Appendix R

Noise and Vibration Analysis

OLC3 (DPR22-0006, TPM22-05048, SPA22-05047)

NOISE AND VIBRATION ANALYSIS

CITY OF PERRIS

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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
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
LUCP	Land Use Compatibility Plan
MARB/IPA	March Air Reserve Base/Inland Port Airport
mph	Miles per hour
OPR	Office of Planning and Research
PVCCSP	Perris Valley Commerce Center Specific Plan
PPV	Peak particle velocity
Project	OLC3
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed OLC3 development ("Project"). The Project is proposed to consist of 774,419 square feet of non-refrigerated High-Cube Fulfillment Center Warehouse use and up to 70,000 square feet of Retail and Restaurant uses (comprised of 30,825 square feet of Strip Retail Plaza use, 5,000 square feet of High Turnover (Sit-Down) Restaurant use, 23,775 square feet of Fast-Food Restaurant Without Drive-Through Window use in-line with the retail use, and 10,400 square feet of Fast-Food Restaurant With Drive-Through Window use). The proposed Project site is located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris. This study has been prepared to satisfy applicable City of Perris standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (State CEQA Guidelines). (1)

The results of this OLC3 Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Significance Findings	
	Unmitigated	Mitigated
Off-Site Traffic Noise	*Less Than Significant*	-
Operational Noise	*Less Than Significant*	-
Construction Noise	*Less Than Significant*	-
Construction Vibration	*Less Than Significant*	-

[1] Although Project construction noise and vibration impacts will be less than significant, the Project is required to comply with mitigation measures (MM) Noise 1 through MM Noise 4 from the PVCC Specific Plan Environmental Impact Report.

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed OLC3 ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed OLC3 site is located on the southeast corner of Perris Boulevard and Perry Street within the City of Perris' *Perris Valley Commerce Center Specific Plan* (PVCCSP) planning area as shown on Exhibit 1-A. The March Air Reserve Base/Inland Port Airport (MARB/IPA) is located approximately 1.5 miles northwest of the Project site boundary.

The Project site is currently undeveloped. According to the PVCCSP, the Project site is designated for Commercial uses. The Commercial designation provides for retail, professional office, and service-oriented business activities which serve the entire City, as well as the surrounding neighborhoods. This zone combines the General Plan Land Use designation of Community Commercial and Commercial Neighborhood. (5)

1.2 PROJECT DESCRIPTION

The Project is to consist of 774,419 square feet of non-refrigerated High-Cube Fulfillment Center Warehouse use and up to 70,000 square feet of Retail and Restaurant uses (comprised of 30,825 square feet of Strip Retail Plaza use, 5,000 square feet of High Turnover (Sit-Down) Restaurant use, 23,775 square feet of Fast-Food Restaurant Without Drive-Through Window use in-line with the retail use, and 10,400 square feet of Fast-Food Restaurant With Drive-Through Window use). The Project is anticipated to be constructed in a single phase by the year 2024. A preliminary site plan is shown on Exhibit 1-B.

The on-site Project-related noise sources are expected to include: loading dock activity, truck movements, roof-top air conditioning units, drive-through speakerphone, trash enclosure activity, parking lot vehicle movements and pickleball. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week.

