603
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	66.1	55	118	253	546
18	Bundy Cyn. Rd.	w/o The Farm Rd.	65.4	RW	106	229	493
19	Bundy Cyn. Rd.	e/o The Farm Rd.	65.1	RW	101	217	468
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	64.5	RW	92	199	429
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	64.0	RW	85	183	395
22	Central St.	w/o Palomar St.	59.8	RW	RW	97	209
23	Central St.	e/o Palomar St.	62.6	RW	70	150	323
24	Baxter Rd.	w/o I-15 Fwy.	63.2	RW	76	164	353
25	Baxter Rd.	e/o I-15 Fwy.	57.4	RW	RW	67	145

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

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Grand Av.	n/o Corydon St.	63.0	RW	73	158	341
2	Grand Av.	s/o Corydon St.	60.0	RW	RW	100	216
3	Mission Tr.	n/o Corydon St.	64.2	RW	89	192	413
4	Mission Tr.	n/o Bundy Cyn. Rd.	63.7	RW	81	175	378
5	Mission Tr.	s/o Bundy Cyn. Rd.	61.1	RW	55	119	256
6	Palomar St.	n/o Central St.	62.3	RW	66	143	307
7	Palomar St.	s/o Central St.	61.1	RW	55	118	254
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	56.3	RW	RW	57	123
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	60.8	RW	53	114	245
10	Corydon St.	e/o Grand Av.	62.2	RW	65	141	303
11	Corydon St.	w/o Mission Tr.	64.3	RW	90	194	418
12	Bundy Cyn. Rd.	e/o Mission Tr.	64.1	RW	87	188	404
13	Bundy Cyn. Rd.	e/o Orchard St.	64.4	RW	92	197	425
14	Bundy Cyn. Rd.	e/o Almond St.	64.8	RW	96	207	447
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	67.1	64	138	298	642
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	67.6	69	148	319	688
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	66.4	58	125	269	579
18	Bundy Cyn. Rd.	w/o The Farm Rd.	65.8	52	112	242	522
19	Bundy Cyn. Rd.	e/o The Farm Rd.	65.4	RW	106	229	493
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	64.8	RW	96	207	447
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	64.1	RW	87	188	404
22	Central St.	w/o Palomar St.	60.0	RW	RW	100	216
23	Central St.	e/o Palomar St.	63.0	RW	73	158	340
24	Baxter Rd.	w/o I-15 Fwy.	63.6	RW	81	175	376
25	Baxter Rd.	e/o I-15 Fwy.	59.0	RW	RW	85	184

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

TABLE 7-3: YEAR 2016 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Grand Av.	n/o Corydon St.	63.4	RW	78	169	364
2	Grand Av.	s/o Corydon St.	60.6	RW	51	109	235
3	Mission Tr.	n/o Corydon St.	65.6	51	110	238	512
4	Mission Tr.	n/o Bundy Cyn. Rd.	65.0	RW	99	214	461
5	Mission Tr.	s/o Bundy Cyn. Rd.	63.3	RW	78	167	360
6	Palomar St.	n/o Central St.	64.0	RW	85	184	396
7	Palomar St.	s/o Central St.	63.1	RW	75	162	349
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	56.7	RW	RW	60	130
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	64.3	RW	90	193	416
10	Corydon St.	e/o Grand Av.	62.4	RW	67	144	311
11	Corydon St.	w/o Mission Tr.	64.4	RW	91	196	423
12	Bundy Cyn. Rd.	e/o Mission Tr.	64.0	RW	86	185	398
13	Bundy Cyn. Rd.	e/o Orchard St.	66.3	57	122	262	565
14	Bundy Cyn. Rd.	e/o Almond St.	66.7	60	130	279	601
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	68.4	78	169	364	785
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	68.7	81	175	378	814
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	68.0	74	159	343	740
18	Bundy Cyn. Rd.	w/o The Farm Rd.	68.5	79	171	368	793
19	Bundy Cyn. Rd.	e/o The Farm Rd.	68.3	77	166	358	772
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	67.9	72	156	336	723
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	67.9	72	156	336	725
22	Central St.	w/o Palomar St.	60.4	RW	50	107	230
23	Central St.	e/o Palomar St.	63.2	RW	76	164	353
24	Baxter Rd.	w/o I-15 Fwy.	65.0	RW	100	215	462
25	Baxter Rd.	e/o I-15 Fwy.	60.8	RW	52	113	243

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

TABLE 7-4: YEAR 2016 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Grand Av.	n/o Corydon St.	63.5	RW	79	171	368
2	Grand Av.	s/o Corydon St.	60.7	RW	51	111	238
3	Mission Tr.	n/o Corydon St.	65.7	52	112	241	518
4	Mission Tr.	n/o Bundy Cyn. Rd.	65.3	RW	105	227	489
5	Mission Tr.	s/o Bundy Cyn. Rd.	63.4	RW	79	170	366
6	Palomar St.	n/o Central St.	64.0	RW	86	185	399
7	Palomar St.	s/o Central St.	63.2	RW	76	164	353
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	58.6	RW	RW	81	175
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	64.4	RW	91	196	423
10	Corydon St.	e/o Grand Av.	62.6	RW	69	149	321
11	Corydon St.	w/o Mission Tr.	64.7	RW	95	205	441
12	Bundy Cyn. Rd.	e/o Mission Tr.	64.7	RW	96	206	445
13	Bundy Cyn. Rd.	e/o Orchard St.	66.8	61	132	284	613
14	Bundy Cyn. Rd.	e/o Almond St.	67.2	65	141	303	653
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	68.9	84	182	392	844
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	69.2	89	191	412	888
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	68.3	77	166	357	768
18	Bundy Cyn. Rd.	w/o The Farm Rd.	68.7	82	176	379	816
19	Bundy Cyn. Rd.	e/o The Farm Rd.	68.5	79	170	367	791
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	68.0	74	159	342	737
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	68.0	73	158	340	731
22	Central St.	w/o Palomar St.	60.6	RW	51	110	236
23	Central St.	e/o Palomar St.	63.5	RW	79	171	367
24	Baxter Rd.	w/o I-15 Fwy.	65.2	RW	104	223	481
25	Baxter Rd.	e/o I-15 Fwy.	61.6	RW	59	127	274

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

TABLE 7-5: YEAR 2035 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Grand Av.	n/o Corydon St.	64.9	RW	98	212	456
2	Grand Av.	s/o Corydon St.	61.1	RW	55	119	256
3	Mission Tr.	n/o Corydon St.	67.5	68	147	318	685
4	Mission Tr.	n/o Bundy Cyn. Rd.	66.3	57	123	264	569
5	Mission Tr.	s/o Bundy Cyn. Rd.	65.5	50	108	233	502
6	Palomar St.	n/o Central St.	67.4	67	145	313	674
7	Palomar St.	s/o Central St.	67.0	63	136	294	634
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	62.2	RW	65	140	303
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	64.6	RW	94	202	436
10	Corydon St.	e/o Grand Av.	64.3	RW	90	194	418
11	Corydon St.	w/o Mission Tr.	65.1	RW	101	218	470
12	Bundy Cyn. Rd.	e/o Mission Tr.	69.6	94	203	437	941
13	Bundy Cyn. Rd.	e/o Orchard St.	68.6	81	175	376	811
14	Bundy Cyn. Rd.	e/o Almond St.	69.1	87	187	404	870
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	70.3	105	226	487	1,049
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	69.3	90	194	419	902
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	68.9	84	181	390	841
18	Bundy Cyn. Rd.	w/o The Farm Rd.	68.5	79	171	368	793
19	Bundy Cyn. Rd.	e/o The Farm Rd.	68.3	77	166	358	772
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	68.3	77	165	355	765
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	69.1	88	189	407	877
22	Central St.	w/o Palomar St.	60.6	RW	51	110	236
23	Central St.	e/o Palomar St.	64.2	RW	89	192	413
24	Baxter Rd.	w/o I-15 Fwy.	67.0	63	136	294	634
25	Baxter Rd.	e/o I-15 Fwy.	63.8	RW	83	179	386

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

TABLE 7-6: YEAR 2035 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Grand Av.	n/o Corydon St.	64.9	RW	99	213	459
2	Grand Av.	s/o Corydon St.	61.2	RW	56	120	259
3	Mission Tr.	n/o Corydon St.	67.6	69	149	320	690
4	Mission Tr.	n/o Bundy Cyn. Rd.	66.6	59	128	276	595
5	Mission Tr.	s/o Bundy Cyn. Rd.	65.6	51	109	235	506
6	Palomar St.	n/o Central St.	67.5	68	146	314	677
7	Palomar St.	s/o Central St.	67.1	64	137	295	636
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	62.8	RW	72	154	332
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	64.7	RW	95	206	443
10	Corydon St.	e/o Grand Av.	64.4	RW	92	198	426
11	Corydon St.	w/o Mission Tr.	65.3	RW	105	226	488
12	Bundy Cyn. Rd.	e/o Mission Tr.	69.8	97	210	451	973
13	Bundy Cyn. Rd.	e/o Orchard St.	68.9	85	183	395	851
14	Bundy Cyn. Rd.	e/o Almond St.	69.4	91	197	424	913
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	70.6	110	237	511	1,101
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	69.8	97	210	451	973
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	69.1	87	187	402	866
18	Bundy Cyn. Rd.	w/o The Farm Rd.	68.7	82	176	379	816
19	Bundy Cyn. Rd.	e/o The Farm Rd.	68.5	79	170	367	791
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	68.4	78	168	361	778
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	69.2	88	190	410	883
22	Central St.	w/o Palomar St.	60.8	RW	52	113	243
23	Central St.	e/o Palomar St.	64.4	RW	92	198	426
24	Baxter Rd.	w/o I-15 Fwy.	67.2	65	140	302	650
25	Baxter Rd.	e/o I-15 Fwy.	64.2	RW	89	191	411

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

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-7 presents a comparison of the existing without and with Project conditions CNEL noise levels. From this we can see that the unmitigated exterior noise levels are expected to range from 52.2 to 66.7 dBA CNEL. On the other hand, existing with Project noise level contours are expected to range from 56.3 to 67.3 dBA CNEL. Overall the Project is expected to generate an unmitigated exterior noise level increase of up to 4.1 dBA CNEL in one location, Monte Verde Drive south of Bundy Canyon Road. A review of the data in Table 7-7 suggests that the Project's contribution to the existing noise level is generally less than 1.5 dBA CNEL. However, the segment of Monte Vista Drive south of Bundy Canyon Road is expected to experience a noise level increase of 4.1 dBA dBA CNEL. For existing conditions, this increase is considered less than

significant since the without Project noise levels are less than 60 dBA and the Project does not produce a "readily perceptible" 5 dBA or greater project related noise level increase.

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

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?[1]
			No Project	With Project	Project Addition	
1	Grand Av.	n/o Corydon St.	62.9	63.0	0.1	No
2	Grand Av.	s/o Corydon St.	59.9	60.0	0.1	No
3	Mission Tr.	n/o Corydon St.	64.1	64.2	0.1	No
4	Mission Tr.	n/o Bundy Cyn. Rd.	63.1	63.7	0.6	No
5	Mission Tr.	s/o Bundy Cyn. Rd.	60.9	61.1	0.2	No
6	Palomar St.	n/o Central St.	62.2	62.3	0.1	No
7	Palomar St.	s/o Central St.	60.9	61.1	0.2	No
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	52.2	56.3	4.1	No
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	60.6	60.8	0.2	No
10	Corydon St.	e/o Grand Av.	62.0	62.2	0.2	No
11	Corydon St.	w/o Mission Tr.	64.0	64.3	0.3	No
12	Bundy Cyn. Rd.	e/o Mission Tr.	63.2	64.1	0.9	No
13	Bundy Cyn. Rd.	e/o Orchard St.	63.5	64.4	0.9	No
14	Bundy Cyn. Rd.	e/o Almond St.	63.7	64.8	1.1	No
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	66.4	67.1	0.7	No
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	66.7	67.6	0.9	No
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	66.1	66.4	0.3	No
18	Bundy Cyn. Rd.	w/o The Farm Rd.	65.4	65.8	0.4	No
19	Bundy Cyn. Rd.	e/o The Farm Rd.	65.1	65.4	0.3	No
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	64.5	64.8	0.3	No
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	64.0	64.1	0.1	No
22	Central St.	w/o Palomar St.	59.8	60.0	0.2	No
23	Central St.	e/o Palomar St.	62.6	63.0	0.4	No
24	Baxter Rd.	w/o I-15 Fwy.	63.2	63.6	0.4	No
25	Baxter Rd.	e/o I-15 Fwy.	57.4	59.0	1.6	No

[1] Significance of Cumulative Impacts (Table 4-1).

7.3 YEAR 2016 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-8 presents a comparison of the Year 2016 without and with Project conditions CNEL noise levels. Table 7-3 shows that the unmitigated exterior noise levels are expected to range from 56.7 to 68.7 dBA CNEL. Table 7-4 presents the Year 2016 with Project conditions noise level contours that are expected to range from 58.6 to 69.2 dBA CNEL. As shown on Table 7-8 the Project is expected to generate an unmitigated exterior noise level increase of up to 1.9 dBA CNEL. Based on the cumulative noise impact significance criteria described in Section 4.2, the Project will create a less than significant off-site traffic noise level impact on the study area roadway segments for Year 2016 conditions.

TABLE 7-8: YEAR 2016 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?[1]
			No Project	With Project	Project Addition	
1	Grand Av.	n/o Corydon St.	63.4	63.5	0.1	No
2	Grand Av.	s/o Corydon St.	60.6	60.7	0.1	No
3	Mission Tr.	n/o Corydon St.	65.6	65.7	0.1	No
4	Mission Tr.	n/o Bundy Cyn. Rd.	65.0	65.3	0.3	No
5	Mission Tr.	s/o Bundy Cyn. Rd.	63.3	63.4	0.1	No
6	Palomar St.	n/o Central St.	64.0	64.0	0.0	No
7	Palomar St.	s/o Central St.	63.1	63.2	0.1	No
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	56.7	58.6	1.9	No
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	64.3	64.4	0.1	No
10	Corydon St.	e/o Grand Av.	62.4	62.6	0.2	No
11	Corydon St.	w/o Mission Tr.	64.4	64.7	0.3	No
12	Bundy Cyn. Rd.	e/o Mission Tr.	64.0	64.7	0.7	No
13	Bundy Cyn. Rd.	e/o Orchard St.	66.3	66.8	0.5	No
14	Bundy Cyn. Rd.	e/o Almond St.	66.7	67.2	0.5	No
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	68.4	68.9	0.5	No
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	68.7	69.2	0.5	No
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	68.0	68.3	0.3	No
18	Bundy Cyn. Rd.	w/o The Farm Rd.	68.5	68.7	0.2	No
19	Bundy Cyn. Rd.	e/o The Farm Rd.	68.3	68.5	0.2	No
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	67.9	68.0	0.1	No
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	67.9	68.0	0.1	No
22	Central St.	w/o Palomar St.	60.4	60.6	0.2	No
23	Central St.	e/o Palomar St.	63.2	63.5	0.3	No
24	Baxter Rd.	w/o I-15 Fwy.	65.0	65.2	0.2	No
25	Baxter Rd.	e/o I-15 Fwy.	60.8	61.6	0.8	No

[1] Significance of Cumulative Impacts (Table 4-1).

7.4 YEAR 2035 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-9 presents a comparison of the Year 2035 without and with Project conditions CNEL noise levels. Table 7-5 shows that the unmitigated exterior noise levels are expected to range from 60.6 to 70.3 dBA CNEL. Table 7-6 presents the Year 2035 with Project conditions noise level contours that are expected to range from 60.8 to 70.6 dBA CNEL. As shown on Table 7-9 the Project is expected to generate an unmitigated exterior noise level increase of up to 0.6 dBA CNEL. Based on the cumulative noise impact significance criteria described in Section 4.2, the Project will create a less than significant off-site traffic noise level impact on the study area roadway segments for Year 2035 conditions.

TABLE 7-9: YEAR 2035 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?[1]
			No Project	With Project	Project Addition	
1	Grand Av.	n/o Corydon St.	64.9	64.9	0.0	No
2	Grand Av.	s/o Corydon St.	61.1	61.2	0.1	No
3	Mission Tr.	n/o Corydon St.	67.5	67.6	0.1	No
4	Mission Tr.	n/o Bundy Cyn. Rd.	66.3	66.6	0.3	No
5	Mission Tr.	s/o Bundy Cyn. Rd.	65.5	65.6	0.1	No
6	Palomar St.	n/o Central St.	67.4	67.5	0.1	No
7	Palomar St.	s/o Central St.	67.0	67.1	0.1	No
8	Monte Vista Dr.	s/o Bundy Cyn. Rd.	62.2	62.8	0.6	No
9	Murrieta Rd.	n/o Bundy Cyn. Rd.	64.6	64.7	0.1	No
10	Corydon St.	e/o Grand Av.	64.3	64.4	0.1	No
11	Corydon St.	w/o Mission Tr.	65.1	65.3	0.2	No
12	Bundy Cyn. Rd.	e/o Mission Tr.	69.6	69.8	0.2	No
13	Bundy Cyn. Rd.	e/o Orchard St.	68.6	68.9	0.3	No
14	Bundy Cyn. Rd.	e/o Almond St.	69.1	69.4	0.3	No
15	Bundy Cyn. Rd.	w/o I-15 Fwy.	70.3	70.6	0.3	No
16	Bundy Cyn. Rd.	e/o I-15 Fwy.	69.3	69.8	0.5	No
17	Bundy Cyn. Rd.	e/o Monte Vista Dr.	68.9	69.1	0.2	No
18	Bundy Cyn. Rd.	w/o The Farm Rd.	68.5	68.7	0.2	No
19	Bundy Cyn. Rd.	e/o The Farm Rd.	68.3	68.5	0.2	No
20	Bundy Cyn. Rd.	w/o Murrieta Rd.	68.3	68.4	0.1	No
21	Bundy Cyn. Rd.	e/o Murrieta Rd.	69.1	69.2	0.1	No
22	Central St.	w/o Palomar St.	60.6	60.8	0.2	No
23	Central St.	e/o Palomar St.	64.2	64.4	0.2	No
24	Baxter Rd.	w/o I-15 Fwy.	67.0	67.2	0.2	No
25	Baxter Rd.	e/o I-15 Fwy.	63.8	64.2	0.4	No

[1] Significance of Cumulative Impacts (Table 4-1).

7.5 CUMULATIVE PROJECT TRAFFIC NOISE IMPACTS

The off-site cumulative traffic noise analysis shows that the existing project cumulative noise impact of up to 4.1 dBA CNEL is expected to decrease to a maximum of 1.9 dBA CNEL by Year 2016, and to 0.6 dBA CNEL by Year 2035 conditions. In effect, the Project's incremental traffic-related cumulative noise impacts at land uses adjacent to roadways conveying Project traffic will diminish. This occurs as the background traffic on the study area roadway increases and the project represents a smaller percentage of the overall traffic volume.

The cumulative traffic noise analysis indicates that the Project's contributions to roadway noise levels will not cause any significant impacts to any existing or future sensitive noise receptors. Consequently, the Project's traffic noise impacts on the surrounding land uses will be less than significant. This analysis shows that the Project will not create a substantial permanent increase in traffic-related noise levels or expose persons to noise levels in excess of the exterior noise level standards, and therefore, no mitigation is required.

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8 SENSITIVE RECEPTORS

Sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise sensitive land uses are generally considered to include: schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses which 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. Sensitive receptors in the vicinity of the Project site include the single-family residential development tracts located approximately 760 feet east of the Project site (R1), 320 feet northeast of the Project site (R2) and 570 feet southwest of the project site (R5). Individual residential homes are located 70 feet to the south of the Project site (R4). To assess the stationary source operational and construction noise impacts, the following seven sensitive receivers locations as shown on Exhibit 8-A were identified.

R1: Located approximately 760 feet east of the Project site across Monte Vista Drive and a vacant lot, R1 represents the existing single family residential tract homes on Autumn Sage Court. As shown on Table 5-1, a long-term noise level measurement (L1) was also collected at this location.

R2: Location R2 represents the existing residential tract home development located roughly 320 feet north of the Project Site across Bundy Canyon Road. A long-term noise level measurement (L2) was collected at this location.

R3: Location R3 represents the vacant lot situated approximately 100 feet east of the Project site that is zoned as residential land use. Long-term noise level measurement L3 is used to describe the existing ambient noise conditions at this location.

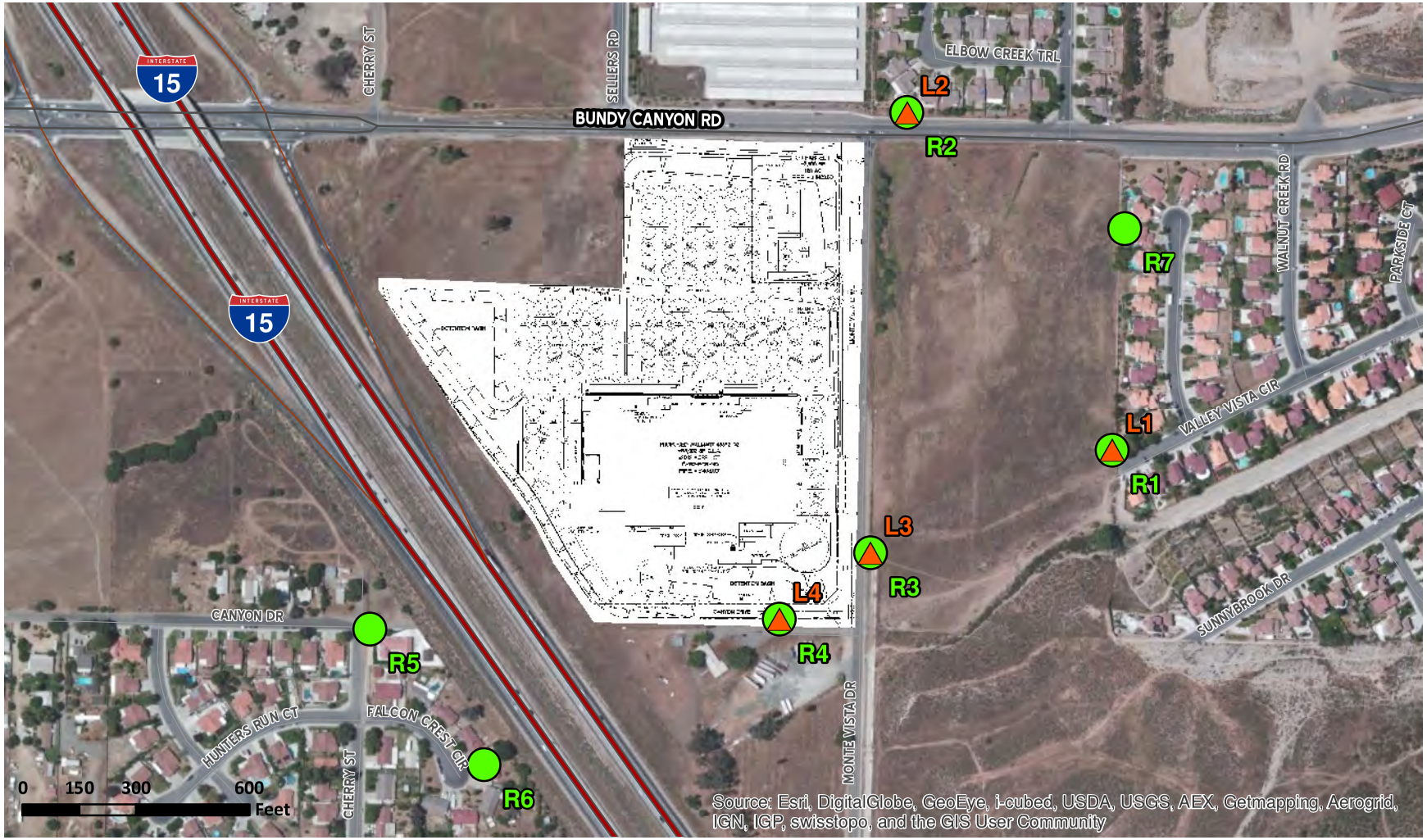
R4: At a distance of 70 feet south of the Project site, noise receiver location R4 represents the nearest noise sensitive residential receiver location. Long-term noise level measurement (L4) describes the existing ambient noise conditions at this location.

R5: At a distance of 570 west of the Project site, noise receiver R5 describes the residential tract development located across the I-15 Freeway. The existing ambient noise levels at this location are expected to exhibit exterior noise levels similar to those observed at noise level measurement location L4.

R6: Location R6 represents the existing noise sensitive residential noise receptors located approximately 560 feet east of the Project site on Falcon Crest Circle. Long-term noise level measurement L4 is used to describe the existing ambient noise conditions at this location.

R7: Located approximately 760 feet east of the Project site across Monte Vista Drive and a vacant lot, R7 represents the existing single family residential tract homes on Autumn Sage Court. The existing ambient noise levels at this location are expected to exhibit exterior noise levels similar to those observed at noise level measurement location L1.

EXHIBIT 8-A: SENSITIVE RECEIVER LOCATIONS



LEGEND:

N

- Noise Measurement Locations
- Sensitive Receiver Locations

URBAN CROSSROADS

9 OPERATIONAL IMPACTS

This section analyzes the potential stationary source operational noise and vibration impacts at nearby sensitive receiver locations resulting from the development of the proposed Wildomar Walmart.

9.1 OPERATIONAL NOISE SOURCES

The operational noise impacts associated with the proposed Project are expected to include loading docks, roof-top air condenser units, shopping cart carousels, parking lot, trash compactors and drive-thru speakerphones activities as indicated on Exhibit 9-A. Exhibit 8-A identifies the location of the seven sensitive receiver locations used to assess the operational noise level impacts within the nearby noise sensitive land uses.

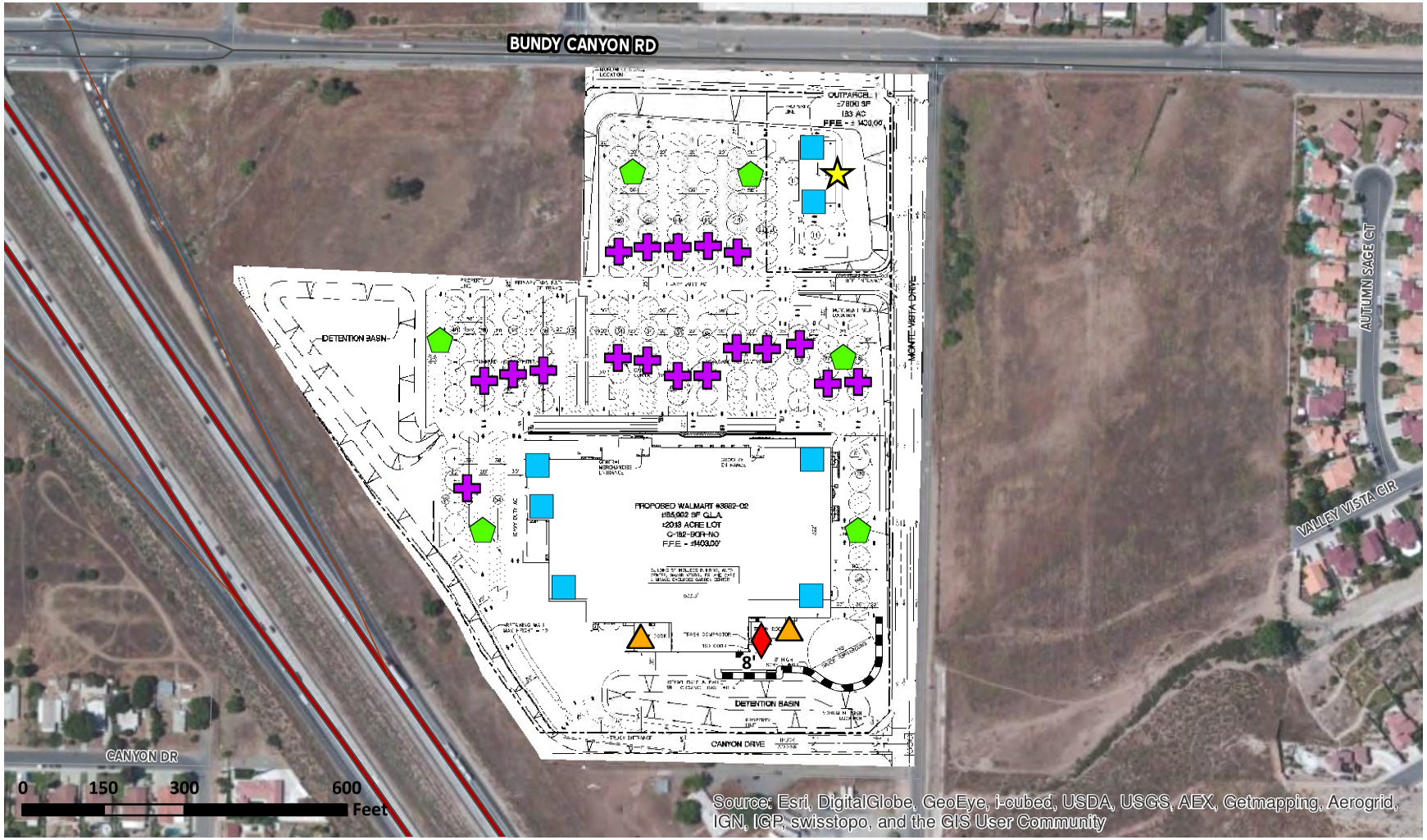
9.2 OPERATIONAL NOISE STANDARDS

The Noise Ordinance included in the City of Wildomar Municipal Code provides performance standards and noise control guidelines for determining and mitigating non-transportation or stationary noise source impacts from operations at private properties. Section 9.48.040 of the Municipal Code establishes the exterior noise level criteria for residential properties affected by stationary noise sources. For residential properties the exterior noise level shall not exceed 55 dBA Leq during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA Leq during the nighttime hours (10:00 p.m. to 7:00 a.m.).

9.3 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading docks, roof-top air condenser units, shopping cart carousels, parking lot, trash compactors and drive-thru speakerphones activities all operating simultaneously. In reality, these noise level impacts will vary depending on the time of day and level of activity at the Wildomar Walmart.

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



URBAN CROSSROADS

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (mm:ss)	Distance From Source (Feet)	Noise Source Height (Feet)	Hourly Activity (Minutes)[6]	Hourly (Leq dBA)
Loading Dock Activities[1]	1:00	20'	8'	18	77.3
Air Condenser[2]	1:00	5'	5'	30	81.9
Shopping Cart Carousel[3]	0:16	5'	3'	20	72.9
Parking Lot Activity[3]	15:00	5'	4'	60	60.1
Trash Compactor[4]	2:22	5'	5'	20	75.5
Drive-Thru Speakerphone[5]	16:56	6'	4'	30	62.1

[1] As measured at the Huntington Beach Walmart by Urban Crossroads, Inc. on 4/14/11.
[2] As measured by Urban Crossroads, Inc. on 10/13/2010 at the Rancho Cordova Walmart #2457.
[3] As measured by Urban Crossroads, Inc. on 5/30/2012 at the Laguna Niguel Walmart located at 27470 Alicia Parkway.
[4] As measured at the Irvine Walmart Supercenter located on 16555 Von Karman Avenue by Urban Crossroads, Inc. on 1/23/2014
[5] As measured by Urban Crossroads, Inc. on 11/19/2013 at the Redlands McDonald's fast food restaurant.
[6] Duration (minutes within the hour) of noise activity during peak hourly conditions.

9.3.1 LOADING DOCKS

As part of its operations, the proposed Wildomar Walmart will include truck doors and loading facilities at the rear of the store. Loading docks will be located along the store's southerly (rear) elevation to accommodate truck and vendor deliveries. Truck deliveries may occur 24 hours per day, and would consist of both semi-trucks (larger deliveries would be accomplished by way of 3+ axle tractor-trailer combinations with trailers up to 53 feet in length), and small to medium size (two-axle) trucks.

It is expected that the loading docks would be constructed to allow trailers to seal to the docks, thereby directing the unloading noise into the store, rather than onto neighboring uses. The loading dock areas would also be screened by an 8-foot high wall to be located along the site's southerly perimeter, as shown in Exhibit 1-C. In order to evaluate the noise impacts associated with the delivery truck tractor trailer unloading/loading activities, reference noise level measurements were taken at the Huntington Beach Walmart located at the southwest corner of Goldenwest Street and Edinger Avenue by Urban Crossroads Inc. on April 14, 2011.

The primary noise generated by tractor trailer unloading is the noise of the truck arriving, backing into the dock area, detaching the cab, attaching the cab to the empty trailer, and exiting the loading dock. Because the trailer seals to the loading dock, employees unload the tractor trailer from the inside of the store. The receiving crew places a 20' long rolling conveyor assembly inside the trailer to roll merchandise (on pallets or in boxes) into the store. The unmitigated noise level was measured at 77.3 dBA Leq at a distance of 20 feet from the tractor trailer. Delivery truck delivery activities will last an average of 3–6 minutes per truck, depending on whether or not the loading bay is empty at the time of arrival. In the event idling does occur, idling time would be limited to no more than 5 minutes under California State law (Cal Code Regs. 2485). Delivery trucks are generally equipped with an engine shutdown system that automatically turns off the engine after 5 minutes of idling. In order to analyze a worst-

case condition for noise impacts related to delivery, it is assumed that there would be a maximum of three delivery trucks coming to the loading docks and completing delivery activities within a 1-hour period for both daytime and nighttime hours. For the purpose of this noise analysis, a maximum average delivery time of 6 minutes per delivery is used for a total of 18 minutes of activity during the peak noise hour.

9.3.2 AIR CONDENSER UNITS

In order to assess the impacts created by the roof-top air conditioning units at the planned Project site, reference noise levels measurements were taken at the Rancho Cordova Walmart on October 13, 2010. Located at 10655 Folsom Boulevard in the City of Rancho Cordova, the noise level measurements describe a cluster of mechanical rooftop condensers. The cluster consists of two Krack MXE-04 4-fan units and one MXE-02 2-fan unit. At a distance of 5 feet for the cluster of rooftop condensers, the exterior noise levels were measured at 81.9 dBA Leq. For the purpose of this noise analysis, the air condenser units were observed to be located on the roof at a noise elevation of 25 feet and are estimated to operate for approximately 30 minutes during typical daytime and nighttime conditions. The potential noise attenuation provided by a parapet wall was not included as part of this analysis.

9.3.3 SHOPPING CART CAROUSEL (METAL CARTS):

To evaluate the noise level impacts from shopping carts placed by customers into assigned shopping cart areas, Urban Crossroads collected noise level measurements at the Laguna Niguel Walmart located at 27470 Alicia Parkway on May 30, 2012. At a distance of 5 feet from the noise source, the noise associated with the placement of the shopping carts into the carousel was measured at 72.9 dBA Leq. The noise impacts are mainly due to the metal shopping carts crashing into other carts already placed in the carousel as well as striking the side rails. This noise impact analysis includes the noise level impacts associated with the adjacent shopping cart carousels with noise impacts expected for approximately 20 minutes an hour for the typical daytime and nighttime conditions.

9.3.4 PARKING LOT ACTIVITY

To determine the noise level impacts associated with parking lot noise, Urban Crossroads collected reference noise level measurements at the at the Laguna Niguel Walmart located at 27470 Alicia Parkway on May 30, 2012. The fifteen minute noise level measurement indicates that the parking lot activity generates a noise level of 60.1 dBA Leq at a distance of 5 feet. The parking lot noise levels are mainly due to cars pulling in and out of spaces, car alarms sounding, and customers moving shopping carts. Noise associated with parking lot activity is expected during the typical daytime and nighttime conditions for the entire hour (60 minutes).

9.3.5 TRASH COMPACTORS

In order to assess the impacts created by the trash compactors planned on the Project site, reference noise levels were gathered from the Irvine Walmart Supercenter located on 16555 Von Karman Avenue, by Urban Crossroads Inc. on Thursday January 23, 2014. The unmitigated exterior noise levels were measured at 75.5 dBA Leq at a distance of 5 feet from the compactor.

A review of the site plan shows a proposed trash compactor located behind the planned 8-foot high screen wall. It is expected the trash compactor will operate for a maximum of 20 minutes during typical hourly daytime and nighttime conditions.

9.3.6 DRIVE-THRU SPEAKERPHONES

To describe the potential noise level impacts associated with the Project's planned drive-thru speakerphones to be located on the Outparcel, a reference noise level measurement was collected on Tuesday, November 19th, 2013 at a McDonald's fast food restaurant located at 612 East Redlands Boulevard in the City of Redlands. The reference noise levels collected at the McDonald's restaurant are expected to reflect the drive-thru speakerphone noise level activities on the Outparcel. As shown on Table 8-1, at a distance of six feet from the speakerphone, a reference noise level of 62.1 dBA Leq was measured. The drive-thru speakerphone activities are estimated to operate for 30 minutes during the peak hour conditions.

9.4 DIRECT PROJECT NOISE IMPACTS

Based upon the reference noise levels, it is possible to estimate the project only operational source noise levels at each of the seven noise receiver locations. The operational noise level calculations shown on Tables 9-2 account for the distance attenuation between the noise source and receiver locations. Such attenuation is due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. With geometric spreading, sound levels attenuate (or decrease) at a rate of 6 dB for each doubling of distance from a point source. Table 9-2 presents the direct project impacts associated with the Wildomar Walmart at the seven receiver locations.

In addition, the exterior noise levels shown on Table 9-2 include the noise barrier attenuation provided by the 8-foot high screen wall planned near the loading docks. Table 9-2 indicates that the hourly noise levels are associated with the Wildomar Walmart operations are expected to range from 38.5 dBA Leq at receiver location R7 to 47.8 dBA Leq at receiver location R4. The operational noise level calculations are included in Appendix 9.1.

TABLE 9-2: DIRECT PROJECT IMPACTS

Noise Source	Noise Levels at Receiver Locations (dBA Leq)[1]						
	R1	R2	R3	R4	R5	R6	R7
Loading Dock Activities	38.7	-[2]	44.0	45.6	39.9	40.4	36.3
Air Condenser	33.9	41.0	44.5	43.5	35.8	35.1	33.8
Shopping Cart Carousel	23.8	25.4	27.5	-[2]	25.3	23.1	23.1
Parking Lot Activity	16.2	19.8	25.1	21.5	17.7	15.8	15.0
Trash Compactor	24.4	-[2]	28.8	31.6	24.5	25.4	22.5
Drive-Thru Speakerphone	14.3	22.9	15.4	-[2]	-[2]	-[2]	16.0
Combined Noise Levels	**40.2**	**41.2**	**47.4**	**47.8**	**41.5**	**41.7**	**38.5**

[1] See Exhibit 8-A for the sensitive receiver locations Appendix 9.1 for the stationary source noise analysis worksheets. Operational noise level projections include the noise attenuation provided by the planned 8-foot high screen wall.
[2] Receiver locations are not exposed to the noise source. No direct line of sight between noise source and receiver.

9.4.1 DAYTIME (7:00 A.M. TO 10:00 P.M.) DIRECT PROJECT NOISE IMPACTS

The direct project only Wildomar Walmart operational noise level impacts ranging from 38.5 to 47.8 dBA Leq will satisfy the daytime (7:00 a.m. to 10:00 p.m.) exterior noise level standards of 55 dBA Leq for residential properties affected by stationary noise sources at all receiver locations.

9.4.2 NIGHTTIME (10:00 P.M. TO 7:00 A.M.) DIRECT PROJECT NOISE IMPACTS

The exterior operational noise impact analysis indicates that homes located south of the loading docks (receiver locations R3 and R4) may exceed the City of Wildomar 45 dBA Leq residential criteria during the noise sensitive nighttime hours (10:00 p.m. to 7:00 a.m.). As shown on Table 9-2, the primary operational noise source is associated with the loading dock activities near the southern end of the Wildomar Walmart building.

To minimize the operational noise impacts from the loading docks, the Project includes the construction of an 8-foot high screen wall. The planned screen wall is intended to shield and reduce the loading dock noise levels for the noise sensitive residential receivers located to the south of the project site. While the analysis shows that the development of the Wildomar Walmart is expected to exceed the City of Wildomar nighttime performance standards for stationary noise source impacts, the existing nighttime ambient noise levels at locations R3 and R4 far exceeds the potential noise impacts associated with the planned loading docks, roof-top air condenser units, shopping cart carousels, parking lot, trash compactors and drive-thru speakerphones activities. Due to the traffic noise from the nearby I-15 Freeway, noise receiver locations R3 and R4 currently experience ambient exterior noise levels ranging from 63.7 to 64.0 dBA Leq. In the context of the existing noise environment, the direct project related nighttime noise level impacts will be overshadowed and largely masked by the traffic noise on the I-15 Freeway.

9.5 CUMULATIVE PROJECT NOISE IMPACTS

To describe the cumulative project operational noise level impacts, the project operational noise levels were combined and then compared with the existing ambient noise level measurements. The difference between the combined project and ambient noise levels describe the project noise level contributions and potential cumulative impacts. To assess the cumulative project operational noise level impacts, the project contributions are compared with the cumulative significance criteria outlined in Section 4.2 for the daytime and nighttime periods.

9.5.1 DAYTIME (7:00 A.M. TO 10:00 P.M.) CUMULATIVE NOISE IMPACTS

Table 9-3 presents daytime off-site operational noise level impact analysis. The analysis shows that the Project only daytime operational noise levels will range from 38.5 to 47.8 dBA Leq. The cumulative noise analysis shows that the project will contribute a daytime operational noise level impact of up to 0.2 dBA Leq at the nearby receiver locations. The project contribution at the individual receiver locations will vary depending on the background noise conditions at each location. The significance criteria presented in Section 4.2 recognizes that the significance of cumulative noise impacts varies depending on the condition of the environment and the project related noise level increases. As shown on Table 9-3, all receiver locations will experience a less than significant cumulative project noise impact during the daytime hours of (7:00 a.m. to 10:00 p.m.).

TABLE 9-3: DAYTIME (7 A.M. TO 10 P.M.) CUMULATIVE NOISE IMPACTS

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Cumulative Significant Impact[7]
R1	40.2	L1	53.3	53.5	0.2	No
R2	41.2	L2	72.0	72.0	0.0	No
R3	47.4	L3	66.0	66.1	0.1	No
R4	47.8	L4	60.8	61.0	0.2	No
R5	41.5	L4	60.8	60.9	0.1	No
R6	41.7	L4	60.8	60.9	0.1	No
R7	38.5	L1	53.3	53.4	0.1	No

[1] See Exhibit 8-A for the noise receiver locations.
[2] Total project operational noise levels as shown on Table 9-2 including the noise attenuation provided by the planned 8-foot high wall.
[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] Cumulative Significant Impacts as defined in Section 4.2.

9.5.2 NIGHTTIME (10:00 P.M. TO 7:00 A.M.) CUMULATIVE NOISE IMPACTS

Table 9-4 presents nighttime off-site operational noise level impact analysis. When all activities occur at the same time during the peak hour conditions, the Project operational noise levels will range from 38.5 to 47.8 dBA Leq.

The analysis shows that the Project will contribute a nighttime operational noise level impact of up to 0.1 dBA Leq at the nearby receiver locations. The project contribution at the receiver locations will vary depending on the existing noise levels at each location. The significance criteria presented in Section 4.2 recognizes that the significance of cumulative noise impacts varies depending on the condition of the environment and the project related noise level increases. As shown on Table 9-4, all receiver locations will experience a less than significant cumulative project noise impact during the nighttime hours.