EXHIBIT 1-A: LOCATION MAP

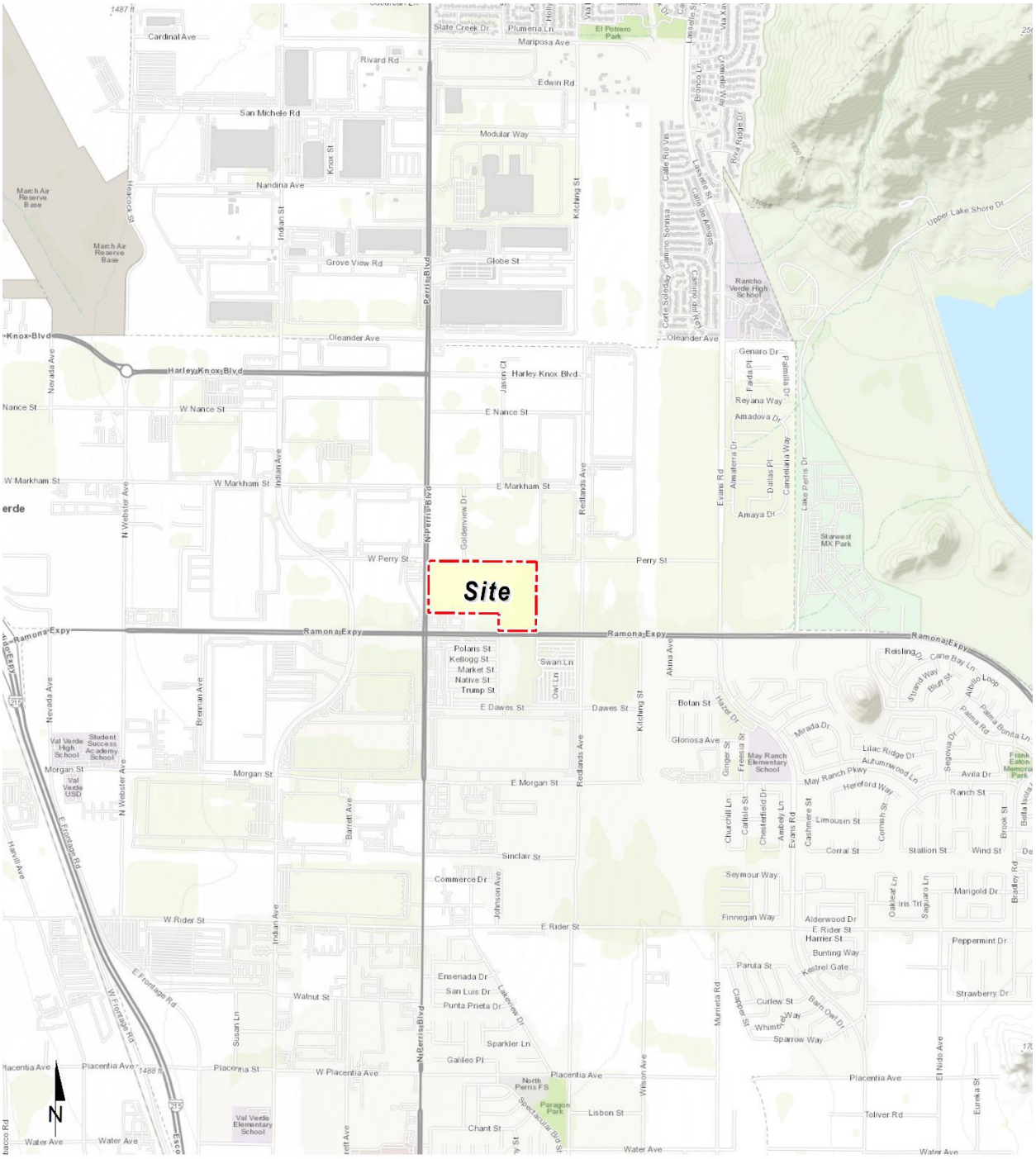
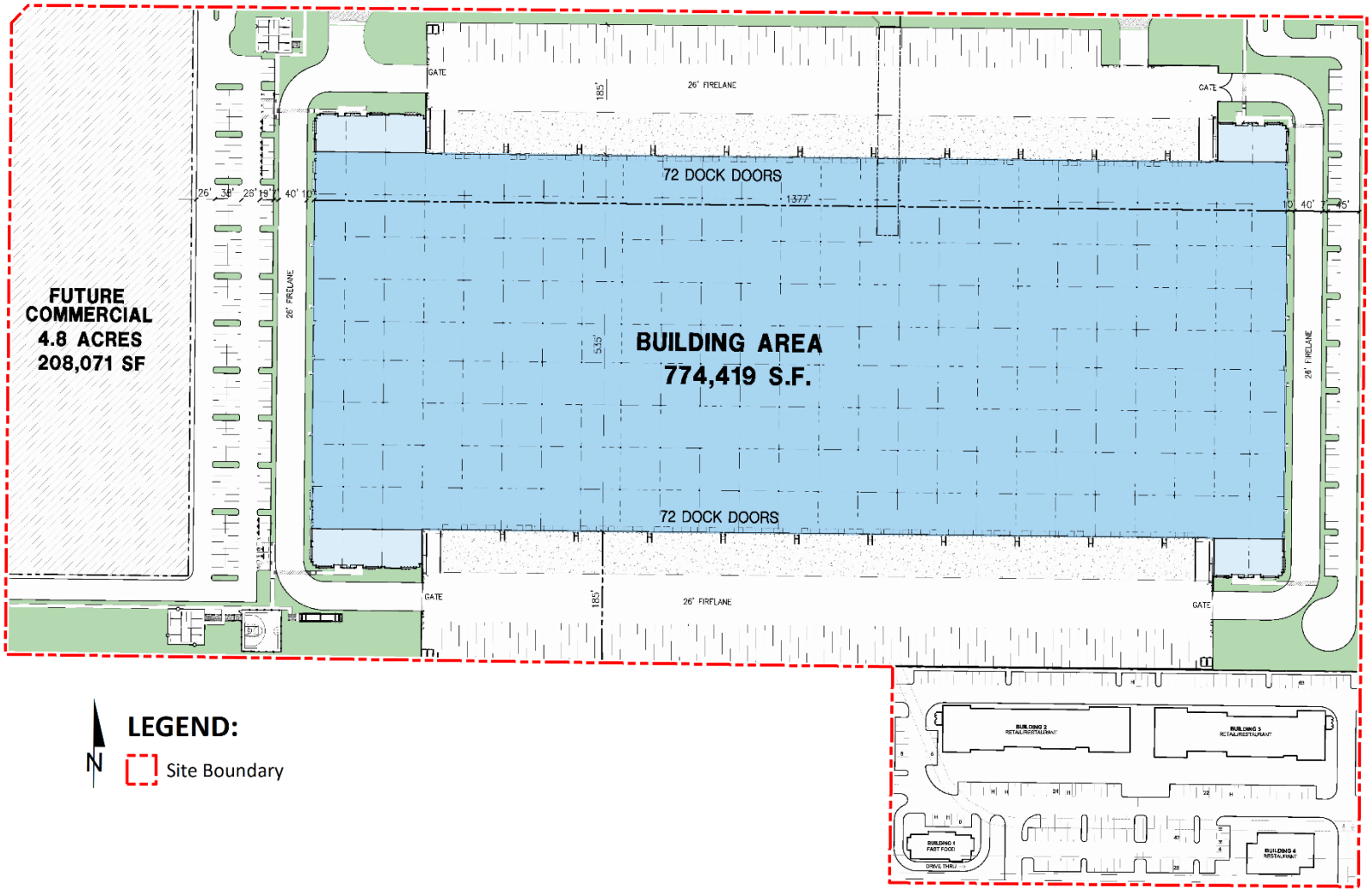