While the analysis shows that the development of the Wildomar Walmart is expected to exceed the City of Wildomar nighttime performance standards for stationary noise source impacts it important to consider that the ambient noise levels already exceeds the 45 dBA Leq nighttime standard. Even with the planned 8-foot high screen wall, the noise levels at the closest receiving residential land uses will range from 63.7 to 64.0 dBA Leq resulting in a less than audible project noise level contribution of 0.1 dBA Leq. Since the ambient noise levels already exceed the nighttime noise standard, the project will not result in "exposure of persons to or generation of noise levels in excess of the standards established in the local General Plan or noise ordinance or applicable standards of other agencies." This is recognized as a less than significant project impact.

TABLE 9-4: NIGHTTIME (10 P.M. TO 7 A.M.) CUMULATIVE NOISE IMPACTS

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Cumulative Significant Impact[7]
R1	40.2	L1	55.5	55.6	0.1	No
R2	41.2	L2	69.6	69.6	0.0	No
R3	47.4	L3	64.0	64.1	0.1	No
R4	47.8	L4	63.7	63.8	0.1	No
R5	41.5	L4	63.7	63.7	0.0	No
R6	41.7	L4	63.7	63.7	0.0	No
R7	38.5	L1	55.5	55.6	0.1	No

[1] See Exhibit 8-A for the noise receiver locations.
[2] Total project operational noise levels as shown on Table 9-2 including the noise attenuation provided by the planned 8-foot high wall.
[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] Cumulative Significant Impacts as defined in Section 4.2.

9.6 OPERATIONAL NOISE MITIGATION

The normal operational activities that are expected to include loading docks, roof-top air condenser units, shopping cart carousels, parking lot, trash compactors and drive-thru speakerphones activities are expect to result in a less than significant direct or cumulative project impact. However, to further reduce potential operational noise levels received at adjacent residential land uses, it is recommended that the Lead Agency require the following as project Conditions of Approval:

- All trucks, tractors, and forklifts shall be operated with proper operating and well maintained mufflers.
- Maintain quality pavement conditions that are free of bumps to minimize truck noise.
- The truck access gates and loading docks within the truck court on the project site shall be posted with signs which state:
    - Truck drivers shall turn off engines when not in use;
    - Diesel trucks servicing the Project shall not idle for more than five (5) minutes; and
    - Post telephone numbers of the building facilities manager to report violations.

9.7 OPERATIONAL VIBRATION IMPACTS

Although the human threshold of perception for vibration is around 65 Vdb, human response to vibration is not usually significant unless the vibration exceeds 70 Vdb. Truck vibration levels are dependent on vehicle characteristics, load, speed and pavement condition. Typical vibration levels for heavy trucks on normal traffic speeds can reach levels below 65 VdB. Truck deliveries transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts nearby homes will be less than significant. Commercial developments typically do not operate machinery that can create significant long-term vibration impacts.

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10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term off-site construction activities associated with the development of the Project.

10.1 CITY OF WILDOMAR CONSTRUCTION NOISE STANDARDS

As described earlier in Section 3.4, the City of Wildomar Noise Ordinance (Section 9.48.020) exempts construction-related noise impacts provided that the construction activities are effectively restricted to the daytime hours. While the City of Wildomar does not provide specific standards for construction noise and vibration, the following policies contained in the adopted County of Riverside Noise Element are designed to reduce noise impacts during construction:

N12.1 Minimize the impacts of construction noise on adjacent uses within acceptable standards.

N12.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse impacts on surrounding areas.

N12.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

- *i. Temporary noise attenuation fences;*
- *ii. Preferential location and equipment; and*
- *iii. Use of current noise suppression technology and equipment.*

For the purpose of this analysis, construction impacts will be evaluated against standards established under the City's Municipal Code (Section 9.48.040) that establishes the exterior noise level criteria for residential properties affected by operational (stationary) noise sources. For residential properties the exterior noise level shall not exceed 55 dBA Leq during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA Leq during the nighttime hours (10:00 p.m. to 7:00 a.m.)

10.2 CONSTRUCTION NOISE LEVELS

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment, including trucks, power tools, concrete mixers and portable generators can reach high levels. Project construction is expected to occur in the following four stages:

- Site Preparation
- Grading
- Building
- Curb, gutter, flatwork and parking lot

In January 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM) that includes a national database of construction equipment reference noise emission levels.(15) The RCNM equipment database, as shown in Appendix 10.1, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation. The usage factor is a key input variable of the RCNM noise prediction model that is used to calculate the average Leq noise levels using the Lmax noise levels measured at a distance of 50 feet

Noise levels generated by heavy construction equipment can range from approximately 70 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 78 dBA measured at 50 feet from the noise source to the receptor would be reduced to 72 dBA at 100 feet from the source to the receptor, and would be further reduced to 66 dBA at 200 feet from the source to the receptor. The construction noise levels including the number and mix of construction equipment by construction phase are consistent with the data used to support the construction emissions in the *Wildomar Walmart Air Quality Impact Analysis* prepared by Urban Crossroads Inc. in February 2014. (16).

10.3 CONSTRUCTION NOISE ANALYSIS

Using the stationary-source RCNM noise prediction model, calculations of the Project construction noise level impacts at the seven noise receiver locations were completed. Tables 10-1 to 10-4 present the short-term construction noise levels for each stage of construction at the seven receiver locations. The analysis shows that the highest construction noise level impacts will occur during grading construction activities at the edge of the project site. As shown on Table 10-5, the unmitigated peak construction noise levels are expected to range from 56.9 to 85.3 dBA Leq.

The construction noise analysis shows that the nearby sensitive residential receivers will likely experience a significant, temporary/periodic increase above the existing ambient noise due to Project construction activities. However, while construction noise may be heard at varying levels of intensity according to the location and operations of grading equipment, it will often be overshadowed by existing traffic noise from the I-15 Freeway.

TABLE 10-1: SITE PREPARATION CONSTRUCTION NOISE LEVELS

Equipment Type	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 50 Feet (Leq dBA)
Scraper	2	40%	3.2	84.0	83.0
Grader	2	40%	3.2	85.0	84.0
Rubber Tired Dozer	2	40%	3.2	79.0	78.0
Tractor/Loader/Backhoe	2	40%	3.2	78.0	77.0
Excavator	2	40%	3.2	81.0	80.0
Cumulative Hourly Noise Levels 50 Feet (Leq dBA)					88.3

Construction Noise Reference Distance	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA) [6]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	760'	-23.6		64.6
R2	320'	-16.1		72.1
R3	100'	-6.0		82.2
R4	70'	-2.9		85.3
R5	570'	-21.1		67.1
R6	560'	-21.0		67.3
R7	790'	-24.0		64.3

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receiver.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-2: GRADING CONSTRUCTION NOISE LEVELS

Equipment Type	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 50 Feet (Leq dBA)
Rubber Tired Dozer	3	40%	3.2	79.0	79.8
Tractor/Loader/Backhoe	4	40%	3.2	78.0	80.0
Cumulative Hourly Noise Levels 50 Feet (Leq dBA)					82.9

Construction Noise Reference Distance	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA) [6]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	760'	-23.6		59.3
R2	320'	-16.1		66.8
R3	100'	-6.0		76.9
R4	70'	-2.9		80.0
R5	570'	-21.1		61.8
R6	560'	-21.0		61.9
R7	790'	-24.0		59.0

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receiver.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-3: BUILDING CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment Type	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 50 Feet (Leq dBA)
Pavers	2	50%	4.0	77.0	77.0
Rollers	2	20%	1.6	80.0	76.0
Paving Equipment	2	40%	3.2	76.0	75.0
Cumulative Hourly Noise Levels 50 Feet (Leq dBA)					80.9

Construction Noise Reference Distance	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA) [6]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	760'	-23.6		57.2
R2	320'	-16.1		64.7
R3	100'	-6.0		74.8
R4	70'	-2.9		77.9
R5	570'	-21.1		59.7
R6	560'	-21.0		59.9
R7	790'	-24.0		56.9

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receiver.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-4: CURB, GUTTER, FLATWORK AND PARKING LOT CONSTRUCTION NOISE LEVELS

Equipment Type	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 50 Feet (Leq dBA)
Tractor/Loader/Backhoe	3	40%	3.2	78.0	78.8
Forklift	3	20%	1.6	75.0	72.8
Generator Set	1	50%	4.0	81.0	78.0
Cranes	1	16%	1.3	81.0	73.0
Welder	1	40%	3.2	74.0	70.0
Air Compressor	1	40%	3.2	78.0	74.0
Cumulative Hourly Noise Levels 50 Feet (Leq dBA)					83.3

Construction Noise Reference Distance	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA) [6]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	760'	-23.6		59.6
R2	320'	-16.1		67.2
R3	100'	-6.0		77.3
R4	70'	-2.9		80.4
R5	570'	-21.1		62.1
R6	560'	-21.0		62.3
R7	790'	-24.0		59.3

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receiver.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-5: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Noise Receiver[1]	Distance To Property Line (In Feet)[4]	Construction Phase Hourly Noise Level (dBA Leq)				
		Site Preparation	Grading	Building	Curb, gutter, flatwork, lot	Peak[2]
R1	760'	64.6	59.3	57.2	59.6	64.6
R2	320'	72.1	66.8	64.7	67.2	72.1
R3	100'	82.2	76.9	74.8	77.3	82.2
R4	70'	85.3	80.0	77.9	80.4	85.3
R5	570'	67.1	61.8	59.7	62.1	67.1
R6	560'	67.3	61.9	59.9	62.3	67.3
R7	790'	64.3	59.0	56.9	59.3	64.3

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Estimated construction noise levels during peak operating conditions.

10.4 CONSTRUCTION NOISE ABATEMENT MEASURES

Based on the four phases of construction related noise impacts, the noise impacts associated with the proposed Project are expected to create temporary high-level noise impacts at receptors surrounding the project site when certain activities occur near the project property line. Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following practices would reduce any noise level increases produced by the construction equipment to the nearby noise sensitive residential land uses.

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall not occur between the hours of six p.m. to six a.m. during the month of June through September, and between the hours of six p.m. and seven a.m. during the months of October through May.
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project site during all project construction. A review of the project site and the location of nearby noise sensitive receptors indicate that construction equipment staging shall be concentrated in the northern portion of the site near Bundy Canyon Road and away from the residential land use south of Canyon Drive.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

10.5 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

To control noise impacts associated with the construction of the proposed project, the City has established limits to the hours of operation. The City's Noise Ordinance indicates that noise sources associated with private construction projects located within one-quarter of a mile or more from an inhabited dwelling, are exempted from the provisions of the noise ordinance. The exemption requires that said activities do not occur between the hours of six p.m. to six a.m. during the month of June through September, and between the hours of six p.m. and seven a.m. during the months of October through May.

However, while daytime construction activities may be exempt from the City's Noise Ordinance, the short-term construction noise level impacts are expected to exceed the 55 dBA Leq daytime noise level threshold at all noise receiver locations during peak activity near the property line. Therefore, the construction noise impacts represent a significant unavoidable short-term impact.

10.6 CONSTRUCTION VIBRATION IMPACTS

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

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.
- 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. Construction activities that would occur within the Project site are expected to include grading and excavation, which would have the potential to generate low levels of ground-borne vibration. Using the vibration source level of construction equipment provided on Table 6-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the project vibration impacts. Table 10-6 presents the expected Project related vibration levels at each of the seven sensitive receiver locations.

TABLE 10-6: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Noise Receiver[1]	Distance To Property Line (In Feet)	Receiver Vibration Levels (VdB)[2]					Significant Impact[3]
		Small Bulldozer	Jackhammer	Loaded Trucks	Large Bulldozer	Peak Vibration	
R1	760'	13.5	34.5	41.5	42.5	42.5	No
R2	320'	24.8	45.8	52.8	53.8	53.8	No
R3	100'	39.9	60.9	67.9	68.9	68.9	No
R4	70'	44.6	65.6	72.6	73.6	73.6	No
R5	570'	17.3	38.3	45.3	46.3	46.3	No
R6	560'	17.5	38.5	45.5	46.5	46.5	No
R7	790'	13.0	34.0	41.0	42.0	42.0	No

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-4.
[3] Does the Peak Vibration exceed the FTA maximum acceptable vibration standard of 80 (VdB)?

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference level of 87 VdB at a distance of 25 feet. At distances ranging from 70 to 790 feet from the Project site, construction vibration levels are expected to range from 13.0 to 73.6 VdB. Using the construction vibration assessment methods provided by the Federal Transit Administration (FTA) the proposed project site will not include nor require equipment, facilities, or activities that would result in a perceptible human response (annoyance).

The project construction is not expected to generate vibration levels exceeding the FTA maximum acceptable vibration standard of 80 (VdB). Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with City requirements thereby eliminating potential vibration impact during the sensitive nighttime hours. On this basis the potential for the Project to result in exposure of persons to, or generation of, excessive ground-borne vibration is determined to be less than significant.

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11 FINDINGS AND CONCLUSIONS

This report evaluated the potential noise impacts associated with the development of the proposed project including project related traffic noise, stationary noise impacts and temporary construction noise impacts. This section summarizes the project noise impacts and the mitigation measures required to reduce the project noise impacts to less than significant.

11.1 TRAFFIC NOISE IMPACTS

This report evaluated potential project traffic-related noise impacts to the study area. The off-site cumulative traffic noise analysis shows that the existing project cumulative noise impact of up to 4.1 dBA CNEL is expected to decrease to a maximum of 1.9 dBA CNEL by Year 2016, and to 0.6 dBA CNEL by Year 2035 conditions. In effect, the Project's incremental traffic-related cumulative noise impacts at land uses adjacent to roadways conveying Project traffic will diminish as the as the background traffic on the study area roadway increases and the project represents a smaller percentage of the overall traffic volume.

The cumulative traffic noise analysis indicates that the Project's contributions to roadway noise levels will not cause any significant impacts to any existing or future sensitive noise receptors. Consequently, the Project's traffic noise impacts on the surrounding land uses will be less than significant. The proposed project will generate less than significant permanent increase in transportation-related ambient noise levels. Nor would project-related traffic noise or expose persons to noise levels in excess of the standards established in the County of Riverside General Plan.

11.2 OPERATIONAL IMPACTS

The operational noise impacts associated with the proposed Project are expected to include loading docks, roof-top air condenser units, shopping cart carousels, parking lot, trash compactors and drive-thru speakerphones activities. The analysis shows that the Project only operational noise levels will range from 38.5 to 47.8 dBA Leq. The direct project only operational noise level impacts associated with the proposed Wildomar Walmart satisfy the City of Wildomar daytime (7:00 a.m. to 10:00 p.m.) exterior noise level standards of 55 dBA Leq for residential properties affected by stationary noise sources at all receiver locations.

While the analysis shows that the development of the Wildomar Walmart is expected to exceed the City of Wildomar nighttime performance standards for stationary noise source impacts it important to consider that the ambient noise levels already exceeds the 45 dBA Leq nighttime standard. Even with the planned 8-foot high screen wall, the noise levels at the closest receiving residential land uses will range from 63.7 to 64.0 dBA Leq resulting in a less than audible project contribution of 0.1 dBA Leq. Since the ambient noise already exceeds the nighttime noise standard, the project will not result in "exposure of persons to or generation of noise levels in excess of the standards established in the local General Plan or noise ordinance or applicable standards of other agencies." This is recognized as a less than significant project impact.

In addition, to further reduce the potential operational noise received at proximate residential land uses, it is recommended that the Lead Agency impose the following project Conditions of Approval:

- All trucks, tractors, and forklifts shall be operated with proper operating and well maintained mufflers.
- Maintain quality pavement conditions that are free of bumps to minimize truck noise.
- The truck access gates and loading docks within the truck court on the project site shall be posted with signs which state:
    - Truck drivers shall turn off engines when not in use;
    - Diesel trucks servicing the Project shall not idle for more than five (5) minutes; and
    - Post telephone numbers of the building facilities manager to report violations.

11.3 CONSTRUCTION NOISE IMPACTS

The construction noise analysis shows that the nearby sensitive residential receivers will likely experience a significant, temporary/periodic increase above the existing ambient noise due to Project construction activities. However, while construction noise may be heard at varying levels of intensity according to the location and operations of grading equipment, it will often be overshadowed by existing traffic noise from the I-15 Freeway.

The City of Wildomar does not have noise standards for temporary construction noise. The construction noise impacts along the project's boundary would be limited, and the overall construction activities will be temporary and short-term in nature and will dissipate entirely at the conclusion of construction activities. Construction noise will not present any long-term impacts on the project site or the surrounding area. The most effective method of reducing construction noise impacts is by limiting the hours of construction to normal weekday working hours. Accordingly project construction activities will be restricted to the daytime hours per City Ordinance. However, while daytime construction activities may be exempt from the City's Noise Ordinance, the short-term construction noise level impacts are expected to exceed the 55 dBA Leq daytime noise level threshold at all noise receiver locations during peak activity near the property line. Therefore, the construction noise impacts represent a significant unavoidable short-term impact.

The following mitigation measures would reduce potential short-term noise impacts during construction:

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities shall not occur between the hours of six p.m. to six a.m. during the month of June through September, and between the hours of six p.m. and seven a.m. during the months of October through May.
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project site during all project construction. A review of the project site and the location of nearby noise sensitive receptors indicate that construction equipment staging shall be concentrated in the northern portion of the site near Bundy Canyon Road and away from the residential land use south of Canyon Drive.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment.

11.4 VIBRATION IMPACTS

The project does not propose uses or activities that would result in permanent on-going vibration sources. The estimated 73.6 VdB due to project construction activities received at the nearest residential property is below the FTA 80 VdB impact criteria level, and would therefore not be considered an annoyance or an interference at proximate residential land uses. Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daylight hours consistent with City requirements thereby eliminating potential vibration impact during evening hours. On this basis the potential for the Project to result in exposure of persons to, or generation of, excessive ground-borne vibration is determined to be less-than-significant.

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12 REFERENCES

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13 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Wildomar Walmart 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) 660-1994 ext. 203.

Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
41 Corporate Park, Suite 300
Irvine, CA 92606
(949) 660-1994 x203
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

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APPENDIX 3.1:

COUNTY OF RIVERSIDE GENERAL PLAN NOISE ELEMENT

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7. Noise Element

Chapter 7: Noise Element

Definitions

Following is a list of commonly used terms and abbreviations that may be found within this element or when discussing the topic of noise. This is an abbreviated glossary to be reviewed prior to reading the element. It is important to become familiar with the definitions listed in order to better understand the importance of the Noise Element within the County of Riverside General Plan. Since the disbanding of the State Office of Noise Control in the mid-1990, the State of California Office of Planning and Research General Plan Guidelines can offer further information on other noise-related resources.

Ambient Noise: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL (Community Noise Equivalent Level): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

dB (Decibel): The unit of measure that denotes the ratio between two quantities that are proportional to power; the number of decibels corresponding to the ratio of the two amounts of power is based on a logarithmic scale.

dBA (A-weighted decibel): The A-weighted decibel scale discriminates upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals.

Intrusive Noise: That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency and time of occurrence, and tonal or informational content as well as the prevailing noise level.

L_{10}: The A-weighted sound level exceeded ten percent of the sample time. Similarly, L_{50}, L_{90}, etc.

L_{eq} (Equivalent energy level): The average acoustic energy content of noise during the time it lasts. The L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure, no matter what time of day they occur. The County of Riverside uses a 10-minute L_{eq} measurement.

L_{dn} (Day-Night Average Level): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. Note: CNEL and Ldn represent daily levels of noise exposure averaged on an annual or daily basis, while Leq represents the equivalent energy noise exposure for a shorter time period, typically one hour.

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The level of sound that impacts a property varies greatly during the day. As an example, the sound near an airport may be relatively quiet when no airplane is taking off or landing, but will be extremely loud as a plane takes off. In order to deal with these variations, several noise indices have been developed, which measure how loud each sound is, how long it lasts, and how often the sound occurs. The indices express all the sound occurring during the day as a single average level, which if it occurred all day would convey the same sound energy to the site.

Micropascal: The international unit for pressure, similar to pounds per square inch. 20 micropascals is the human hearing threshold. The scale ranges from zero for the average least perceptible sound to about 130 for the average pain level

Noise Contours: Lines drawn around a noise source indicating equal levels of noise exposure. CNEL and Ldn are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

Introduction

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It is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare.

-Noise Control Act of 1972

Before the alarm clock sounds, the lawn mower next door begins to roar. Then, while listening to the morning news on the radio, an airplane flies overhead and deadens all sound in the neighborhood. Once outside, the neighbor's stereo can be heard a block away. And during the morning commute, car horns, rumbling mufflers, and whirring motorcycles serenade motorists on the highway. Even in the most rural areas of Riverside County, the eternal battle between the efficiency of technology, and the noise it can create cannot be avoided.

As modern transportation systems continue to develop and human dependence upon machines continues to increase, the general level of noise in our day to day living environment rises. In Riverside County, residential areas near airports, freeways, and railroads are being adversely affected by annoying or hazardous noise levels. Other activities such as construction, operation of household power tools and appliances, and industry, also contribute to increasing background noise.

Sound refers to anything that is or may be perceived by the ear. Noise is defined as "unwanted sound" because of its potential to disrupt sleep, rest, work, communication, and recreation, to interfere with speech communication, to produce physiological or psychological damage, and to damage hearing.

ADDRESSING NOISE ISSUES

The Noise Element is a mandatory component of the General Plan pursuant to the California Planning and Zoning Law, Section 65302(f). The element must recognize the guidelines adopted by the Office of Planning and Research pursuant to Section 46050.1 of the Health and Safety Code. It also can be utilized as a tool for compliance with the state's noise insulation standards.

The General Plan Noise Element provides a systematic approach to identifying and appraising noise problems in the community; quantifying existing and projected noise levels; addressing excessive noise exposure; and community planning for the regulation of noise. This element includes policies, standards, criteria, programs, diagrams, a reference to action items, and maps related to protecting public health and welfare from noise.

SETTING

Tinnitus: The perception of ringing, hissing, or other sound in the ears or head when no external sound is present. For some people, tinnitus is just a nuisance. For others, it is a life-altering condition. In the United States, an estimated 12 million people have tinnitus to a distressing degree.

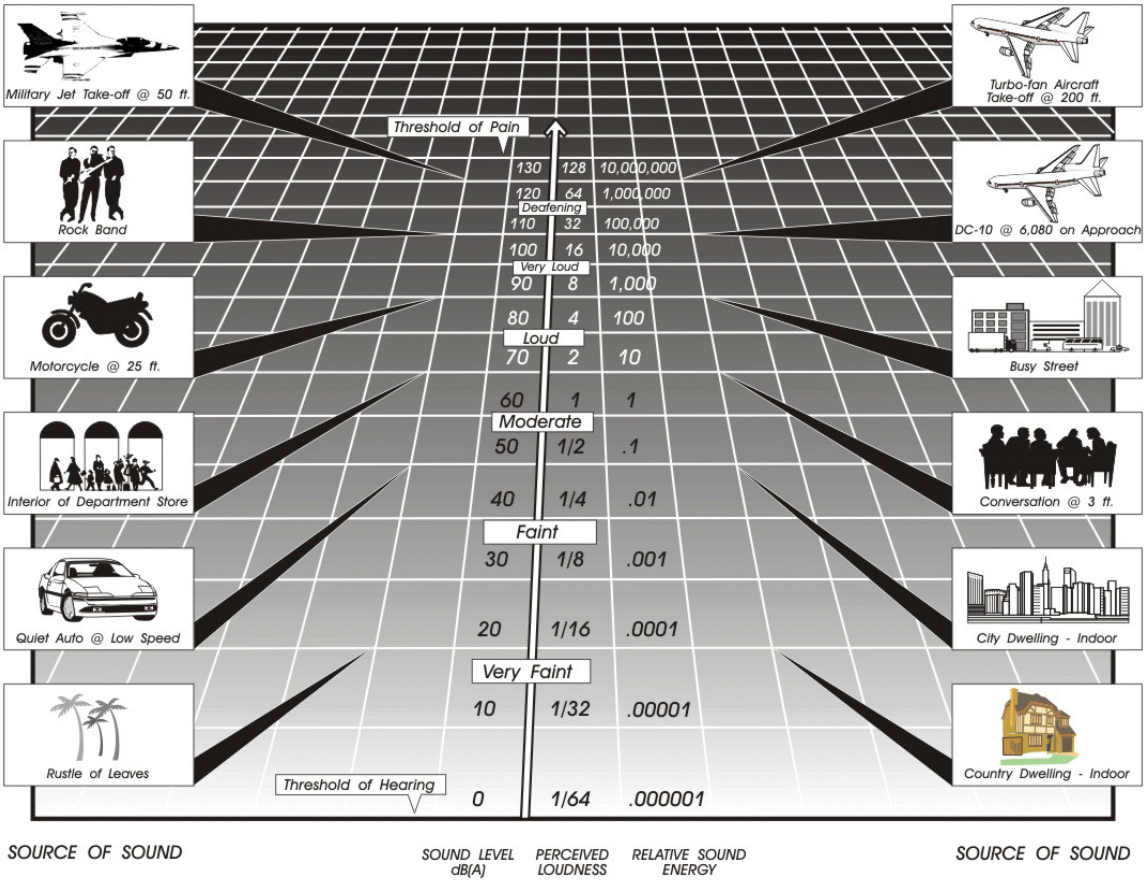
Riverside County is a continuously evolving group of communities that relies heavily upon the modern technological conveniences of American society to thrive and succeed as a pleasant and desirable place to live and work. Without such necessities as air-conditioning, heating, generators, and cars, living in an urban, suburban, rural, desert, or mountainous environment becomes difficult, if not impossible. Fortunately, these amenities are available to the residents of Riverside County and are used everyday, often all day long. Unfortunately, these technological advances can come at a high price to residents' and visitors' ears.

The philosophical view commonly held by Riverside County staff and residents is that noise, which may be perceived by some to be annoying, may not be noticed at all by others. It is also important to note that people who move into an area where a noise source already exists (such as near an existing highway) are often more tolerant of that noise source than when a new noise generator locates

itself in an established area that may be noise-sensitive (such as a stadium that is constructed near an established community).

Noise within Riverside County is generated by numerous sources found near places where people live and work. These sources are of particular concern when the noise they generate reaches levels above the prevailing background noise. There are many different types of noise, including mobile, stationary, and construction-related, that affect noise-sensitive receptors such as residences, schools, and hospitals. Figure 1, Common Noise Sources and Noise Levels, illustrates some noise producers that can be found within Riverside County, as well as their corresponding noise measurement. The following sections contain policies that address the issues of noise producers and their effects on noise-sensitive land uses.

Figure N-1: Common Noise Sources and Noise Levels



Noise Sensitive Land Uses

A series of land uses have been deemed sensitive by the State of California. These land uses require a serene environment as part of the overall facility or residential experience. Many of these facilities depend on low levels of sound to promote the well being of the occupants. These uses include, but are not necessarily limited to; schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas. Activities conducted in proximity to these facilities must consider the noise output, and ensure that they don't create unacceptable noise levels that may unduly affect the noise-sensitive uses. The following policies address issues related to noise-sensitive land uses.

NOISE COMPATIBILITY

The Noise Element of the General Plan is closely related to the Land Use Element because of the effects that noise has on sensitive land uses. Noise-producing land uses must be compatible with adjacent land uses in order for the Land Use Plan to be successful. Land uses that emit noise are measured in A-weighted decibels (dBA) or Community Noise Equivalent Level (CNEL). If existing land uses emit noise above a certain level, they are not compatible with one another, and therefore noise attenuation devices must be used to mitigate the noise to acceptable levels indoors and outdoors. In cases of new development, the placement of noise-sensitive land uses is integral to a successful community. Table 1, Land Use Compatibility for Community Noise Exposure, reveals the noise acceptability levels for different land uses. Areas around airports may have different or more restrictive noise standards than those cited in Table 1 (See Policy N 1.3 below).The following policies protect noise-sensitive land uses from noise emitted by outside sources, and prevent new projects from generating adverse noise levels on adjacent properties.

The General Plan policy and implementation item reference system:

Identifies which element contains the Policy, in this case the Land Use Element, and the sequential number.

LU 1.3
Neighborhood commercial uses should be located near residential uses.
(AI 1 and AI 4)

Reference to the relevant Action Items contained in the Implementation Program.

Policies:

N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or blockwalls shall be used. (AI 107)

N 1.2 Guide noise-tolerant land uses into areas irrevocably committed to land uses that are noise-producing, such as transportation corridors or within the projected noise contours of any adjacent airports. (AI 107)

N 1.3 Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:

- Schools;
- Hospitals;
- Rest Homes;
- Long Term Care Facilities;
- Mental Care Facilities;
- Residential Uses;
- Libraries;
- Passive Recreation Uses; and

- Places of worship

Unregulated noise sources such as household power tools often emit more noise than regulated noise producers.

According to the State of California Office of Planning and Research General Plan Guidelines, an acoustical study may be required in cases where these noise-sensitive land uses are located in an area of 60 CNEL or greater. Any land use that is exposed to levels higher than 65 CNEL will require noise attenuation measures.

Areas around airports may have different noise standards than those cited above. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix L and summarized in the Policy Area section of the affected Area Plan. (AI 105)

N 1.4 Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys**.** (AI 106, 109)

N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County. (AI 105, 106, 108)

N 1.6 Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses. (AI 107)

N 1.7 Require proposed land uses, affected by unacceptably high noise levels, to have an acoustical specialist prepare a study of the noise problems and recommend structural and site design features that will adequately mitigate the noise problem. (AI 106, 107)

N 1.8 Limit the maximum permitted noise levels that cross property lines and impact adjacent land uses, except when dealing with noise emissions from wind turbines. Please see the Wind Energy Conversion Systems section for more information. (AI 108)

Please contact the Office of Industrial Hygiene for more information on acoustical specialists.

Table N-1:
Land Use Compatibility for Community Noise Exposure

NOISE MITIGATION STRATEGIES

Many land uses emit noise above state-mandated acceptable levels. The noise emitted from a land use must be mitigated to acceptable levels indoors and outdoors in order for other, more noise-sensitive land uses to locate in proximity to these noise producers. There are a number of ways to mitigate noise and the following policies suggest some possible solutions to noise problems.

Policies:

N 2.1 Create a County Noise Inventory to identify major noise generators and noise-sensitive land uses, and to establish appropriate noise mitigation strategies. (AI 105)

N 2.2 Require a qualified acoustical specialist to prepare acoustical studies for proposed noise-sensitive projects within noise impacted areas to mitigate existing noise. (AI 105, 107)

N 2.3 Mitigate exterior and interior noises to the levels listed in the table below to the extent feasible, for stationary sources: (AI 105)

Table N-2:
Stationary Source Land Use Noise Standards [1]

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 p.m. to 7:00 a.m.	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 a.m. to 10:00 p.m.	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)

[1]These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health.

Noise Producers

LOCATION OF NOISE PRODUCERS

Good neighbors keep their noise to themselves.

The communities of Riverside County need a variety of land uses in order to thrive and succeed. These land uses may provide jobs, clean water, ensure safety, ship goods, and ease transportation woes. But they may also emit high levels of noise throughout the day. These noise-producing land uses can complement a community when the noise they emit is properly mitigated. The following policies suggest a series of surveys and analyses to correctly identify the proper noise mitigating procedures in order to promote the continued success of the communities of Riverside County.

Agriculture

One of the major economic thrusts of Riverside County is the agricultural industry. The Riverside County Right-to-Farm Ordinance conserves, protects, and encourages the development, improvement, and continued viability of agricultural land and industries for the long-term production of food and other agricultural products, and for the economic well-being of the County's residents. The Right-to-Farm Ordinance also attempts to balance the rights of farmers to produce food and other agricultural products with the rights of non-farmers who own, occupy, or use land within or adjacent to agricultural areas. The Riverside County Right-to-Farm Ordinance also works to reduce the burden of the County's agricultural resources by limiting the circumstances under which agricultural operations may be deemed a nuisance. Policies within this section address the potential noise issues that may be raised in regards to agricultural production.

Policies:

N 3.1 Protect Riverside County's agricultural resources from noise complaints that may result from routine farming practices, through the enforcement of the Riverside County Right-to-Farm Ordinance. (AI 105, 107)

N 3.2 Require acoustical studies and subsequent approval by the Planning Department and the Office of Industrial Hygiene, to help determine effective noise mitigation strategies in noise-producing areas. (AI 105)

N 3.3 Ensure compatibility between industrial development and adjacent land uses. To achieve compatibility, industrial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses. (AI 107)

N 3.4 Identify point-source noise producers such as manufacturing plants, truck transfer stations, and commercial development by conducting a survey of individual sites. (AI 106)

N 3.5 Require that a noise analysis be conducted by an acoustical specialist for all proposed projects that are noise producers. Include

recommendations for design mitigation if the project is to be located either within proximity of a noise-sensitive land use, or land designated for noise-sensitive land uses. (AI 109)

N 3.6 Discourage projects that are incapable of successfully mitigating excessive noise. (AI 107)

N 3.7 Encourage noise-tolerant land uses such as commercial or industrial, to locate in areas already committed to land uses that are noise-producing. (AI 107)

STATIONARY NOISE

A stationary noise producer is any entity in a fixed location that emits noise. Stationary noise producers are common in many noise-sensitive areas. Motors, appliances, air conditioners, lawn and garden equipment, power tools, and generators are often found in residential neighborhoods, as well as on or near the properties of schools, hospitals, and parks. These structures are often a permanent fixture and are required for the particular land use. Industrial and manufacturing facilities are also stationary noise producers that may affect sensitive land uses. Furthermore, while noise generated by the use of motor vehicles over public roads is preempted from local regulation, the County considers the use of these vehicles to be a stationary noise source when operated on private property such as at a truck terminal or warehousing facility. The emitted noise from the producer can be mitigated to acceptable levels either at the source or on the adjacent property through the use of proper planning, setbacks, blockwalls, acoustic-rated windows, dense landscaping, or by changing the location of the noise producer. The following policies identify mechanisms to measure and mitigate the noise emitted from stationary noise producers.

Community Noise Inventory

The cumulative noise created by truck transfer stations can reach excessive levels when noise sensitive uses are located nearby.

There are a series of noise producers within Riverside County that bear special recognition. These uses may be important parts of the economic health of the County, but they still emit noise from time to time. Some of the special noise producers within the County include, but are not limited to the Riverside Raceway, surface mining, truck transfer stations in the Mira Loma area, manufacturing facilities, and natural gas transmission pipelines.

Three high pressure natural gas transmission pipelines are located in the community of Cabazon (within the Pass Area Plan), and a series of valve stations are placed along the pipeline throughout the community. The pipelines supply a major portion of the non-transportation energy supply for southern California. The depressurization of mainline valves at the valve stations for emergency or maintenance reasons can result in noise levels exceeding 140 dB L_{eq} at a distance of 50 feet from the source for more than an hour at a time. The pipelines are not located in heavily populated areas; however, should higher-intensity uses be approved in the area in the future, possible relocation of one or more pipelines or valves may be necessary.

Policies:

N 4.1 Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels: (AI 105)
a. 45 dBA-10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.
b. 65 dBA-10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.

N 4.2 Develop measures to control non-transportation noise impacts. (AI 105)

N 4.3 Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed, and ensure that the recommended mitigation measures are implemented. (AI 105, 106, 109)

N 4.4 Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources. (AI 105)

N 4.5 Encourage major stationary noise-generating sources throughout the County of Riverside to install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable prior to the renewal of Conditional Use Permits or business licenses or prior to the approval and/or issuance of new Conditional Use Permits for said facilities. (AI 105, 107)

N 4.6 Establish acceptable standards for residential noise sources such as, but not limited to, leaf blowers, mobile vendors, mobile stereos and stationary noise sources such as home appliances, air conditioners, and swimming pool equipment. (AI 105)

A pure tone is a single frequency tone with no harmonic content (e.g. hum).

N 4.7 Evaluate noise producers for the possibility of pure-tone producing noises. Mitigate any pure tones that may be emitted from a noise source. (AI 106, 107)

N 4.8 Require that the parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize the potential noise impacts of vehicles on the site as well as on adjacent land uses. (AI 106, 107)

Wind Energy Conversion Systems (WECS)

Wind energy is a unique resource found only in a portion of Riverside County. Wind Energy Conversion Systems (WECS) are used to harness the energy found in strong gusts of wind. In order to fully capitalize on this special commodity, a large number of wind turbines have been placed in a portion of the Coachella Valley and San Gorgonio Pass within Riverside County. There are some residential areas spread throughout the County that may also capitalize on wind-generated power. Though there is minimal residential development in the immediate areas where these windmills are located, the potential for noise and ground-borne vibration in neighboring developed areas may occur. The Wind Implementation Monitoring Program, designed and implemented by Riverside County, guides the policy direction for this area.

Policies:

N 5.1 Enforce the Wind Implementation Monitoring Program (WIMP).

N 5.2 Encourage the replacement of outdated technology with more efficient technology with less noise impacts. (AI 105)

MOBILE NOISE

Please see the Circulation Element for further policies regarding transportation and noise related issues.

Mobile noise sources may be one of the most annoying noise producers in a community because they are louder than background noises and more intense than many acceptable stationary noise sources. Though the noise emitted from mobile sources is temporary, it is often more disturbing because of its abruptness, especially single noise-producing events such as vehicle backfires. Common mobile noise sources include on-road vehicles, aircraft, and trains. The policies in this section identify common mobile noise sources, and suggest mitigation techniques to reduce the annoyance and burden of mobile noise sources on noise-sensitive receptors.

Policies:

N 6.1 Consider noise reduction as a factor in the purchase of County maintenance equipment and their use by County contractors and permittees. (AI 108)

N 6.2 Investigate the feasibility of retrofitting current County-owned vehicles and mechanical equipment to comply with noise performance standards consistent with the best available noise reduction technology. (AI 108)

Commercial Airliners are mobile noise sources that contribute to noise pollution.

N 6.3 Require commercial or industrial truck delivery hours be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits. (AI 105, 107)

N 6.4 Restrict the use of motorized trail bikes, mini-bikes, and other off-road vehicles in areas of the County except where designated for that purpose. Enforce strict operating hours for these vehicles in order to minimize noise impacts on sensitive land uses adjacent to public trails and parks. (AI 105, 108)

Transportation

The most common mobile noise sources in the County are transportation-related. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a higher sustained noise level in proximity to areas sensitive to noise exposure. Rail and aircraft operations, though less frequent, may generate extremely high noise levels that can be disruptive to daily activities. Though mass transit has not yet been developed within Riverside County, it is important to consider the noise that may be generated from transit service.

The following airports are located within or have a direct effect on Riverside County. Please see Appendix I for a map with each airport's noise contours. Also see the area plans and airport land use plans for more specific airport-related policies:

- *Banning Municipal Airport*
- *Bermuda Dunes Airport*
- *Blythe Airport*
- *Chino Airport*
- *Corona Municipal Airport*
- *Chiriaco Summit Airport*
- *Desert Center Airport*
- *Desert Resorts Regional Airport*
- *Flabob Airport*
- *French Valley Airport*
- *Hemet-Ryan Airport*
- *March Inland Port*
- *Palm Springs Regional Airport*
- *Perris Valley Airport*
- *Riverside Municipal Airport*
- *Skylark Airport*

Airports

With the dynamic growth in aviation, aircraft noise will remain a challenging environmental problem and one that will affect an increasing number people as air traffic routes and procedures change in the future. Aircraft noise appears to produce the greatest community anti-noise response, although the duration of the noise from a single airplane is much less, for example, than that from a freight train. There is great economic benefit to gain from airports of any size, although living in proximity to an airport may bring about expected aircraft noise.

There are 15 (fifteen) airports that are located within or have a direct effect on Riverside County. The land under the flight paths of each airport was monitored to determine the amount of noise emitted by common aircraft taking-off and landing at any given airport. Noise contours were created based on the measurements from the monitoring program. The CNEL noise contour(s) for the following airports have been depicted in the applicable Area Plan's Airport Influence Area section:

- Banning Municipal Airport
- Bermuda Dunes Airport
- Blythe Airport
- Chino Airport
- Chiriaco Summit Airport
- Corona Municipal Airport
- Desert Center Airport
- Desert Resorts Regional Airport
- Flabob Airport
- French Valley Airport
- Hemet Ryan Airport
- Riverside Municipal Airport

An Airport Land Use Plan has been created for each airport within Riverside County, and it should be referenced for further information regarding airports. Helicopters and heliports are also potential sources of noise, but due to the relatively low frequency and short duration of their operation in most circumstances, these operations do not significantly affect average noise levels within the County. The following general policies address the noise that comes from airports and the aircraft they service.

Policies:

N 7.1 New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix L and summarized in the Policy Area section of the affected Area Plan.

N 7.2 Adhere to applicable noise compatibility criteria when making decisions regarding land uses adjacent to airports. Refer to the Airports section of the Land Use Element (Page LU-32) and the Airport Influence Area sections of the corresponding Area Plans.

N 7.3 Prohibit new residential land uses, except construction of a single-family dwelling on a legal residential lot of record, within the current 60 dB CNEL contours of any currently operating public-use, or military airports. The applicable noise contours are as defined by the Riverside County Airport Land Use Commission and depicted in Appendix L, as well as in the applicable Area Plan's Airport Influence Area section.

N 7.4 Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan's Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.

N 7.5 Revise the Riverside County Zoning Code to reflect aircraft noise-impacted areas around the County's major airports. (AI 109)

Vehicular

Please see the Circulation Element for more in-depth information regarding Level of Service Standards, Average Daily Trips, and other information related to vehicular circulation.

Roadway traffic is one of the most pervasive sources of noise within Riverside County. Traffic noise varies in how it affects land uses depending upon the type of roadway, and the distance of the land use from that roadway. Some variables that affect the amount of noise emitted from a road are speed of traffic, flow of traffic, and type of traffic (e.g. tractor trailers versus cars). Another variable affecting the overall measure of noise is a perceived increase in sensitivity to vehicular noise at night. Appendix I contains tables and figures that illustrate existing and forecasted noise from roadways throughout the County. The existing noise measurements were obtained by measuring noise at different points adjacent to the roadway. The future noise contours along freeways and major highways, also located in Appendix I, were created from the results of traffic modeling to project the noise of major roadways in the future. The following policies address the issues of roadway traffic noise, and suggest methods to reduce the noise impact of roads on adjacent and nearby land uses.

Policies:

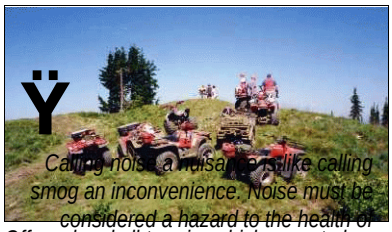
N 8.1 Enforce all noise sections of the State Motor Vehicle Code.

N 8.2 Ensure the inclusion of noise mitigation measures in the design of new roadway projects in the County. (AI 105)

N 8.3 Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures. (AI 106)

N 8.4 Require that the loading and shipping facilities of commercial and industrial land uses, which abut residential parcels be located and designed to minimize the potential noise impacts upon residential parcels. (AI 105)

N 8.5 Employ noise mitigation practices when designing all future streets and highways, and when improvements occur along existing highway segments. These mitigation measures will emphasize the



Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere.

Off-road and all-terrain vehicles must obey strict operating hours when noise-sensitive land uses are nearby or adjacent to trails and open space.