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

For consistency with the PVCCSP EIR, the following noise fundamentals discussion was taken from the EIR, Section 4.9 Noise, Page 4.9-2: (3)

The PVCCSP EIR defines noise *as unwanted or objectionable sound. The effect of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). However, since the human ear is not equally sensitive to all frequencies within the sound spectrum, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA. Decibels are measured on a logarithmic scale which quantifies sound intensity in a manner that is similar to the Richter scale used for earthquake magnitudes. In the case of noise, a doubling of the energy from a noise source, such as the doubling of a traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease.*

The PVCCSP EIR further states that *average noise levels over a period of minutes or hours are usually expressed as dB L_{eq} or the equivalent noise level for that period of time. For example, $L_{eq(3)}$ would represent a three hour average. When no time-period is specified, a one-hour average is assumed. Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (Ldn). CNEL is a 24-hour weighted average measure of community noise. The computation of CNEL adds 5 dBA to the average hourly noise levels between 7 p.m. and 10 p.m. (evening hours), and 10 dBA to the average hourly noise levels between 10p.m. to 7 a.m. (nighttime hours). This weighting accounts for the increased human sensitivity to noise in the evening and nighttime hours. Ldn is a very similar 24-hour weighted average which weighs only the nighttime hours and not the evening hours. CNEL is normally about 1 dB higher than Ldn for typical traffic and other community noise levels.*

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3 REGULATORY SETTING

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (4) The purpose of the Noise and Safety Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code (CALGreen) contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (4) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level of 50 dBA L_{eq} in occupied areas during any hour of operation (Section 5.507.4.2). As outlined below in Section 3.7, the Project is not located within the 65 CNEL noise contour of March Air Reserve Base/Inland Port Airport (MARB/IPA).

3.3 CITY OF PERRIS GENERAL PLAN NOISE ELEMENT

The City of Perris has adopted a Noise Element of the General Plan (6) to control and abate environmental noise, and to protect the citizens of Perris from excessive exposure to noise. The Noise Element specifies the maximum allowable unmitigated exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways,

airports, and railroads. In addition, the Noise Element identifies noise polices and implementation measures designed to protect, create, and maintain an environment free from noise that may jeopardize the health or welfare of sensitive receptors, or degrade quality of life.

The noise standards identified in the City of Perris General Plan are guidelines to evaluate the acceptability of the transportation related noise level impacts. These standards are based on the Governor's Office of Planning and Research (OPR) and are used to assess the long-term traffic noise impacts on land uses. According to the City's Land Use Compatibility for Community Noise Exposure (Exhibit N-1), noise-sensitive land uses such as single-family residences are *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 65 dBA CNEL. Commercial uses are *normally acceptable* with exterior noise levels below 65 dBA CNEL and *conditionally acceptable* with noise levels below 75 dBA CNEL and *normally unacceptable* with exterior noise level above 75 dBA CNEL. Industrial uses are considered *normally acceptable* with exterior noise levels of up to 70 dBA CNEL, and *conditionally acceptable* with exterior noise levels between 70 to 80 dBA CNEL. (6)

3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the OLC3, operational noise such as the expected loading dock activity, truck movements, roof-top air conditioning units, drive-through speakerphone, trash enclosure activity, parking lot vehicle movements and pickleball are typically evaluated against standards established under a City's Municipal Code.

The City of Perris Municipal Code, Chapter 7.34 *Noise Control*, Section 7.34.040, establishes the permissible noise level at any point on the property line of the affected residential receivers. Therefore, for residential properties, the exterior noise level shall not exceed a maximum noise level of 80 dBA L_{max} during daytime hours (7:01 a.m. to 10:00 p.m.) and shall not exceed a maximum noise level of 60 dBA L_{max} during the nighttime hours (10:01 p.m. to 7:00 a.m.), as shown on Table 3-1. (7) The City of Perris Municipal Code is included in Appendix 3.1. Additional exterior noise level standards are identified in the City of Perris General Plan Noise Element Implementation Measure V.A.1 which requires that new industrial facilities and large-scale commercial facilities within 160 feet of the property line of existing noise-sensitive land uses must demonstrate compliance with a 60 dBA CNEL exterior noise level standard. Table 3-1 shows the Municipal Code and General Plan standards used in this analysis to evaluate the potential operational noise levels from the Project.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Jurisdiction	Land Use	Time Period	Noise Level Standard (dBA)
City of Perris	Residential[1]	Daytime (7:01 a.m. - 10:00 p.m.)	80 dBA L_{max}
		Nighttime (10:01 p.m. - 7:00 a.m.)	60 dBA L_{max}
	Within 160 Feet of PL[2]	24-Hours	60 dBA CNEL

[1] City of Perris Municipal Code, Sections 7.34.040 & 7.34.050 (Appendix 3.1).
[2] City of Perris General Plan Noise Element, Implementation Measure V.A.1.

3.5 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the OLC3 site, noise from construction activities is typically evaluated against standards established under a City's Municipal Code. The City of Perris Municipal Code, Section 7.34.060, identifies the City's construction noise standards and permitted hours of construction activity (refer to Table 3-2). The City of Perris Municipal Code, Section 7.34.060, noise level standard of 80 dBA L_{max} applies to residential zones within the City of Perris. (7)

TABLE 3-2: CONSTRUCTION NOISE STANDARDS

Jurisdiction	Permitted Hours of Construction Activity	Construction Noise Level Standard
City of Perris[1]	7:00 a.m. to 7:00 p.m. on any day except Sundays and legal holidays (with the exception of Columbus Day and Washington's birthday).	80 dBA L_{max}

[1] City of Perris Municipal Code, Section 7.34.060 (Appendix 3.1).

3.6 CONSTRUCTION VIBRATION STANDARDS

According to the PVCCSP EIR, a major concern regarding construction vibration is building damage. Consequently, construction vibration is generally assessed in terms of peak particle velocity (PPV). The United States Department of Transportation Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, buildings can be exposed to ground-borne vibration levels of 0.5 PPV without experiencing structural damage.

Although Project construction noise and vibration impacts will be *less than significant*, the Project is required to comply with the following construction-related mitigation measures (MM) from the PVCCSP EIR:

MM Noise 1 *During all project site excavation and grading on site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturer's 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.*

MM Noise 2 *During construction, stationary construction equipment, stockpiling and vehicle staging areas would be placed a minimum of 446 feet away from the closest sensitive receptor.*

MM Noise 3 *No combustion-powered equipment, such as pumps or generators, shall be allowed to operate within 446 feet of any occupied residence unless the equipment is surrounded by a noise protection barrier.*

MM Noise 4 *Construction contractors of implementing development projects shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.*