-The Surgeon General

establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas. (AI 105)

N 8.6 Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts. (AI 106)

N 8.7 Require that field noise monitoring be performed prior to siting to any sensitive land uses along arterial roadways. Noise level measurements should be of at least 10 minutes in duration and should include simultaneous vehicle counts so that more accurate vehicle ratios may be used in modeling ambient noise levels. (AI 106)

Mass Transit

Currently, the County does not participate in or provide any rail transit services though public transportation is becoming a more desirable option for many travelers and commuters in Riverside County. Transit can be an alternative to driving a car through congested Riverside County freeways. Currently, the noise generated by public transportation within Riverside County affects only a very small percentage of the total residential population. As years pass, and the need for public transportation increases, there will be a greater number of residents affected by the noise that buses, transit oases shuttles, light rail, and trains will produce. The following policies address the issues of noise related to public transit.

Please see the Circulation Element for additional policies related to transit development and rail systems.

Policies:

N 9.1 Encourage local and regional public transit providers to ensure that the equipment they operate and purchase is state-of-the-art and does not generate excessive noise impacts on the community. (AI 108)

N 9.2 Encourage the use of quieter electric-powered vehicles. (AI 108)

N 9.3 Encourage the development and use of alternative transportation modes including bicycle paths and pedestrian walkways to minimize vehicular noise within sensitive receptor areas.

N 9.4 Actively participate in the development of noise abatement plans for freeways and rapid transit. (AI 108)

Rail

The rail system within Riverside County criss-crosses its way through communities, industrial areas, rural areas, and urban centers. Trains carry passengers, freight, and cargo to local and regional destinations day and night. Rail transportation may become more popular in the future if a mass public transportation system is implemented within Riverside County. Currently, daily train traffic produces noise that may disrupt activities in proximity to railroad tracks. For instance, trains are required to sound their horns at all at-grade crossings, and they may also be required to slow their speed through residential areas. These types of noise disturbances can interfere with activities conducted on noise-sensitive land uses. Exhibits showing existing railroad noise contours can be found in Appendix I. These exhibits provide purely illustrative contours

An at-grade railroad crossing is one where the street and the rail line form an intersection, and physically cross one-another.

along rail lines throughout the County. The following policies suggest actions that could minimize the impacts of train noise on noise-sensitive land uses.

Policies:

N 10.1 Check all proposed projects for possible location within railroad noise contours using typical noise contour diagrams. (AI 106, 109)

N 10.2 Minimize the noise effect of rail transit (freight and passenger) on residential uses and other sensitive land uses through the land use planning process. (AI 106, 109)

N 10.3 Locate light rail and fixed rail routes and design rail stations in areas that are accessible to both residential and commercial areas, but also minimize noise impacts on surrounding residential and sensitive land uses. (AI 106, 109)

N 10.4 Install noise mitigation features where rail operations impact existing adjacent residential or other noise-sensitive uses. (AI 108)

N 10.5 Restrict the development of new sensitive land uses to beyond the 65 decibel CNEL contour along railroad rights-of-way. (AI 106, 109)

Building and Design

One of the most effective means of reducing noise in a sensitive area is to construct and design buildings in such a way that the noise is deflected in such a way that it does not affect the occupants. If the building has already been constructed, then landscaping and design techniques can be used to tastefully absorb the noise emitted from mobile or stationary sources. These building and design techniques should serve two purposes; to mitigate noise to acceptable indoor and outdoor levels, and to enhance the community character rather than detract from its surroundings. The following policies have been included in the Noise Element to ensure that the character of each community within Riverside County is preserved while minimizing noise to acceptable levels.

Natural Barriers and Landscaping

Policies:

N 11.1 Utilize natural barriers such as hills, berms, boulders, and dense vegetation to assist in noise reduction. (AI 108)

N 11.2 Utilize dense landscaping to effectively reduce noise. However, when there is a long initial period where the immaturity of new landscaping makes this approach only marginally effective, utilize a large number of highly dense species planted in a fairly mature state, at close intervals, in conjunction with earthen berms, setbacks, or block walls. (AI 108)

Temporary Construction

Policies:

N 12.1 Minimize the impacts of construction noise on adjacent uses within acceptable practices. (AI 105, 108)

N 12.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas. (AI 105, 108)

N 12.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as

a. Temporary noise attenuation fences;
b. Preferential location of equipment; and
c. Use of current noise suppression technology and equipment. (AI 107)

N 12.4 Require that all construction equipment utilizes noise reduction features (e.g. mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer. (AI 105, 108)

Building and Design Techniques

Policies:

N 13.1 Enforce the California Building Standards that sets standards for building construction to mitigate interior noise levels to the tolerable 45 CNEL limit. These standards are utilized in conjunction with the Uniform Building Code by the County's Building Department to ensure that noise protection is provided to the public. Some design features may include extra-dense insulation, double-paned windows, and dense construction materials.

,

Non-habitable areas within a home include:
- *kitchens*
- *bathrooms*
- *hallways*
- *garages*
- *closets*
- *utility rooms*
- *laundry rooms*

N 13.2 Continue to develop effective strategies and mitigation measures for the abatement of noise hazards reflecting effective site design approaches and state-of-the-art building technologies. (AI 108)

N 13.3 Incorporate acoustic site planning into the design of new development, particularly large scale, mixed-use, or master-planned development, through measures which may include:
- separation of noise-sensitive buildings from noise-generating sources;
- use of natural topography and intervening structure to shield noise-sensitive land uses; and
- adequate sound proofing within the receiving structure. (AI 106)

N 13.4 Consider and, when necessary to lower noise to acceptable limits, require noise barriers and landscaped berms. (AI 108)

N 13.5 Consider the issue of adjacent residential land uses when designing and configuring all new, non-residential development. Design and configure on-site ingress and egress points that divert traffic away from nearby noise-sensitive land uses to the greatest degree practicable. (AI 106, 107)

N 13.6 Prevent the transmission of excessive and unacceptable noise levels between individual tenants and businesses in commercial structures and between individual dwelling units in multi-family residential structures. (AI 105, 108)

N 13.7 Assist the efforts of local homeowners living in high noise areas to noise attenuate their homes through funding assistance and retrofitting program development, as feasible. (AI 105, 108)

N 13.8 Review all development applications for consistency with the standards and policies of the Noise Element of the General Plan.

N 13.9 Mitigate 600 square feet of exterior space to 65 dB CNEL when new development is proposed on residential parcels of 1 acre or greater.

Mixed Use

Policies:

N 14.1 Minimize the potential adverse noise impacts associated with the development of mixed-use structures where residential units are located above or adjacent to commercial uses. (AI 106, 107, 108)

N 14.2 Require that commercial and residential mixed-use structures minimize the transfer or transmission of noise and vibration from the commercial land use to the residential land use. (AI 105)

N 14.3 Minimize the generation of excessive noise level impacts from entertainment and restaurant/bar establishments into adjacent residential or noise-sensitive uses. (AI 105, 107)

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Vibration

Amplitude-the distance that a vibrating particle travels from a fixed point.

Frequency-the number of wave cycles that occur in 1 second.

Hertz (Hz)-the unit by which frequency is measured.

Displacement-a measure of the distance that a vibrated particle travels from its original position.

Velocity-the rate of speed at which particles move in inches per second or millimeters per second.

Acceleration-the rate of change in velocity with respect to time.

Another community annoyance related to noise is vibration. As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized by displacement, velocity, and/or acceleration. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration.

Vibration can be felt outdoors, but the perceived intensity of vibration impacts are much greater indoors, due to the shaking of the structure. Some of the most common sources of vibration come from trains and/or transit vehicles, construction equipment, airplanes, and large vehicles. Several land uses are especially sensitive to vibration, and therefore have a lower vibration threshold. These uses include, but are not limited to, concert halls, hospitals, libraries, vibration-sensitive research operations, residential areas, schools, and offices.

Table 3, Human Reaction to Typical Vibration Levels, presents the human reaction to various levels of peak particle velocity. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies. However, due to their suspension systems, city buses often generate frequencies around 30 Hz at high vehicle speeds. It is more uncommon, but possible, to measure traffic frequencies above 30 Hz.

Table N-3:
Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (inches/second)	Human Reaction
0.0059-0.0188	Threshold of perception, possibility of intrusion
0.0787	Vibrations readily perceptible
0.0984	Continuous vibration begins to annoy people
0.1968	Vibrations annoying to people in buildings
0.3937-0.5905	Vibrations considered unpleasant when continuously subjected and unacceptable by some walking on bridges.

Source: Caltrans, 1992

Policies:

N 15.1 Restrict the placement of sensitive land uses in proximity to vibration-producing land uses. (AI 105)

N 15.2 Consider the following land uses sensitive to vibration:
- Hospitals;
- Residential Areas;
- Concert Halls;

- Libraries;
- Sensitive Research Operations;
- Schools; and
- Offices

N 15.3 Prohibit exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. Perceptible motion shall be presumed to be a motion velocity of 0.01 inches/second over a range of 1 to 100 Hz.

Noise Information Management

Current and projected noise data and maps for Riverside County require constant updating and review in order for the information to remain correct as well as accurate. Currently, there is no central noise information database available for the County staff or residents to reference when noise inquiries arise. This information is necessary and should be easily accessible when reviewing potential development plans, building a new home, siting an industrial area, evaluating circulation routes, or conducting other advanced planning activities. The following policies guide the County to create a database, or central location, where up-to-date information can be accessed by County Staff or residents.

Please see Table N-1 for more information in order to determine a noise threshold necessary for creating a noise database.

Mapping

Policies:

N 16.1 Identify, quantify, and map noise producers and provide noise contour diagrams as is practical. (AI 109)

N 16.2 Identify and map noise-sensitive land uses throughout the County. (AI 109)

N 16.3 Identify and map point-source noise producers such as surface mines, wind turbines, manufacturing plants, truck transfer stations, active recreational facilities, and amphitheaters. (AI 109)

Noise Data Management

Policies:

N 17.1 Maintain baseline information, on an ongoing basis, regarding ambient and stationary noise sources. (AI 105)

N 17.2 Monitor and update available data regarding the community's existing and projected ambient stationary noise levels.

N 17.3 Assure that areas subject to noise hazards are identified, quantified, and mapped in a form that is available to decisionmakers. (AI 109)

N 17.4 Develop and maintain a detailed, comprehensive noise data base. (AI 106)

N 17.5 Develop and update County Noise Inventories using the following steps.

a. Identify Noise Sources and Noise-sensitive Land Uses
b. Continue to identify various agency responsibilities; review noise complaint files; and conduct noise surveys and monitoring as needed.

N 17.6 Identify those areas of the County affected by high noise levels. (AI 106, 107, 109)

N 17.7 Evaluate current land uses to identify potential noise conflict areas. (AI 106, 107, 109)

N 17.8 Gather activity operations' data of noise sources; prepare analytical noise exposure models to develop existing and projected noise contours around major noise sources down to 50 CNEL. (AI 109)

N 17.9 Encourage greater involvement of other County departments in the identification, measurement, and reduction of noise hazards throughout the County, including: Building and Safety Department, Aviation Department, and the Department of Public Health-Office of Industrial Hygiene.

Public Noise Information

Policies:

N 18.1 Provide information to the public regarding the health effects of high noise levels and means of mitigating such levels. (AI 109)

N 18.2 Cooperate with industry to develop public information programs on noise abatement. (AI 108)

N 18.3 Condition that prospective purchasers or end users of property be notified of overflight, sight, and sound of routine aircraft operations by all effective means, including:

a. requiring new residential subdivisions that are located within the 60 CNEL contour or are subject to overflight, sight, and sound of aircraft from any airport, to have such information included in the State of California Final Subdivision Public Report.
b. requiring that Declaration and Notification of Aircraft Noise and Environmental Impacts be recorded and made available to prospective purchasers or end users of property located within the 60 CNEL noise contour for any airport or air station or is subject to routine aircraft overflight. (AI 109)

N 18.4 Promote increased awareness concerning the effects of noise and suggest methods by which the public can be of assistance in reducing noise.

N 18.5 Require new developments that have the potential to generate significant noise impacts to inform impacted users on the effects of these impacts during the environmental review process. (AI 106, 107)

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APPENDIX 3.2:

CITY OF WILDOMAR NOISE ORDINANCE

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Chapter 9.48 NOISE REGULATION

9.48.010 Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of the City of Wildomar residents and degrade their quality of life. Pursuant to its police power, the City Council declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish City-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are established. (Ord. 18 § 2, 2008, RCC § 9.52.010)

9.48.020 Exemptions.

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

A. Facilities owned or operated by or for a governmental agency;

B. Capital improvement projects of a governmental agency;

C. The maintenance or repair of public properties;

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

E. Public or private schools and school-sponsored activities;

F. Agricultural operations on land designated “agriculture” in the City General Plan, or land zoned A-l (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;

G. Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Title 17;

H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;

I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:

1. Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and

2. Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May;

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

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

L. Heating and air conditioning equipment;

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

N. The discharge of firearms consistent with all state laws. (Ord. 18 § 2, 2008, RCC § 9.52.020)

9.48.030 Definitions.

As used in this chapter, the following terms shall have the following meanings:

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

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

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

2. "Maximum sound level (L_{max})" means the maximum sound level measured on a sound level meter.

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

"Land use permit" means a discretionary permit issued by the City pursuant to Title 17.

"Motor vehicle" means a vehicle that is self-propelled.

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

"Noise" means any loud, discordant or disagreeable sound.

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

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

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

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

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

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

"Sound level meter" means an instrument meeting the standards of the American National Standards Institute for Type 1 or Type 2 sound level meters or an instrument that provides equivalent data. (Ord. 18 § 2, 2008, RCC § 9.52.030)

9.48.040 General sound level standards.

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

TABLE 1

Sound Level Standards (Db L_{max})

GENERAL PLAN FOUNDATION COMPONENT	GENERAL PLAN LAND USE DESIGNATION	GENERAL PLAN LAND USE DESIGNATION NAME	DENSITY	MAXIMUM DECIBEL LEVEL	
				7 am—10 pm	10 pm—7 am
Community Development	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
	MDR	Medium Density Residential	2—5	55	45
	MHDR	Medium High Density Residential	5—8	55	45
	HDR	High Density Residential	8—14	55	45
	VHDR	Very High Density Residential	14—20	55	45
	H'TDR	Highest Density Residential	20+	55	45
	CR	Retail Commercial		65	55
	CO	Office Commercial		65	55
	CT	Tourist Commercial		65	55
	CC	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	BP	Business Park		65	45
	PF	Public Facility		65	45
	SP	Specific Plan-Residential		55	45
		Specific Plan-Commercial		65	55
		Specific Plan-Light Industrial		75	55
		Specific Plan-Heavy Industrial		75	75
Rural Community	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
Rural	RR	Rural Residential	5 AC	45	45
	RM	Rural Mountainous	10 AC	45	45
	RD	Rural Desert	10 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	C	Conservation		45	45
	CH	Conservation Habitat		45	45
	REC	Recreation		45	45
	RUR	Rural	20 AC	45	45
	W	Watershed		45	45

	MR	Mineral Resources		75	45

(Ord. 18 § 2, 2008, RCC § 9.52.040)

9.48.050 Sound level measurement methodology.

Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the enforcement officials identified in Section 9.48.080 of this chapter. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be re-verified. Sound level meters and calibration equipment shall be certified annually. (Ord. 18 § 2, 2008, RCC § 9.52.050)

9.48.060 Special sound sources standards.

The general sound level standards set forth in Section 9.48.040 of this chapter apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitutes separate violations of this chapter:

A. Motor Vehicles.

1. Off-Highway Vehicles.

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

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

2. Sound Systems. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of 10:00 p.m. and 8:00 a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than 100 feet from the vehicle.

B. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than 100 feet from the power tools or equipment.

C. Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than 100 feet from the equipment.

D. Sound-Amplifying Equipment and Live Music. No person shall install, use or operate sound-amplifying

equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control:

1. Sound-amplifying equipment or live music is prohibited between the hours of 10:00 p.m. and 8:00 a.m.

2. Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than 200 feet from the equipment or music. (Ord. 18 § 2, 2008, RCC § 9.52.060)

9.48.070 Exceptions.

Exceptions may be requested from the standards set forth in Section 9.48.040 or 9.48.060 of this chapter and may be characterized as construction-related, single-event or continuous-events exceptions.

A. Application and Processing.

1. Construction-Related Exceptions. An application for a construction-related exception shall be made to and considered by the Director of Building and Safety on forms provided by the Building and Safety Department and shall be accompanied by the appropriate filing fee. No public hearing is required.

2. Single-Event Exceptions. An application for a single-event exception shall be made to and considered by the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate filing fee. No public hearing is required.

3. Continuous-Events Exceptions. An application for a continuous-events exception shall be made to the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous-events exception, the Planning Director shall set the matter for public hearing before the Planning Commission, notice of which shall be given as provided in Title 17. Notwithstanding the above, an application for a continuous-events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.

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

C. Appeals. The Director of Building and Safety's decision on an application for a construction-related exception is considered final. The Planning Director's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decision-making body or officer shall mail notice of the decision to the applicant. Within 10 calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the City Council. Upon receipt of an appeal and payment of the appropriate appeal fee, the City Clerk shall set the matter for hearing not less than five days nor more than 30 days thereafter and shall give written notice of the hearing in the same manner as notice of the hearing was given by the appropriate hearing officer or body. The City Council shall render its decision within 30 days after the appeal hearing is closed.

D. Effect of a Pending Continuous-Events Exception Application. For a period of 180 days from the effective date of the ordinance codified in this chapter, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-events exception has been filed to

sanction the sound and if a decision on the application is pending. (Ord. 18 § 2, 2008, RCC § 9.52.070)

9.48.080 Enforcement.

The Chief of Police and Code Enforcement Department shall have the primary responsibility for enforcing this chapter; provided, however, the Chief of Police and Code Enforcement Department may be assisted by the Public Health Department. Violations shall be prosecuted as described in Section 9.48.100 of this chapter, but nothing in this chapter shall prevent the Chief of Police, Code Enforcement or the Department of Public Health from engaging in efforts to obtain voluntary compliance by means of warnings, notices, or educational programs. (Ord. 18 § 2, 2008, RCC § 9.52.080)

9.48.090 Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the enforcement officials identified in Section 9.48.080 of this chapter when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter. (Ord. 18 § 2, 2008, RCC § 9.52.090)

9.48.100 Violations and penalties.

Any person who violates any provision of this chapter once or twice within a 180-day period shall be guilty of an infraction. Any person who violates any provision of this chapter more than twice within a 180-day period shall be guilty of a misdemeanor. Each day a violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Penalties shall not exceed the following amounts:

A. For the first violation within a 180-day period, the minimum mandatory fine shall be $500.00.

B. For the second violation within a 180-day period, the minimum mandatory fine shall be $750.00.

C. For any further violations within a 180-day period, the minimum mandatory fine shall be $1,000.00 or imprisonment for a period not exceeding six months, or both. (Ord. 18 § 2, 2008, RCC § 9.52.100)

APPENDIX 5.1:

STUDY AREA PHOTOS

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L1 - IMG_0966.JPG
33° 37' 28.5"117° 15' 52.38"

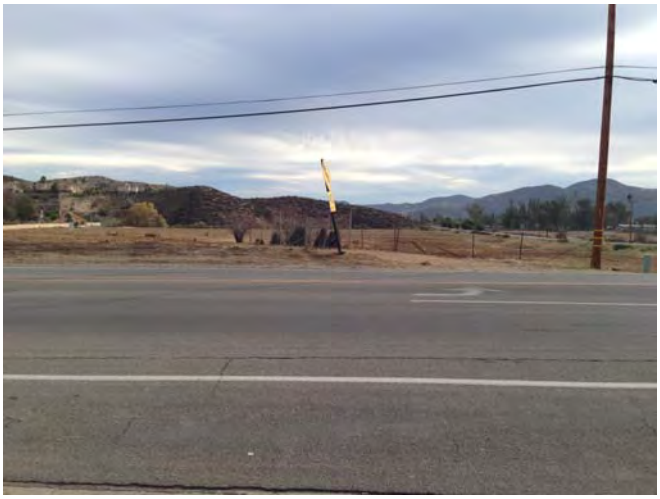
L1 - IMG_0967.JPG
33° 37' 28.54"117° 15' 52.16"

L1 - IMG_0968.JPG
33° 37' 28.52"117° 15' 52.08"

L1 - IMG_0969.JPG
33° 37' 28.52"117° 15' 52.08"

L2 - IMG_0970.JPG
33° 37' 36.28"117° 15' 59.08"

L2 - IMG_0971.JPG
33° 37' 37.11"117° 15' 57.43"



L2 - IMG_0972.JPG
33° 37' 37.2"117° 15' 57.57"

L2 - IMG_0973.JPG
33° 37' 37.22"117° 15' 57.6"

L3 - IMG_0974.JPG
33° 37' 35.44"117° 15' 56.14"

L3 - IMG_0975.JPG
33° 37' 35.44"117° 15' 56.14"

L3 - IMG_0976.JPG
33° 37' 25.96"117° 15' 59.27"

L3 - IMG_0977.JPG
33° 37' 25.96"117° 15' 59.44"

L4 - IMG_0978.JPG
33° 37' 37.13"117° 15' 57.1"

L4 - IMG_0979.JPG
33° 37' 24.27"117° 16' 2.18"