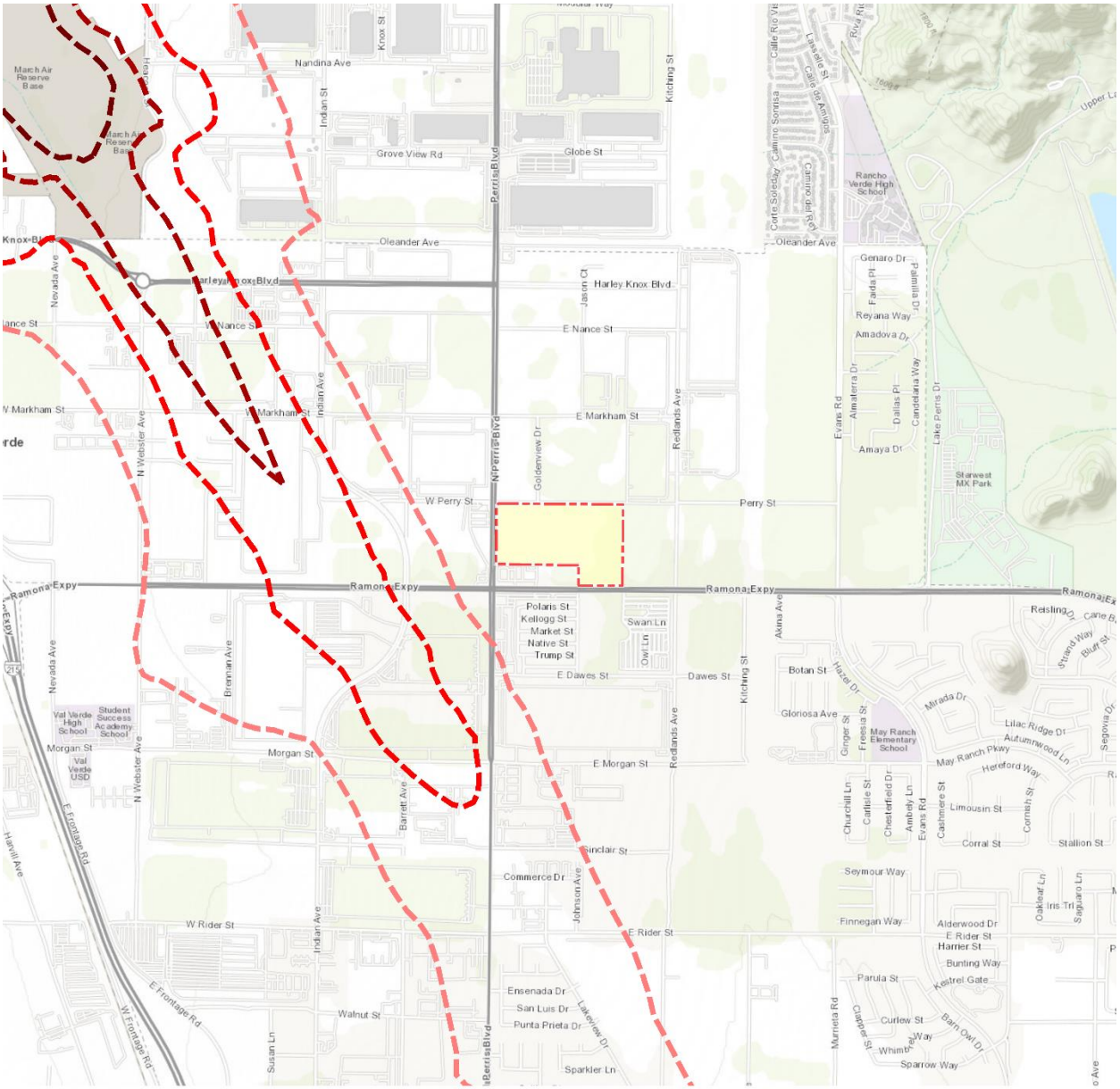
3.7 MARCH AIR RESERVE BASE/INLAND PORT AIRPORT LAND USE COMPATIBILITY

The March Air Reserve Base/Inland Port Airport (MARB/IPA) runway is located approximately 1.5 miles northwest of the Project site.