L4 - IMG_0980.JPG
33° 37' 23.61"117° 16' 2.18"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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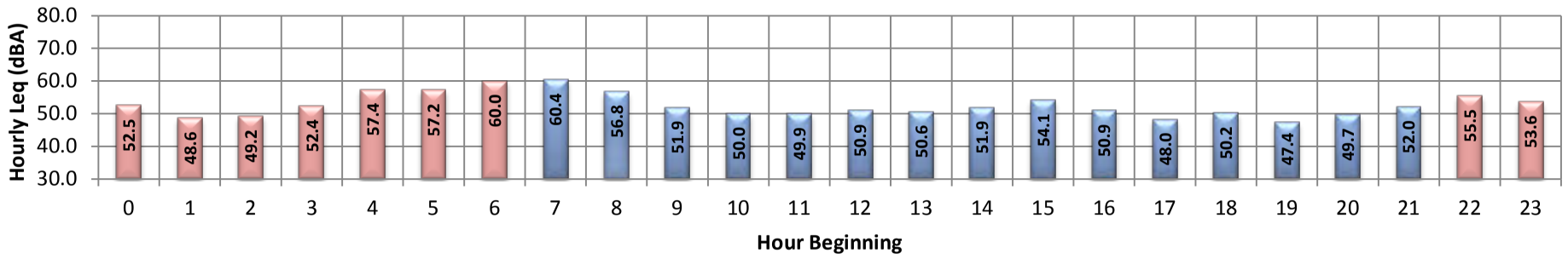
24-Hour Noise Level Measurement Summary

				Energy Average Leq		24-Hour
Project Name:	Wildomar Walmart	*JN:*	8809	*Day*	*Night*	*CNEL*
Location:	L1 - East of the project site near the residential community located on Autumn Sage Court.	*Analyst:*	B. Lawson	53.3	55.5	61.7
		Date:	1/22/2014			

Hourly Leq dBA Readings (unadjusted)



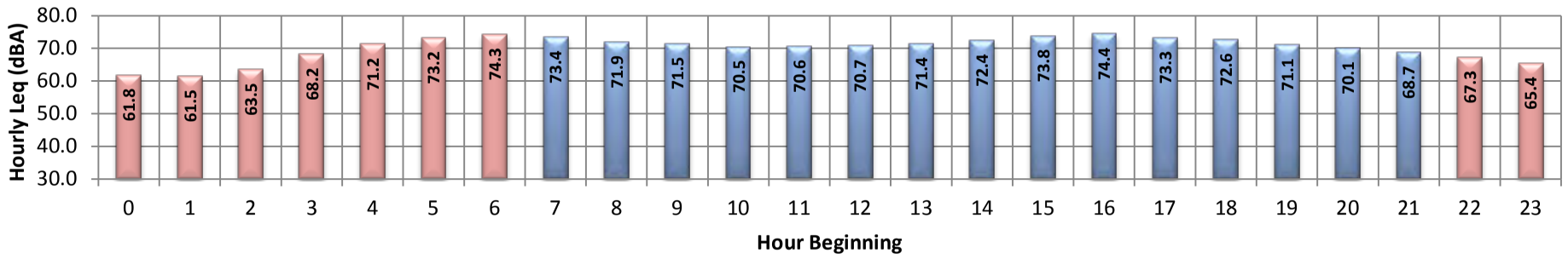
Time Period	*Hour*	*Leq*	*Lmax*	*Lmin*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	47.4	59.2	40.6	52.5	51.5	50.5	49.5	47.0	45.5	43.0	42.5	41.5
	Max	60.4	72.5	54.2	67.5	65.0	63.0	62.5	61.5	60.0	56.0	55.5	55.0
Night	Min	48.6	57.8	39.1	54.5	54.0	53.0	52.0	49.5	47.0	43.0	42.0	40.5
	Max	60.0	72.6	54.4	66.0	65.5	64.5	63.5	60.5	58.0	56.0	55.5	55.0
Hourly Summary													
Night	0	52.5	72.6	39.1	61.0	58.0	55.0	54.0	51.0	49.0	44.5	43.5	41.0
	1	48.6	57.8	39.2	54.5	54.0	53.0	52.0	49.5	47.0	43.0	42.0	40.5
	2	49.2	64.2	40.3	57.0	55.0	53.5	52.0	49.5	47.5	44.0	43.0	41.5
	3	52.4	61.2	43.4	58.0	57.0	56.0	55.5	53.0	51.0	47.0	46.0	44.5
	4	57.4	69.6	48.7	63.0	62.0	61.0	60.0	58.0	56.0	53.5	52.5	51.0
	5	57.2	67.9	51.8	62.0	61.0	60.0	59.0	57.5	56.5	54.0	53.5	52.5
	6	60.0	69.2	54.4	66.0	65.5	64.5	63.5	60.5	58.0	56.0	55.5	55.0
Day	7	60.4	69.0	54.2	64.5	64.0	63.0	62.5	61.5	60.0	56.0	55.5	55.0
	8	56.8	72.5	48.3	67.5	65.0	60.5	58.5	55.5	54.5	51.0	50.0	48.5
	9	51.9	72.1	43.8	59.5	57.5	54.5	53.5	51.0	49.5	46.5	46.0	44.5
	10	50.0	66.4	41.3	60.5	57.5	54.0	52.5	49.0	47.0	44.0	43.5	42.0
	11	49.9	68.4	42.5	58.5	57.0	55.0	53.0	48.5	46.5	44.5	44.0	43.5
	12	50.9	65.5	43.6	61.5	59.5	55.0	53.0	49.5	47.5	45.5	44.5	44.0
	13	50.6	66.7	42.6	60.0	56.5	53.0	52.0	50.0	48.5	46.0	45.5	44.0
	14	51.9	71.1	43.7	61.0	59.0	55.0	53.0	50.5	49.0	46.5	46.0	45.0
	15	54.1	72.5	45.0	64.0	61.0	57.0	55.5	53.5	51.5	48.5	47.5	46.5
	16	50.9	68.4	43.5	57.0	55.0	54.0	53.0	51.0	49.5	46.5	46.0	44.5
	17	48.0	59.2	40.6	52.5	51.5	50.5	50.0	48.5	47.5	44.5	44.0	42.5
	18	50.2	67.2	42.2	61.5	59.5	55.5	52.5	47.5	46.0	44.0	43.5	43.0
	19	47.4	67.0	41.3	54.5	53.0	51.0	49.5	47.0	45.5	43.0	42.5	41.5
	20	49.7	64.2	42.7	54.5	54.0	53.0	52.5	50.5	48.5	45.5	44.5	43.5
	21	52.0	63.8	44.5	57.5	57.0	55.5	54.5	52.5	51.0	47.5	47.0	45.5
Night	22	55.5	72.5	47.0	61.5	60.0	58.5	58.0	55.5	54.0	51.0	50.5	48.5
	23	53.6	62.5	42.2	59.5	59.0	57.5	56.5	54.0	52.5	48.5	47.0	43.5

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

				Energy Average Leq		24-Hour
Project Name:	Wildomar Walmart	*JN:*	8809	*Day*	*Night*	*CNEL*
Location:	L2 - Northeast of the project site north of Bundy Canyon Road near the fence line for residential homes located on Elbow Creek Trail.	*Analyst:*	B. Lawson	72.0	69.6	76.7
		Date:	1/22/2014			

Hourly Leq dBA Readings (unadjusted)



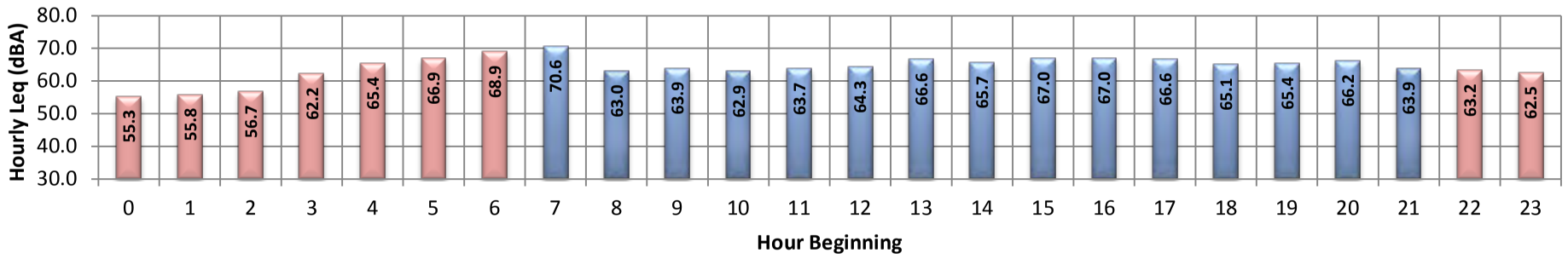
Time Period	*Hour*	*Leq*	*Lmax*	*Lmin*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	68.7	81.5	42.5	77.5	76.5	75.0	73.5	69.5	62.5	53.0	50.0	46.0
	Max	74.4	94.5	56.3	81.0	80.0	78.0	77.5	75.5	73.0	66.5	64.5	59.0
Night	Min	61.5	81.7	34.3	74.0	72.0	67.5	63.0	53.5	49.5	43.0	41.0	39.0
	Max	74.3	92.2	55.3	81.0	80.0	78.5	78.0	76.0	72.5	63.0	61.5	58.5
Hourly Summary													
Night	0	61.8	84.8	34.3	74.0	72.0	68.5	65.5	55.0	51.0	44.5	43.0	39.0
	1	61.5	81.7	37.3	74.5	72.0	67.5	63.0	53.5	49.5	43.0	41.0	39.0
	2	63.5	85.8	37.3	76.5	74.5	70.0	66.0	55.0	51.5	45.0	43.0	39.0
	3	68.2	85.3	45.8	78.5	77.5	75.5	74.0	64.0	56.5	52.0	50.5	48.0
	4	71.2	88.2	50.7	80.0	79.0	77.5	76.5	71.5	63.0	56.0	55.0	53.0
	5	73.2	92.2	55.3	80.5	79.5	78.5	77.5	74.5	68.5	59.0	58.0	56.5
	6	74.3	85.4	54.7	81.0	80.0	78.5	78.0	76.0	72.5	63.0	61.5	58.5
Day	7	73.4	91.7	49.2	79.0	78.5	77.5	76.5	74.5	72.0	62.0	58.0	52.0
	8	71.9	88.7	47.7	79.0	78.0	76.5	75.5	73.5	69.5	55.5	52.5	49.5
	9	71.5	94.5	46.0	79.0	77.5	76.0	75.5	72.5	67.5	53.0	50.5	47.5
	10	70.5	88.3	44.2	78.5	77.0	75.5	75.0	71.5	67.0	53.0	50.0	46.0
	11	70.6	83.5	42.5	78.5	77.5	75.5	75.0	72.0	67.5	53.0	50.0	46.0
	12	70.7	82.8	45.5	78.5	77.0	75.5	75.0	72.0	68.0	53.0	50.5	48.0
	13	71.4	85.4	44.6	79.5	78.0	76.5	75.5	72.5	68.5	56.0	52.5	47.5
	14	72.4	85.0	49.0	79.5	78.5	77.0	76.0	73.5	70.5	61.0	57.5	52.0
	15	73.8	90.9	48.1	81.0	79.5	78.0	77.0	74.5	71.5	64.0	60.5	55.5
	16	74.4	88.5	56.3	81.0	80.0	78.0	77.5	75.5	73.0	66.5	64.5	59.0
	17	73.3	87.7	55.1	79.0	78.0	77.0	76.5	74.5	72.0	64.5	61.5	58.0
	18	72.6	92.1	53.8	79.5	78.5	77.0	76.5	73.5	70.0	60.0	58.5	55.5
	19	71.1	85.2	52.7	79.0	78.0	76.5	75.5	72.0	68.0	58.5	57.0	55.0
	20	70.1	81.5	50.9	77.5	77.0	75.5	75.0	71.5	66.0	57.0	56.0	54.0
	21	68.7	83.0	52.0	77.5	76.5	75.0	73.5	69.5	62.5	56.5	55.5	53.5
Night	22	67.3	89.2	47.3	77.5	76.5	74.0	72.0	65.0	57.5	53.0	52.0	49.5
	23	65.4	86.0	44.8	76.5	75.0	72.5	70.5	61.0	56.0	51.5	50.5	47.5

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

				Energy Average Leq		24-Hour
Project Name:	Wildomar Walmart	*JN:*	8809	*Day*	*Night*	*CNEL*
Location:	L3 - East of the project site from the planned loading dock area across Monte Vista Drive.	*Analyst:*	B. Lawson	66.0	64.0	71.1
		Date:	1/22/2014			

Hourly Leq dBA Readings (unadjusted)



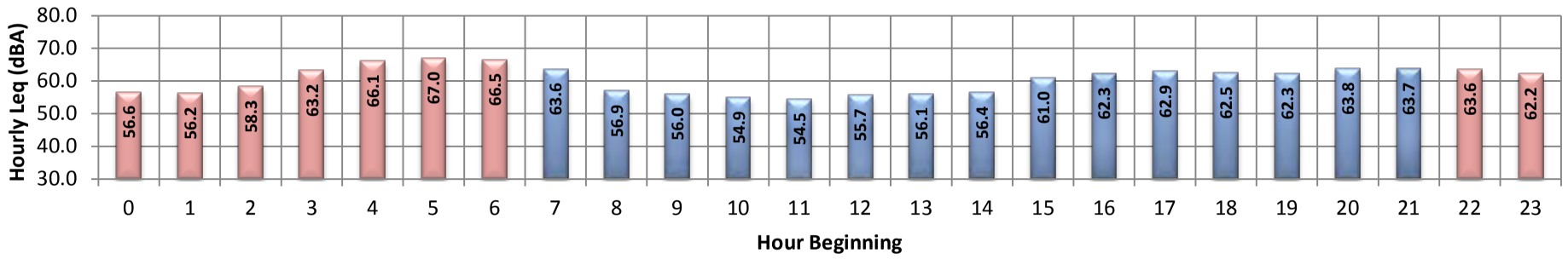
Time Period	*Hour*	*Leq*	*Lmax*	*Lmin*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	62.9	79.9	46.3	75.0	72.0	66.5	65.0	55.0	52.5	49.5	48.5	47.5
	Max	70.6	91.1	53.6	79.0	78.0	76.5	76.0	71.5	64.5	58.0	57.0	55.5
Night	Min	55.3	76.5	38.9	61.0	59.5	58.0	57.0	54.0	51.5	47.0	46.0	42.5
	Max	68.9	84.0	58.4	78.5	77.5	75.0	73.5	67.0	65.0	62.0	61.0	60.0
Hourly Summary													
Night	0	55.3	76.5	39.7	64.5	61.0	58.0	57.0	54.5	52.5	47.5	46.5	44.0
	1	55.8	83.9	38.9	61.0	59.5	58.0	57.0	54.0	51.5	47.0	46.0	43.0
	2	56.7	79.4	40.5	63.0	61.0	59.5	59.0	56.5	54.0	49.0	47.0	42.5
	3	62.2	80.3	47.6	68.0	67.0	65.5	65.0	62.5	60.5	56.5	55.5	53.0
	4	65.4	82.3	55.2	73.5	71.0	68.0	67.0	65.5	64.0	61.0	60.0	59.0
	5	66.9	82.7	58.4	76.0	74.0	70.0	68.5	66.5	65.0	61.5	61.0	59.5
	6	68.9	84.0	57.7	78.5	77.5	75.0	73.5	67.0	65.0	62.0	61.0	60.0
Day	7	70.6	83.7	53.6	79.0	78.0	76.5	76.0	71.5	64.5	58.0	57.0	55.0
	8	63.0	80.3	50.0	75.5	73.5	70.5	67.0	56.0	54.0	52.0	51.5	51.0
	9	63.9	91.1	47.7	76.0	73.5	70.0	66.0	55.0	53.0	50.5	50.0	49.0
	10	62.9	80.9	47.0	75.5	74.0	70.5	67.5	56.0	53.5	50.0	49.0	47.5
	11	63.7	79.9	46.3	76.0	74.5	71.5	69.0	56.0	52.5	49.5	48.5	48.0
	12	64.3	83.8	47.0	75.5	74.0	71.5	69.5	58.0	54.5	51.0	50.0	49.0
	13	66.6	86.9	49.3	77.0	76.0	73.5	72.0	63.0	56.0	52.5	51.5	50.5
	14	65.7	81.6	48.0	76.5	75.5	73.0	71.5	61.5	55.5	52.5	51.5	50.5
	15	67.0	83.4	52.0	78.0	76.5	74.0	72.0	63.5	60.5	57.0	56.0	53.5
	16	67.0	86.0	53.5	78.0	76.5	74.0	72.0	62.5	59.5	56.5	55.5	54.5
	17	66.6	82.3	51.7	77.0	76.0	73.5	72.0	63.0	60.0	55.5	54.5	53.5
	18	65.1	86.1	52.7	76.5	75.0	71.5	68.5	61.0	59.0	56.0	55.5	54.0
	19	65.4	85.1	52.8	77.5	75.5	72.0	68.5	61.0	59.0	56.0	55.5	54.0
	20	66.2	86.7	53.5	77.5	76.0	72.5	69.5	63.0	61.0	58.0	57.0	55.0
	21	63.9	81.2	52.9	75.0	72.0	66.5	65.0	63.0	61.0	58.0	57.0	55.5
Night	22	63.2	80.9	52.0	73.5	69.5	65.5	64.5	63.0	61.0	57.5	56.5	54.5
	23	62.5	82.8	49.7	71.5	67.0	65.0	64.5	62.0	60.0	56.5	55.5	52.0

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

				Energy Average Leq		24-Hour
Project Name:	Wildomar Walmart	*JN:*	8809	*Day*	*Night*	*CNEL*
Location:	L4 - East of the I-15 Freeway south of the project site from the planned loading dock area across Canyon Drive.	*Analyst:*	B. Lawson	60.8	63.7	70.1
		Date:	1/22/2014			

Hourly Leq dBA Readings (unadjusted)



Time Period	*Hour*	*Leq*	*Lmax*	*Lmin*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	54.5	65.5	47.8	59.0	58.0	57.0	56.5	55.0	53.5	51.5	50.5	49.0
	Max	63.8	73.8	57.0	69.0	68.5	68.0	67.5	64.5	63.0	60.5	59.5	58.0
Night	Min	56.2	68.4	42.1	63.0	61.5	60.5	59.5	57.0	54.5	49.5	48.0	45.5
	Max	67.0	75.3	61.0	71.0	70.0	69.5	69.0	67.5	66.5	64.0	63.5	62.5
Hourly Summary													
Night	0	56.6	68.9	42.1	63.5	62.5	60.5	59.5	57.5	55.0	50.0	48.0	45.5
	1	56.2	70.5	43.8	63.0	61.5	60.5	59.5	57.0	54.5	49.5	48.5	46.0
	2	58.3	68.4	43.5	64.0	63.0	62.0	61.5	59.5	57.0	51.5	49.5	45.5
	3	63.2	71.2	50.9	68.0	67.5	66.5	66.0	64.0	62.5	58.0	56.5	54.0
	4	66.1	73.4	56.9	70.0	69.5	68.5	68.0	66.5	65.5	63.0	62.5	61.0
	5	67.0	74.9	60.4	71.0	70.0	69.5	69.0	67.5	66.5	63.5	62.5	61.5
	6	66.5	71.4	61.0	69.5	69.0	68.5	68.0	67.0	66.0	64.0	63.5	62.5
Day	7	63.6	71.5	55.0	69.0	68.5	68.0	67.5	64.0	62.0	58.0	56.5	55.5
	8	56.9	65.5	51.4	60.5	60.0	59.0	58.5	57.5	56.5	54.5	53.5	52.5
	9	56.0	67.5	50.0	60.5	59.5	58.5	58.0	56.5	55.5	53.0	52.5	51.0
	10	54.9	67.5	48.2	59.5	58.5	57.5	56.5	55.5	54.0	51.5	50.5	49.0
	11	54.5	65.7	47.9	59.0	58.0	57.0	56.5	55.0	53.5	51.5	50.5	49.5
	12	55.7	70.7	47.8	61.0	59.5	58.0	57.5	56.0	54.5	52.0	51.5	50.0
	13	56.1	66.6	49.7	61.5	60.0	58.5	58.0	56.5	55.5	53.0	52.5	51.0
	14	56.4	66.3	50.0	61.0	59.5	58.5	58.0	57.0	56.0	53.5	53.0	52.0
	15	61.0	73.8	55.9	65.0	63.5	63.0	62.5	61.5	60.5	58.5	58.0	57.0
	16	62.3	67.9	56.7	65.5	65.0	64.5	64.0	63.0	62.0	59.5	59.0	58.0
	17	62.9	70.1	57.0	66.0	65.5	64.5	64.5	63.5	62.5	60.5	59.5	58.0
	18	62.5	68.9	55.0	66.5	65.0	64.5	64.0	63.0	62.0	60.0	59.0	58.0
	19	62.3	68.6	55.6	65.5	65.5	64.5	64.0	63.0	62.0	59.5	59.0	57.5
	20	63.8	70.1	56.6	68.0	67.5	66.5	66.0	64.5	63.0	60.5	59.5	58.0
	21	63.7	70.4	54.5	67.5	67.0	66.5	66.0	64.5	63.0	60.5	59.5	58.0
Night	22	63.6	75.3	54.1	68.0	67.5	66.5	66.0	64.5	63.0	59.5	58.0	56.0
	23	62.2	70.1	51.6	67.5	66.5	65.5	65.0	63.0	61.5	57.5	56.5	54.5

URBAN CROSSROADS

APPENDIX 7.1:

TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Grand Av.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,630 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	0.68	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.56	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.51	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.5	59.6	57.8	51.8	60.4	61.0
Medium Trucks:	55.4	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	56.8	55.3	46.3	47.6	55.9	56.0
Vehicle Noise:	63.5	61.8	58.5	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	68	146	314
CNEL:	34	73	156	337

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Mission Tr.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.20	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.16	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.6	55.1	48.7	47.2	55.7	55.9
Heavy Trucks:	57.5	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	64.7	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	378
CNEL:	41	87	188	406

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Grand Av.
Road Segment: s/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	820 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.30	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-19.54	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-23.50	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	52.5	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	53.8	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	60.5	58.8	55.5	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	199
CNEL:	21	46	99	213

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Mission Tr.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.26	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.8
Heavy Trucks:	56.4	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	63.6	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	322
CNEL:	35	74	160	345

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Mission Tr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	760 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.14	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.38	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.34	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.4	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	61.5	59.8	56.6	51.9	60.5	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	50	108	232
CNEL:	25	54	116	249