The *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan* (MARB/IPA ALUCP) includes the policies for determining the land use compatibility of the Project. (8) The MARB/IPA, Map MA-1, indicates that the Project site is located within the Flight Corridor Buffer (Compatibility Zone D), and the Table MA-1 Compatibility Zone Factors indicates that this area is considered to have a *moderate to low* noise impact, and is mostly within or near the 55 dBA CNEL noise level contour boundaries. Consistent with the Basic Compatibility Criteria, listed in Table MA-2 of the MARB/IPA ALUCP, only uses that attract very high concentrations of people in confined areas are discouraged. The MARB/IPA ALUCP does not identify industrial-use specific noise compatibility standards, and therefore, the Governor's Office of Planning and Research (OPR) Land Use Compatibility for Community Noise Exposure, previously discussed in Section 3.3, is used to assess potential aircraft-related noise levels at the Project site. The OPR guidelines indicate that industrial uses, such as the Project, are considered *normally acceptable* with exterior noise levels of up to 70 dBA CNEL and *conditionally acceptable* with exterior noise levels between 70 to 80 dBA CNEL. (4)

The noise contour boundaries used to determine the potential aircraft-related noise impacts at the Project site are found on Figure 6-9 of the March Air Reserve Base 2018 Final Air Installations Compatible Uses Zones Study and are presented on Exhibit 3-A of this report. Based on the 2018 noise level contours for the MARB/IPA, the Project development area is located outside the 60 dBA CNEL noise level contour boundaries and is considered *normally acceptable.*

EXHIBIT 3-A: MARB/IPA FUTURE AIRPORT NOISE CONTOURS



LEGEND:

- Project Site Boundary

Unmitigated MARB Noise Level Contour Boundaries

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

Source: Figure 6-9 of the March Air Reserve Base 2018 Final Air Installations Compatible Uses Zones Study.

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4 SIGNIFICANCE CRITERIA

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

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

While the City of Perris General Plan Noise Element provides direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, it does not define the levels at which increases are considered substantial for use under Guideline A. The CEQA Guidelines Appendix G noise threshold C applies to nearest public and private airports, if any, and the Project's land use compatibility.

4.1 CEQA THRESHOLDS NOT FURTHER ANALYZED

The closest airport which would require additional noise analysis under CEQA Appendix G threhold C is the MARB/IPA. As previously indicated in Section 3.7, the noise contour boundaries of MARB/IPA are presented on Exhibit 3-B of this report and shows that the Project's industrial land uses are considered *clearly acceptable* since the development area is located outside the 60 dBA CNEL contour. Therefore, the Project impacts are considered *less than significant,* and no further noise analysis is provided under CEQA Significance Criteria C.

4.2 NOISE SENSITIVE USE NOISE LEVEL INCREASES

As identified in the PVCCSP EIR, sensitive receivers are areas where humans are participating in activities that may be subject to the stress of significant interference from noise and often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Other receivers include office and industrial buildings, which are not considered as sensitive as single-family homes, but are still protected by City of Perris land use compatibility standards, as discussed below. Noise level increases at nearest receiver locations resulting from the Project are evaluated based on the PVCCSP EIR Thresholds described below at nearest sensitive receiver locations. Further, CEQA requires that consideration be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (9)

According to the PVCCSP EIR, *there is no official "industry standard" of determining significance of noise impacts. However, typically, a jurisdiction will identify either 3 dBA or 5 dBA increase as being the threshold because these levels represent varying levels of perceived noise increases.* The PVCCSP EIR indicates that a 5 dBA noise level increase is considered *discernable to most people in an exterior environment* when the resulting noise levels are below 60 dBA. Further, it identifies a 3 dBA increase threshold when the noise levels already exceed 60 dBA. In addition, according to the PVCCSP EIR, an increase of 5 dBA or more above without Project noise levels is considered a significant impact at all other sensitive land uses. (3) The City of Perris does not consider noise increases to non-noise-sensitive uses to be significant.

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive[1]	if resulting noise level is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if resulting noise level is > 60 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive[3]	At residential land use[2]	80 dBA L_{max}	60 dBA L_{max}
		Within 160 Feet of noise-sensitive use[3]	60 dBA CNEL (exterior)	
		if resulting noise level is < 60 dBA L_{eq}[1]	≥ 5 dBA L_{eq} Project increase	
		if resulting noise level is > 60 dBA L_{eq}[1]	≥ 3 dBA L_{eq} Project increase	
Construction	Noise-Sensitive	At residential land use[4]	80 dBA L_{max}	
		Vibration Level Threshold[5]	0.5 PPV (in/sec)	

[1] PVCC SP EIR, Page 4.9-20.
[2] City of Perris Municipal Code, Section 7.34.040 (Appendix 3.1).
[3] City of Perris General Plan Noise Element, Implementation Measure V.A.1.
[4] City of Perris Municipal Code, Section 7.34.060 (Appendix 3.1).
[5] PVCC SP EIR, Page 4.9-27.
"Daytime" = 7:01 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:00 a.m.

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at five locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday July 21st, 2021. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (10)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (11) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (12)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (12) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

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

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the energy average hourly sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels.

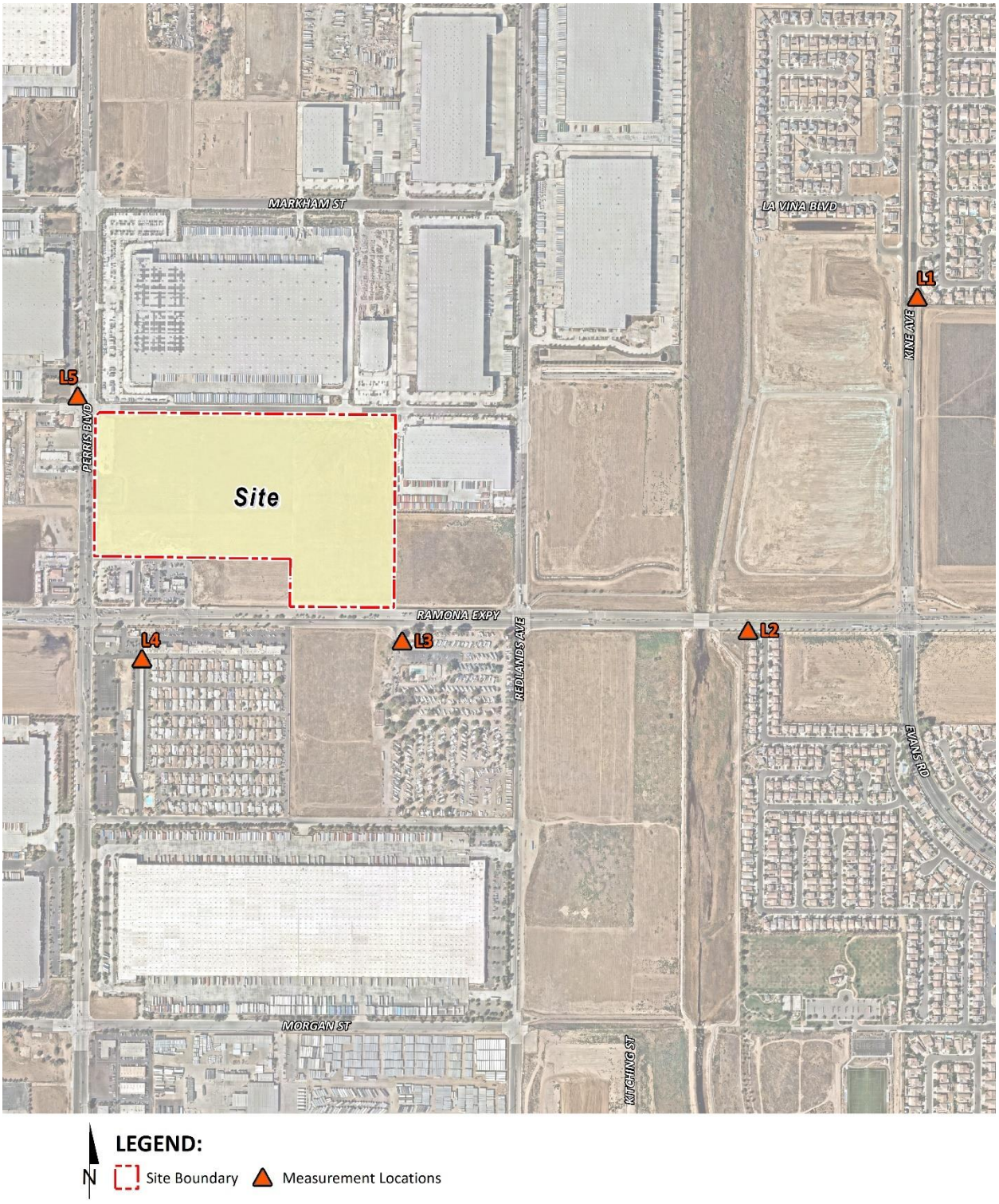
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located northeast of the Project site near the property line of the single-family residence at 807 Amaya Drive.	71.2	67.8
L2	Located southeast of the Project site near the property line of the single-family residence at 3896 Akina Avenue.	69.9	68.3
L3	Located south of the Project site near the property line of Camper Resorts of America Clubhouse at 375 Ramona Expressway.	62.6	60.3
L4	Located south of the Project site near the property line of Park Place Mobile Home Park at 80 East Dawes Street.	63.3	59.7
L5	Located west of the Project site near the property line of the single-family residence at 4194 North Perris Boulevard.	73.4	72.3

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:01 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:00 a.m.