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Palomar St.
Road Segment: s/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	760 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.14	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.38	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.34	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.4	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	61.5	59.8	56.6	51.9	60.5	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	50	108	232
CNEL:	25	54	116	249

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Palomar St.
Road Segment: n/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,020 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.87	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.10	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.06	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.7	53.2	46.8	45.3	53.8	54.0
Heavy Trucks:	55.6	54.1	45.1	46.4	54.7	54.8
Vehicle Noise:	62.8	61.1	57.9	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	141	303

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Monte Vista Dr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.98	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-27.22	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-31.17	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.8	48.9	47.1	41.1	49.7	50.3
Medium Trucks:	44.8	43.3	36.9	35.4	43.8	44.1
Heavy Trucks:	46.1	44.7	35.6	36.9	45.3	45.4
Vehicle Noise:	52.8	51.1	47.8	43.3	51.8	52.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	28	61
CNEL:	7	14	30	66

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Murrieta Rd.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	700 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.50	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.74	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.69	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	53.1	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	61.2	59.4	56.3	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	102	220
CNEL:	24	51	110	236

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corydon St.
Road Segment: w/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,540 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.08	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.31	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.27	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	56.5	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.6	62.8	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	372
CNEL:	40	86	185	399

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corydon St.
Road Segment: e/o Grand Av.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.08	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.32	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.28	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.7	58.8	57.1	51.0	59.6	60.3
Medium Trucks:	54.5	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	62.6	60.8	57.7	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	59	127	273
CNEL:	29	63	136	293

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	950 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.63	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-19.87	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.83	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.4	52.3	60.9	61.5
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	56.0	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	63.7	62.0	58.9	54.1	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	70	151	326
CNEL:	35	75	162	350

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Orchard St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.32	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-19.56	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.52	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.7	52.6	61.2	61.8
Medium Trucks:	55.9	54.4	48.0	46.5	55.0	55.2
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	64.0	62.3	59.2	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	74	159	342
CNEL:	37	79	170	367

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,990 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.58	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.66	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.61	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	63.3	61.6	55.5	64.1	64.8
Medium Trucks:	58.8	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	59.2	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	66.9	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	115	248	533
CNEL:	57	123	266	573

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Almond St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,080 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.07	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-19.31	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.27	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	56.2	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.6	55.2	46.1	47.4	55.7	55.8
Vehicle Noise:	64.3	62.5	59.5	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	165	355
CNEL:	38	82	177	381

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,150 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.92	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.32	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.28	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.1	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.6	58.1	49.1	50.4	58.7	58.8
Vehicle Noise:	67.3	65.5	62.5	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	261	562
CNEL:	60	130	280	603

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Monte Vista Dr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,850 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.26	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.98	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.93	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.9	63.0	61.3	55.2	63.8	64.4
Medium Trucks:	58.5	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.9	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	66.6	64.9	61.8	57.0	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	109	236	508
CNEL:	55	118	253	546

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,470 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.74	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.97	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.93	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.9	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.5	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.6	63.9	60.8	56.0	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	202	436
CNEL:	47	101	217	468

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: w/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,590 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.39	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.63	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.59	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.8	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	66.0	64.2	61.2	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	213	459
CNEL:	49	106	229	493

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: w/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,290 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.30	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-18.54	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.50	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	56.9	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	65.1	63.3	60.3	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	86	185	399
CNEL:	43	92	199	429

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,140 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.84	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-19.08	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-23.03	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	56.4	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.8	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	64.5	62.8	59.7	54.9	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	79	171	368
CNEL:	40	85	183	395

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Central St.
Road Segment: e/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,120 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.46	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.70	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.65	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.6	60.3	60.9
Medium Trucks:	55.1	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	56.0	54.5	45.5	46.8	55.1	55.2
Vehicle Noise:	63.2	61.5	58.3	53.6	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	140	301
CNEL:	32	70	150	323

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Central St.
Road Segment: w/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	800 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.41	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-19.65	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-23.60	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	52.4	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	53.0
Vehicle Noise:	60.4	58.7	55.4	50.8	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	42	91	196
CNEL:	21	45	97	209

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Baxter Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.88	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.12	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.3	52.2	60.8	61.5
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.6	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.8	62.0	58.9	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	329
CNEL:	35	76	164	353

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Baxter Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	460 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	54.1	52.3	46.3	54.9	55.5
Medium Trucks:	50.0	48.4	42.1	40.5	49.0	49.2
Heavy Trucks:	51.3	49.9	40.8	42.1	50.4	50.5
Vehicle Noise:	58.0	56.3	53.0	48.4	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	14	29	63	135
CNEL:	14	31	67	145

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Grand Av.
Road Segment: s/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	840 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.44	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.39	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.6	56.7	54.9	48.9	57.5	58.1
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.8
Heavy Trucks:	53.9	52.5	43.4	44.7	53.0	53.2
Vehicle Noise:	60.6	58.9	55.6	51.0	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	202
CNEL:	22	47	100	216

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Grand Av.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,660 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.43	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.6	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.5	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	56.8	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.6	61.8	58.6	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	148	318
CNEL:	34	73	158	341

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Mission Tr.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.14	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.09	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.05	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.7	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.6	56.2	47.1	48.4	56.7	56.8
Vehicle Noise:	64.8	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	83	179	385
CNEL:	41	89	192	413

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Mission Tr.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,420 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.43	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.67	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.62	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	56.2	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.0	55.6	46.5	47.8	56.1	56.3
Vehicle Noise:	64.2	62.5	59.3	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	164	352
CNEL:	38	81	175	378

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Palomar St.
Road Segment: n/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,040 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.78	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.02	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.97	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.4	51.3	59.9	60.6
Medium Trucks:	54.8	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	55.6	54.2	45.2	46.4	54.8	54.9
Vehicle Noise:	62.9	61.1	58.0	53.3	61.9	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	286
CNEL:	31	66	143	307

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Mission Tr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	790 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.97	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.21	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.17	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.9	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	53.6	52.1	45.7	44.2	52.7	52.9
Heavy Trucks:	54.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.7	59.9	56.8	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	51	111	238
CNEL:	26	55	119	256

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Palomar St.
Road Segment: s/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.03	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.27	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.22	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.6	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	61.6	59.9	56.7	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	51	110	236
CNEL:	25	55	118	254

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Monte Vista Dr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	360 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.88	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.9	53.0	51.3	45.2	53.8	54.4
Medium Trucks:	48.9	47.4	41.0	39.5	47.9	48.2
Heavy Trucks:	50.2	48.8	39.8	41.0	49.4	49.5
Vehicle Noise:	56.9	55.2	51.9	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	25	53	115
CNEL:	12	26	57	123

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corydon St.
Road Segment: e/o Grand Av.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,020 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.87	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.10	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.06	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.7	53.2	46.8	45.3	53.8	54.0
Heavy Trucks:	55.6	54.1	45.1	46.4	54.7	54.8
Vehicle Noise:	62.8	61.1	57.9	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	141	303

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Murrieta Rd.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	740 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.26	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.50	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.45	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.6	57.7	55.9	49.8	58.5	59.1
Medium Trucks:	53.3	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	54.2	52.7	43.7	45.0	53.3	53.4
Vehicle Noise:	61.4	59.7	56.5	51.8	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	49	106	228
CNEL:	24	53	114	245

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corydon St.
Road Segment: w/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.22	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.01	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.97	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.1	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	56.8	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	57.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.9	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	181	390
CNEL:	42	90	194	418

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.69	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.93	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.88	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.5	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	64.7	62.9	59.9	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	81	175	376
CNEL:	40	87	188	404

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Almond St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,370 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.04	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.28	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.24	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	57.2	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.6	56.2	47.1	48.4	56.8	56.9
Vehicle Noise:	65.3	63.6	60.5	55.7	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	193	416
CNEL:	45	96	207	447

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Orchard St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,270 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.37	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.61	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.56	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.9	55.3	49.0	47.4	55.9	56.1
Heavy Trucks:	57.3	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	65.0	63.2	60.2	55.4	64.0	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	85	183	395
CNEL:	42	92	197	425

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,360 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.32	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.92	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.87	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	59.5	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	60.0	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	67.7	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	129	277	598
CNEL:	64	138	298	642

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,620 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.77	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.46	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.42	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	60.0	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.4	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	68.1	66.4	63.3	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	138	297	641
CNEL:	69	148	319	688

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,730 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.03	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-17.27	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-21.22	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	58.2	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.6	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	66.3	64.6	61.5	56.7	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	105	225	486
CNEL:	52	112	242	522

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Monte Vista Dr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,020 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.64	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.59	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.55	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.9	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	59.3	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	67.0	65.2	62.2	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	539
CNEL:	58	125	269	579

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,590 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.39	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-17.63	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-21.59	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.8	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.3	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	66.0	64.2	61.2	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	213	459
CNEL:	49	106	229	493

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,370 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.04	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.28	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.24	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	57.2	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	57.6	56.2	47.1	48.4	56.8	56.9
Vehicle Noise:	65.3	63.6	60.5	55.7	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	193	416
CNEL:	45	96	207	447

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Central St.
Road Segment: w/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	840 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.20	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-19.44	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-23.39	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.6	56.7	54.9	48.9	57.5	58.1
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.8
Heavy Trucks:	53.9	52.5	43.4	44.7	53.0	53.2
Vehicle Noise:	60.6	58.9	55.6	51.0	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	202
CNEL:	22	47	100	216

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,180 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.69	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.93	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.88	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.5	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.0	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	64.7	62.9	59.9	55.1	63.6	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	81	175	376
CNEL:	40	87	188	404

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Central St.
Road Segment: e/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,210 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.12	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.36	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.32	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.7	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	55.5	54.0	47.6	46.0	54.5	54.7
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6
Vehicle Noise:	63.5	61.8	58.6	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	147	317
CNEL:	34	73	158	340

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Baxter Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,410 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.46	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.70	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.65	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	56.1	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.0	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	64.2	62.5	59.3	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	376

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Grand Av.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,830 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.19	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.05	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.01	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.0	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	57.3	55.8	46.8	48.1	56.4	56.5
Vehicle Noise:	64.0	62.3	59.0	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	158	340
CNEL:	36	78	169	364

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Baxter Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-20.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-24.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.5	55.6	53.9	47.8	56.5	57.1
Medium Trucks:	51.5	50.0	43.6	42.1	50.6	50.8
Heavy Trucks:	52.8	51.4	42.4	43.6	52.0	52.1
Vehicle Noise:	59.6	57.8	54.5	50.0	58.5	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	172
CNEL:	18	40	85	184

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Grand Av.
Road Segment: s/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	950 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.66	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.90	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.86	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	57.2	55.5	49.4	58.0	58.6
Medium Trucks:	53.1	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.1	59.4	56.1	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	51	109	235

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Mission Tr.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.55	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.69	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.64	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	58.1	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	59.0	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	66.2	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	222	478
CNEL:	51	110	238	512

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Mission Tr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,320 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.75	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.98	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.94	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.2	58.4	52.4	61.0	61.6
Medium Trucks:	55.8	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.7	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	63.9	62.2	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	72	156	336
CNEL:	36	78	167	360

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Mission Tr.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.86	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.38	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.33	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	57.4	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	58.3	56.9	47.8	49.1	57.4	57.6
Vehicle Noise:	65.5	63.8	60.6	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	199	429
CNEL:	46	99	214	461

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Palomar St.
Road Segment: n/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,520 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.13	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.37	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.33	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	56.5	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	57.3	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	64.5	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	79	171	369
CNEL:	40	85	184	396

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Palomar St.
Road Segment: s/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,260 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.95	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.19	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.14	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.6	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	56.5	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	63.7	62.0	58.8	54.1	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	70	151	325
CNEL:	35	75	162	349

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Murrieta Rd.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,640 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.20	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.04	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.00	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.8	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	57.6	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.9	63.1	60.0	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	180	388
CNEL:	42	90	193	416

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Monte Vista Dr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	390 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.53	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-22.77	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-26.72	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.3	53.4	51.6	45.5	54.2	54.8
Medium Trucks:	49.2	47.7	41.4	39.8	48.3	48.5
Heavy Trucks:	50.6	49.1	40.1	41.3	49.7	49.8
Vehicle Noise:	57.3	55.5	52.3	47.7	56.2	56.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	26	56	121
CNEL:	13	28	60	130

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Corydon St.
Road Segment: e/o Grand Av.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,060 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.70	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.94	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.1	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.9	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.7	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	63.0	61.2	58.1	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	135	290
CNEL:	31	67	144	311

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Corydon St.
Road Segment: w/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,680 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.30	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.94	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.89	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.9	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	57.7	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	65.0	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	423

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Orchard St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,950 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.49	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.75	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.70	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.7	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	59.1	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	66.8	65.1	62.1	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	526
CNEL:	57	122	262	565

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,150 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.80	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-19.04	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-23.00	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.4	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.8	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	64.6	62.8	59.8	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	370
CNEL:	40	86	185	398

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Almond St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,140 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.90	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.34	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.30	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	59.1	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.5	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	67.3	65.5	62.5	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	260	560
CNEL:	60	130	279	601

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,190 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.63	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.61	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.56	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.9	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.3	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	69.0	67.2	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	157	339	731
CNEL:	78	169	364	785

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Monte Vista Dr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,920 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.25	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.99	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.95	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.5	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.9	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	68.6	66.9	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	148	320	689
CNEL:	74	159	343	740

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,370 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.87	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.37	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.33	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.9	57.8	66.4	67.0
Medium Trucks:	61.1	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	69.2	67.5	64.4	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	352	758
CNEL:	81	175	378	814

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,240 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.70	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.54	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.9	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	343	738
CNEL:	79	171	368	793

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,110 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.52	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.72	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.68	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.9	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	155	333	718
CNEL:	77	166	358	772

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,830 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.11	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.13	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.08	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.3	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.8	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.5	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	313	674
CNEL:	72	156	336	725

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,820 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.09	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.14	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.10	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	60.3	58.8	52.5	50.9	59.4	59.6
Heavy Trucks:	60.7	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.5	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	145	312	673
CNEL:	72	156	336	723

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Central St.
Road Segment: w/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	920 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.80	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-19.04	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-23.00	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.0	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	53.0	51.5	45.1	43.5	52.0	52.2
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	61.0	59.3	56.0	51.4	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	100	215
CNEL:	23	50	107	230

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Central St.
Road Segment: e/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.88	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.12	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.3	52.2	60.8	61.5
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.6	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.8	62.0	58.9	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Baxter Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.44	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.63	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.4	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	53.3	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	54.6	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	61.4	59.6	56.4	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	227
CNEL:	24	52	113	243

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 Without Project
Road Name: Baxter Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,920 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.88	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.36	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.31	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	57.5	56.0	49.6	48.1	56.5	56.7
Heavy Trucks:	58.3	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.5	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	200	431
CNEL:	46	100	215	462

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Grand Av.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,860 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.26	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.98	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.94	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.4	52.3	60.9	61.6
Medium Trucks:	56.0	54.5	48.1	46.6	55.1	55.3
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.1	62.3	59.0	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	171	368

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Grand Av.
Road Segment: s/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	970 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.57	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.81	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.77	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.3	55.6	49.5	58.1	58.7
Medium Trucks:	53.2	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	54.5	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	61.2	59.5	56.2	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	103	222
CNEL:	24	51	111	238

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Mission Tr.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,090 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.25	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.99	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.94	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.8	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.7	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	65.9	64.2	61.0	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	456
CNEL:	49	105	227	489

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Mission Tr.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.63	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.61	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.57	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	58.2	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	59.1	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	66.3	64.5	61.4	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	224	483
CNEL:	52	112	241	518

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Mission Tr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,350 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.65	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.89	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.84	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	56.8	55.4	46.3	47.6	55.9	56.1
Vehicle Noise:	64.0	62.3	59.1	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	158	341
CNEL:	37	79	170	366

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Palomar St.
Road Segment: n/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,540 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.08	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.31	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.27	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	56.5	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.6	62.8	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Monte Vista Dr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	610 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.59	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.82	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.2	55.3	53.5	47.5	56.1	56.7
Medium Trucks:	51.2	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	52.5	51.1	42.0	43.3	51.6	51.8
Vehicle Noise:	59.2	57.5	54.2	49.7	58.2	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	35	76	163
CNEL:	17	38	81	175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Palomar St.
Road Segment: s/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.88	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.12	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.07	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.3	52.2	60.8	61.5
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.6	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.8	62.0	58.9	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	329
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Murrieta Rd.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,680 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.30	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-16.94	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.89	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.1	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.9	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	57.7	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	65.0	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	85	183	394
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Corydon St.
Road Segment: e/o Grand Av.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,110 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.50	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.74	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.69	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	55.1	53.6	47.2	45.7	54.1	54.4
Heavy Trucks:	55.9	54.5	45.5	46.7	55.1	55.2
Vehicle Noise:	63.2	61.4	58.3	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	139	299
CNEL:	32	69	149	321

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,360 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.07	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.31	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.27	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	57.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.6	56.2	47.1	48.4	56.7	56.8
Vehicle Noise:	65.3	63.5	60.5	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	192	414
CNEL:	44	96	206	445

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Corydon St.
Road Segment: w/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,790 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.58	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.66	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.62	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	57.2	55.7	49.3	47.7	56.2	56.4
Heavy Trucks:	58.0	56.6	47.5	48.8	57.2	57.3
Vehicle Noise:	65.2	63.5	60.3	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	191	411
CNEL:	44	95	205	441

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Orchard St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,200 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.02	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.22	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.18	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	59.2	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.7	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	67.4	65.6	62.6	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	265	570
CNEL:	61	132	284	613

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Almond St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,420 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.43	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.81	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.76	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.7	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.1	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	67.8	66.0	63.0	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	282	608
CNEL:	65	141	303	653

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,840 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.43	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.80	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.76	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	61.7	60.2	53.8	52.2	60.7	60.9
Heavy Trucks:	62.1	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	69.8	68.0	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	178	384	827
CNEL:	89	191	412	888

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,560 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.11	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.13	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.09	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	61.3	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.8	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.5	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	169	365	786
CNEL:	84	182	392	844

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Monte Vista Dr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,090 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.49	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.75	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.70	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.7	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.8	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	154	332	715
CNEL:	77	166	357	768

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,380 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.88	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.36	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.31	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	61.1	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	69.2	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	164	352	759
CNEL:	82	176	379	816

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,900 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.22	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.02	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.98	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.4	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.9	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	68.6	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	318	686
CNEL:	74	159	342	737

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,230 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.68	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.55	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.7	57.6	66.2	66.9
Medium Trucks:	60.9	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.0	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	737
CNEL:	79	170	367	791

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,870 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.17	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.07	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.02	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.8	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.5	66.8	63.7	58.9	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	316	681
CNEL:	73	158	340	731

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Central St.
Road Segment: w/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	9,600 vehicles	*Autos:*	15
Peak Hour Percentage:	10%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	960 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	40 mph	***Vehicle Mix***	
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.62	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.86	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.81	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.5	53.0	44.0	45.3	53.6	53.7
Vehicle Noise:	61.2	59.5	56.2	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	221
CNEL:	24	51	110	236

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Baxter Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	20,400 vehicles	*Autos:*	15
Peak Hour Percentage:	10%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	2,040 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	45 mph	***Vehicle Mix***	
Near/Far Lane Distance:	48 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.15	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.09	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.05	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	57.7	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	58.6	57.2	48.1	49.4	57.7	57.8
Vehicle Noise:	65.8	64.1	60.9	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	449
CNEL:	48	104	223	481

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Central St.
Road Segment: e/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	13,600 vehicles	*Autos:*	15
Peak Hour Percentage:	10%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	1,360 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	45 mph	***Vehicle Mix***	
Near/Far Lane Distance:	48 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.62	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.85	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.81	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	56.0	54.5	48.1	46.6	55.0	55.2
Heavy Trucks:	56.8	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	64.0	62.3	59.2	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	342
CNEL:	37	79	171	367

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2016 With Project
Road Name: Baxter Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	12,000 vehicles	*Autos:*	15
Peak Hour Percentage:	10%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	1,200 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	40 mph	***Vehicle Mix***	
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.65	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-17.89	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-21.84	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	58.2	56.5	50.4	59.0	59.7
Medium Trucks:	54.1	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.4	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	62.2	60.4	57.1	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Grand Av.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,570 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.66	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.58	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.53	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	57.4	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	58.7	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	65.5	63.7	60.5	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	198	426
CNEL:	46	98	212	456

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Mission Tr.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,460 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.44	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.80	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.75	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	60.0	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.9	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	68.1	66.4	63.2	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	68	147	318	685

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Grand Av.
Road Segment: s/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,080 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.11	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.34	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.30	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.7	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	55.0	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	61.7	60.0	56.7	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	239
CNEL:	26	55	119	256

Friday, February 07, 2014

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Mission Tr.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.23	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.01	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.96	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.8	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	59.7	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	66.9	65.2	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	123	264	569

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Mission Tr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,170 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.82	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.78	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	58.0	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	66.1	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	47	101	217	468
CNEL:	50	108	233	502

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Palomar St.
Road Segment: s/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,080 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.93	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.30	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.26	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	59.5	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	60.4	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	67.6	65.9	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	591
CNEL:	63	136	294	634

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Palomar St.
Road Segment: n/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.34	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.90	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.86	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.9	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	60.8	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	68.0	66.3	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	135	292	628
CNEL:	67	145	313	674

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Monte Vista Dr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,390 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.01	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-17.25	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-21.20	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.8	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.8	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	56.1	54.7	45.6	46.9	55.2	55.3
Vehicle Noise:	62.8	61.1	57.8	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	140	303

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Murrieta Rd.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,760 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.50	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.73	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.69	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	57.1	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	407
CNEL:	44	94	202	436

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Corydon St.
Road Segment: w/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.99	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.24	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.20	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	58.4	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.7	63.9	60.8	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Corydon St.
Road Segment: e/o Grand Av.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,650 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.22	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.01	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.97	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	56.8	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	57.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.9	63.1	60.0	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	390
CNEL:	42	90	194	418

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,190 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.81	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.42	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.38	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	62.0	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.5	61.0	52.0	53.3	61.6	61.7
Vehicle Noise:	70.2	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	407	876
CNEL:	94	203	437	941

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Orchard St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,350 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.84	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.40	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.35	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	61.1	59.6	53.2	51.7	60.1	60.3
Heavy Trucks:	61.5	60.1	51.0	52.3	60.6	60.8
Vehicle Noise:	69.2	67.4	64.4	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	163	350	755
CNEL:	81	175	376	811

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,930 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	4.52	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-12.72	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-16.67	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.7	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	63.2	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	70.9	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	210	453	976
CNEL:	105	226	487	1,049

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Almond St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,720 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.30	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.94	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.90	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	61.5	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.9	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.7	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	376	809
CNEL:	87	187	404	870

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,930 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.54	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.70	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.66	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.8	60.3	53.9	52.3	60.8	61.0
Heavy Trucks:	62.2	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	69.9	68.1	65.1	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	181	390	840
CNEL:	90	194	419	902

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Monte Vista Dr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,540 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.08	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.16	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.11	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.1	58.0	66.6	67.3
Medium Trucks:	61.3	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	61.7	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.4	67.7	64.6	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	169	363	783
CNEL:	84	181	390	841

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,110 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.52	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.72	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.68	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	61.2	59.7	50.7	52.0	60.3	60.4
Vehicle Noise:	68.9	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	155	333	718
CNEL:	77	166	358	772

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,240 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.70	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.54	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.50	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.9	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	343	738
CNEL:	79	171	368	793

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,070 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.46	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.78	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.73	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.7	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.8	67.1	64.0	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	331	712
CNEL:	77	165	355	765

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,770 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.35	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.88	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.84	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	62.0	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	69.7	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	817
CNEL:	88	189	407	877

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Central St.
Road Segment: e/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.09	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.05	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.7	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.6	56.2	47.1	48.4	56.7	56.8
Vehicle Noise:	64.8	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	179	385
CNEL:	41	89	192	413

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Central St.
Road Segment: w/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	960 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.62	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.86	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.81	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.5	53.0	44.0	45.3	53.6	53.7
Vehicle Noise:	61.2	59.5	56.2	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	221
CNEL:	24	51	110	236

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Baxter Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,080 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.93	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.30	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.26	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	59.5	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	60.4	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	67.6	65.9	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	136	294	634

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Baxter Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,000 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.57	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.67	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.62	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	56.3	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	57.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.4	62.6	59.4	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	167	360
CNEL:	39	83	179	386

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Grand Av.
Road Segment: s/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.03	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.26	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.22	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	53.7	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	55.1	53.6	44.6	45.9	54.2	54.3
Vehicle Noise:	61.8	60.0	56.8	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	242
CNEL:	26	56	120	259

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Grand Av.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,600 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.71	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.53	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.48	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	57.5	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	58.8	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	65.5	63.8	60.5	56.0	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	429
CNEL:	46	99	213	459

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Mission Tr.
Road Segment: n/o Corydon St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,500 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.49	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.75	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.70	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	60.1	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	60.9	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	68.2	66.4	63.3	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	139	299	643
CNEL:	69	149	320	690

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Mission Tr.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,800 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.52	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.72	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.67	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	63.4	61.7	55.6	64.2	64.9
Medium Trucks:	59.1	57.6	51.2	49.7	58.2	58.4
Heavy Trucks:	60.0	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	67.2	65.4	62.3	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	554
CNEL:	59	128	276	595

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Palomar St.
Road Segment: n/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,400 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.36	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.87	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.83	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.9	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	60.8	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	68.0	66.3	63.1	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	136	293	631
CNEL:	68	146	314	677

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Mission Tr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.47	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.77	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.72	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	58.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.9	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	66.1	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Palomar St.
Road Segment: s/o Central St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.96	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.23	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	59.5	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	60.4	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	67.6	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	128	275	593
CNEL:	64	137	295	636

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Monte Vista Dr.
Road Segment: s/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.60	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.64	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.59	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	55.4	53.9	47.5	46.0	54.4	54.6
Heavy Trucks:	56.7	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	63.4	61.7	58.4	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	144	310
CNEL:	33	72	154	332

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Corydon St.
Road Segment: e/o Grand Av.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,700 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.35	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.88	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.84	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.9	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.8	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	65.0	63.3	60.1	55.4	64.0	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	86	184	397
CNEL:	43	92	198	426

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Murrieta Rd.
Road Segment: n/o Bundy Cyn. Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,800 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.60	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.64	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.59	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	61.5	59.8	53.7	62.3	62.9
Medium Trucks:	57.2	55.7	49.3	47.8	56.2	56.5
Heavy Trucks:	58.0	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	65.3	63.5	60.4	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	192	413
CNEL:	44	95	206	443

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Corydon St.
Road Segment: w/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,080 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.23	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.01	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.96	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	57.8	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.7	57.2	48.2	49.5	57.8	57.9
Vehicle Noise:	65.9	64.1	61.0	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	98	211	455
CNEL:	49	105	226	488

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Mission Tr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,400 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	4.03	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.21	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.17	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	62.3	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.7	61.3	52.2	53.5	61.8	61.9
Vehicle Noise:	70.4	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	195	420	905
CNEL:	97	210	451	973

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Almond St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,000 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.61	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.63	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.58	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.8	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	62.3	60.8	51.8	53.1	61.4	61.5
Vehicle Noise:	70.0	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	85	183	394	849
CNEL:	91	197	424	913

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Orchard St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,600 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.15	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.08	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.04	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.4	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.8	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	69.5	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	171	368	792
CNEL:	85	183	395	851

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,300 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	4.83	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-12.40	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-16.36	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	63.1	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	63.5	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	71.2	69.4	66.4	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	102	221	476	1,025
CNEL:	110	237	511	1,101

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o I-15 Fwy.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,400 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	4.03	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.21	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.17	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	62.3	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.7	61.3	52.2	53.5	61.8	61.9
Vehicle Noise:	70.4	68.6	65.6	60.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	195	420	905
CNEL:	97	210	451	973

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,380 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.88	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.36	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.31	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.9	57.8	66.4	67.1
Medium Trucks:	61.1	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	69.2	67.5	64.4	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	352	759
CNEL:	82	176	379	816

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Monte Vista Dr.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,700 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.27	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.96	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.92	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	61.5	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.9	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	69.6	67.9	64.8	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	374	806
CNEL:	87	187	402	866

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o The Farm Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,230 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.68	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.55	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.7	57.6	66.2	66.9
Medium Trucks:	60.9	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.0	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	342	737
CNEL:	79	170	367	791

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: w/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,150 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.57	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.66	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.62	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.8	59.3	52.9	51.4	59.8	60.1
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.9	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	72	156	336	724
CNEL:	78	168	361	778

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Central St.
Road Segment: w/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,000 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.44	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.63	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.4	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	53.3	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	54.6	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	61.4	59.6	56.4	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	227
CNEL:	24	52	113	243

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Bundy Cyn. Rd.
Road Segment: e/o Murrieta Rd.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,810 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	95.833
Medium Trucks:	95.741
Heavy Trucks:	95.750

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.40	-4.34	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.84	-4.34	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.79	-4.34	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	61.6	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	62.0	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.8	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	177	382	822
CNEL:	88	190	410	883

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Central St.
Road Segment: e/o Palomar St.
Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,700 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.35	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.88	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.84	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.9	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.8	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	65.0	63.3	60.1	55.4	64.0	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	184	397
CNEL:	43	92	198	426

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Baxter Rd.
Road Segment: w/o I-15 Fwy.

Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.10	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.14	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.09	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	59.7	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.8	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	650

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Baxter Rd.
Road Segment: e/o I-15 Fwy.

Project Name: Wildomar Walmart
Job Number: 8807

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,200 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.98	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.25	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.21	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.7	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	58.1	56.6	47.6	48.9	57.2	57.3
Vehicle Noise:	64.8	63.1	59.8	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	178	384
CNEL:	41	89	191	411

Friday, February 07, 2014

APPENDIX 9.1:

OPERATIONAL NOISE ANALYSIS WORKSHEETS

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Loading Dock Activities
Observer Location: R1
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	938.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	938.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	8.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	938.0	-33.4
Shielding (Barrier Attenuation)	938.0	0.0
Raw (Distance + Barrier)		43.9
18 Minute Hourly Adjustment		**38.7**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Shopping Cart Carousel
Observer Location: R1
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	822.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	822.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	3.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	822.0	-44.3
Shielding (Barrier Attenuation)	822.0	0.0
Raw (Distance + Barrier)		28.6
20 Minute Hourly Adjustment		**23.8**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R1
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	886.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	886.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	25.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	886.0	-45.0
Shielding (Barrier Attenuation)	886.0	0.0
Raw (Distance + Barrier)		36.9
30 Minute Hourly Adjustment		**33.9**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R1
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	787.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	787.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	787.0	-43.9
Shielding (Barrier Attenuation)	787.0	0.0
Raw (Distance + Barrier)		16.2
60 Minute Hourly Adjustment		**16.2**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Trash Compactor
Observer Location: R1

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	994.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	994.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	5.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	994.0	-46.0
Shielding (Barrier Attenuation)	994.0	0.0
Raw (Distance + Barrier)		29.5
20 Minute Hourly Adjustment		**24.7**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R2

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	394.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	394.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	25.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	394.0	-37.9
Shielding (Barrier Attenuation)	394.0	0.0
Raw (Distance + Barrier)		44.0
30 Minute Hourly Adjustment		**41.0**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Drive-Thru Speakerphones
Observer Location: R1

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	1,037.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	1,037.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	6.0	62.1
Distance Attenuation	1,037.0	-44.8
Shielding (Barrier Attenuation)	1,037.0	0.0
Raw (Distance + Barrier)		17.3
30 Minute Hourly Adjustment		**14.3**

Saturday, February 08, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Shopping Cart Carousel
Observer Location: R2

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	681.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	681.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	3.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	681.0	-42.7
Shielding (Barrier Attenuation)	681.0	0.0
Raw (Distance + Barrier)		30.2
20 Minute Hourly Adjustment		**25.4**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R2
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	515.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	515.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	515.0	-40.3
Shielding (Barrier Attenuation)	515.0	0.0
Raw (Distance + Barrier)		19.8
60 Minute Hourly Adjustment		**19.8**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Loading Dock Activities
Observer Location: R3
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	278.0 feet		***Barrier Height:***	**8.0 feet**
Noise Distance to Barrier:	168.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	110.0 feet			
Noise Height:	8.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	Yes
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	278.0	-22.9
Shielding (Barrier Attenuation)	278.0	-5.2
Raw (Distance + Barrier)		49.2
18 Minute Hourly Adjustment		**44.0**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Drive-Thru Speakerphones
Observer Location: R2
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	386.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	386.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	6.0	62.1
Distance Attenuation	386.0	-36.2
Shielding (Barrier Attenuation)	386.0	0.0
Raw (Distance + Barrier)		25.9
30 Minute Hourly Adjustment		**22.9**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R3
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	261.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	261.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	25.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	261.0	-34.4
Shielding (Barrier Attenuation)	261.0	0.0
Raw (Distance + Barrier)		47.5
30 Minute Hourly Adjustment		**44.5**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Shopping Cart Carousel
Observer Location: R3
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	536.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	536.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	536.0	-40.6
Shielding (Barrier Attenuation)	536.0	0.0
Raw (Distance + Barrier)		32.3
20 Minute Hourly Adjustment		**27.5**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Trash Compactor
Observer Location: R3
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	327.0 feet	***Barrier Height:***	**8.0 feet**
Noise Distance to Barrier:	221.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	106.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	327.0	-36.3
Shielding (Barrier Attenuation)	327.0	-5.6
Raw (Distance + Barrier)		33.6
20 Minute Hourly Adjustment		**28.8**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R3
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	282.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	282.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	282.0	-35.0
Shielding (Barrier Attenuation)	282.0	0.0
Raw (Distance + Barrier)		25.1
60 Minute Hourly Adjustment		**25.1**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Drive-Thru Speakerphones
Observer Location: R3
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	923.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	923.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	6.0	62.1
Distance Attenuation	923.0	-43.7
Shielding (Barrier Attenuation)	923.0	0.0
Raw (Distance + Barrier)		18.4
30 Minute Hourly Adjustment		**15.4**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Loading Dock Activities
Observer Location: R4
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	236.0 feet		***Barrier Height:***	**8.0 feet**
Noise Distance to Barrier:	77.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	159.0 feet			
Noise Height:	8.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	Yes
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	236.0	-21.4
Shielding (Barrier Attenuation)	236.0	-5.1
Raw (Distance + Barrier)		50.8
18 Minute Hourly Adjustment		**45.6**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R4
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	428.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	428.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	428.0	-38.6
Shielding (Barrier Attenuation)	428.0	0.0
Raw (Distance + Barrier)		21.5
60 Minute Hourly Adjustment		**21.5**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R4
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	296.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	296.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	25.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	296.0	-35.4
Shielding (Barrier Attenuation)	296.0	0.0
Raw (Distance + Barrier)		46.5
30 Minute Hourly Adjustment		**43.5**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Trash Compactor
Observer Location: R4
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	228.0 feet		***Barrier Height:***	**8.0 feet**
Noise Distance to Barrier:	70.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	158.0 feet			
Noise Height:	5.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	Yes
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	228.0	-33.2
Shielding (Barrier Attenuation)	228.0	-5.9
Raw (Distance + Barrier)		36.4
20 Minute Hourly Adjustment		**31.6**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Loading Dock Activities
Observer Location: R5
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	813.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	813.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	8.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	813.0	-32.2
Shielding (Barrier Attenuation)	813.0	0.0
Raw (Distance + Barrier)		45.1
18 Minute Hourly Adjustment		**39.9**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Shopping Cart Carousel
Observer Location: R5
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	691.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	691.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	3.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	691.0	-42.8
Shielding (Barrier Attenuation)	691.0	0.0
Raw (Distance + Barrier)		30.1
20 Minute Hourly Adjustment		**25.3**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R5
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	717.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	717.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	25.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	717.0	-43.1
Shielding (Barrier Attenuation)	717.0	0.0
Raw (Distance + Barrier)		38.8
30 Minute Hourly Adjustment		**35.8**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R5
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	656.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	656.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	4.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	656.0	-42.4
Shielding (Barrier Attenuation)	656.0	0.0
Raw (Distance + Barrier)		17.7
60 Minute Hourly Adjustment		**17.7**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Trash Compactor
Observer Location: R5
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	1,026.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	1,026.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,026.0	-46.2
Shielding (Barrier Attenuation)	1,026.0	0.0
Raw (Distance + Barrier)		29.3
20 Minute Hourly Adjustment		**24.5**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R6
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	771.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	771.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	771.0	-43.8
Shielding (Barrier Attenuation)	771.0	0.0
Raw (Distance + Barrier)		38.1
30 Minute Hourly Adjustment		**35.1**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Loading Dock Activities
Observer Location: R6
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	768.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	768.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	768.0	-31.7
Shielding (Barrier Attenuation)	768.0	0.0
Raw (Distance + Barrier)		45.6
18 Minute Hourly Adjustment		**40.4**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Shopping Cart Carousel
Observer Location: R6
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	893.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	893.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	893.0	-45.0
Shielding (Barrier Attenuation)	893.0	0.0
Raw (Distance + Barrier)		27.9
20 Minute Hourly Adjustment		**23.1**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R6

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	823.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	823.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	4.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	823.0	-44.3
Shielding (Barrier Attenuation)	823.0	0.0
Raw (Distance + Barrier)		15.8
60 Minute Hourly Adjustment		**15.8**

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STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Loading Dock Activities
Observer Location: R7

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	1,238.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	1,238.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	8.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	1,238.0	-35.8
Shielding (Barrier Attenuation)	1,238.0	0.0
Raw (Distance + Barrier)		41.5
18 Minute Hourly Adjustment		**36.3**

Saturday, February 08, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Trash Compactor
Observer Location: R6

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	918.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	918.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	5.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	918.0	-45.3
Shielding (Barrier Attenuation)	918.0	0.0
Raw (Distance + Barrier)		30.2
20 Minute Hourly Adjustment		**25.4**

Saturday, February 08, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Air Condenser Units
Observer Location: R7

Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	900.0	feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	900.0	feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0	feet		
Noise Height:	25.0	feet		
Observer Height (Above Pad):	5.0	feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0	feet	*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0	feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	900.0	-45.1
Shielding (Barrier Attenuation)	900.0	0.0
Raw (Distance + Barrier)		36.8
30 Minute Hourly Adjustment		**33.8**

Saturday, February 08, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Shopping Cart Carousel
Observer Location: R7
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	887.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	887.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	3.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	887.0	-45.0
Shielding (Barrier Attenuation)	887.0	0.0
Raw (Distance + Barrier)		27.9
20 Minute Hourly Adjustment		**23.1**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Trash Compactor
Observer Location: R7
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	1,292.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	1,292.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	5.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,292.0	-48.2
Shielding (Barrier Attenuation)	1,292.0	0.0
Raw (Distance + Barrier)		27.3
20 Minute Hourly Adjustment		**22.5**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Parking Lot Activity
Observer Location: R7
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	896.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	896.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	896.0	-45.1
Shielding (Barrier Attenuation)	896.0	0.0
Raw (Distance + Barrier)		15.0
60 Minute Hourly Adjustment		**15.0**

STATIONARY SOURCE NOISE PREDICTION MODEL v20140205

Source: Drive-Thru Speakerphones
Observer Location: R7
Project Name: Wildomar Walmart
Job Number: 8809
Analyst: B. Lawson

NOISE MODEL INPUTS

Noise Distance to Observer	857.0 feet		***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	857.0 feet		*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet			
Noise Height:	4.0 feet			
Observer Height (Above Pad):	5.0 feet		*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet		*Wall Located at Noise Source Elevation:*	No
Noise Source Elevation:	0.0 feet			

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	6.0	62.1
Distance Attenuation	857.0	-43.1
Shielding (Barrier Attenuation)	857.0	0.0
Raw (Distance + Barrier)		19.0
30 Minute Hourly Adjustment		**16.0**

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APPENDIX 10.1:

RCNM EQUIPMENT DATABASE

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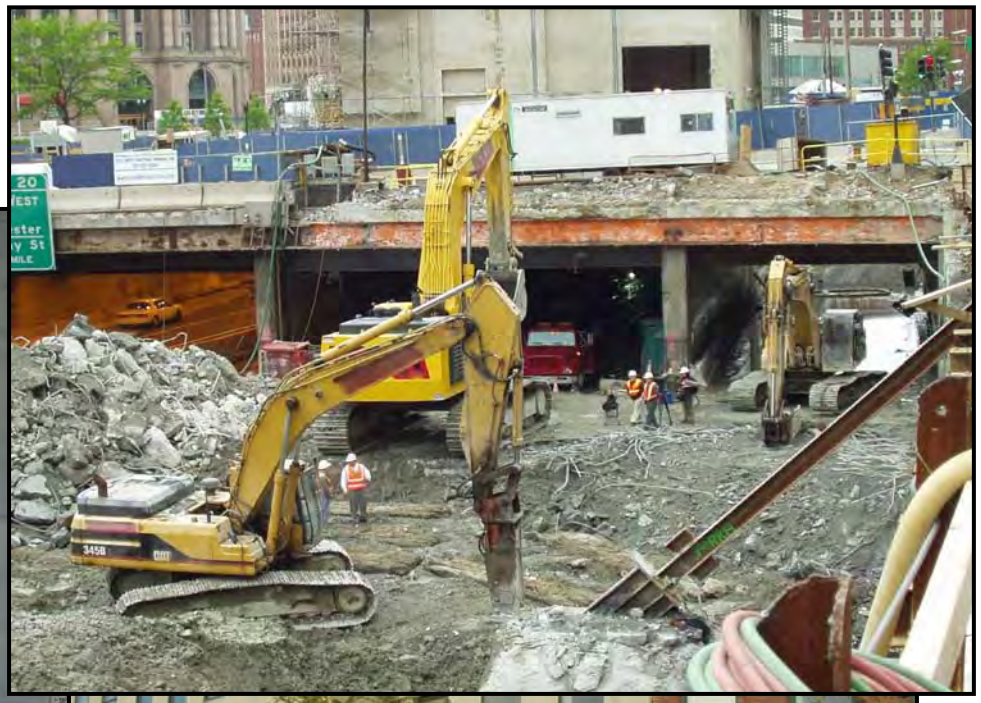
U.S. Department
of Transportation

Federal Highway Administration

FHWA
Roadway Construction Noise Model
User's Guide

FHWA-HEP-05-054
DOT-VNTSC-FHWA-05-01

Final Report
January 2006



Prepared for
U.S. Department of Transportation
Federal Highway Administration
Office of Natural and Human Environment
Washington, DC 20590

Prepared by
U.S. Department of Transportation
Research and Innovative Technology Administration
John A. Volpe National Transportation Systems Center
Acoustics Facility
Cambridge, MA 02142

Table 1. CA/T equipment noise emissions and acoustical usage factors database.

CA/T Noise Emission Reference Levels and Usage Factors					
filename: EQUIPLST.xls					
revised: 7/26/05		Acoustical	Spec 721.560	Actual Measured	No. of Actual
	Impact	Use Factor	Lmax @ 50ft	Lmax @ 50ft	Data Samples
Equipment Description	Device ?	(%)	(dBA, slow)	(dBA, slow)	(Count)
				(samples averaged)	
All Other Equipment > 5 HP	No	50	85	-- N/A --	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-- N/A --	0
Blasting	Yes	-- N/A --	94	-- N/A --	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-- N/A --	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-- N/A --	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-- N/A --	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-- N/A --	0
Tractor	No	40	84	-- N/A --	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder / Torch	No	40	73	74	5