Table 5-1 provides the energy average noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the *Land Use Compatibility Criteria*, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (13) 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. (14) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (15)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the 14 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Perris General Plan Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on the *OLC3 Traffic Analysis*, prepared by Urban Crossroads, Inc. for the following traffic scenarios (16):

- Existing (2022)
- Existing Plus Project (E+P)
- Existing Plus Ambient Growth Plus Cumulative (EAC) (2024)
- Existing Plus Ambient Growth Plus Cumulative Plus Project (EAPC) (2024)
- Horizon Year (2045) Without Project
- Horizon Year (2045) With Project

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts, without and with project ADT traffic volumes from the Project traffic study.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Receiving Land Use[2]	Distance from Centerline to Receiving Land Use (Feet)[3]	Vehicle Speed (mph)
1	Perris Blvd.	s/o Harley Knox Blvd.	Arterial	Non-Sensitive	64'	45
2	Perris Blvd.	n/o Ramona Exp.	Arterial	Non-Sensitive	64'	45
3	Perris Blvd.	s/o Ramona Exp.	Arterial	Sensitive	64'	45
4	Perris Blvd.	s/o Rider St.	Arterial	Sensitive	64'	45
5	Redlands Av.	s/o Harley Knox Blvd.	Secondary	Non-Sensitive	47'	40
6	Redlands Av.	s/o Markham St.	Secondary	Non-Sensitive	47'	40
7	Redlands Av.	n/o Ramona Exp.	Secondary	Non-Sensitive	47'	40
8	Harley Knox Blvd.	w/o Perris Blvd.	Arterial	Non-Sensitive	64'	45
9	Harley Knox Blvd.	e/o Perris Blvd.	Arterial	Sensitive	64'	45
10	Perry St.	w/o Redlands Av.	Industrial Collector	Non-Sensitive	37'	40
11	Ramona Exp.	w/o Indian Av.	Expressway	Non-Sensitive	92'	55
12	Ramona Exp.	w/o Perris Blvd.	Expressway	Non-Sensitive	92'	55
13	Ramona Exp.	e/o Redlands Av.	Expressway	Sensitive	92'	55
14	Ramona Exp.	e/o Evans Rd.	Expressway	Sensitive	92'	55

[1] OLC3 Traffic Analysis, Urban Crossroads, Inc.
[2] Based on a review of existing aerial imagery.
[3] Distance to receiving land use is based upon the right-of-way distances.

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

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing (2022)		EAC (2024)		HY (2045)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Perris Blvd.	s/o Harley Knox Blvd.	24,254	25,151	28,677	29,573	54,218	55,115
2	Perris Blvd.	n/o Ramona Exp.	23,348	28,732	27,547	32,929	30,301	35,684
3	Perris Blvd.	s/o Ramona Exp.	23,608	24,954	27,822	29,168	30,605	31,950
4	Perris Blvd.	s/o Rider St.	21,932	22,830	27,577	28,474	36,181	37,078
5	Redlands Av.	s/o Harley Knox Blvd.	7,499	7,793	15,058	15,352	16,564	16,858
6	Redlands Av.	s/o Markham St.	8,582	8,876	16,208	16,502	17,829	18,123
7	Redlands Av.	n/o Ramona Exp.	8,539	10,782	16,162	18,405	17,778	20,021
8	Harley Knox Blvd.	w/o Perris Blvd.	10,576	11,319	18,952	19,694	20,847	21,589
9	Harley Knox Blvd.	e/o Perris Blvd.	7,137	7,431	14,901	15,195	16,391	16,685
10	Perry St.	w/o Redlands Av.	332	4,965	353	4,986	388	5,021
11	Ramona Exp.	w/o Indian Av.	35,037	38,626	97,334	100,922	107,067	110,655
12	Ramona Exp.	w/o Perris Blvd.	621	4,659	659	4,697	725	4,762
13	Ramona Exp.	e/o Redlands Av.	39,964	41,758	103,300	105,094	113,630	115,423
14	Ramona Exp.	e/o Evans Rd.	27,726	28,623	92,299	93,195	101,529	102,425

[1] OLC3 Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	66.89%	10.80%	22.31%	100.00%
Medium Trucks	77.57%	6.82%	15.61%	100.00%
Heavy Trucks	64.99%	9.64%	25.37%	100.00%

[1] Based on the June 8, 2022, 24-hour directional vehicle classification count collected on Perris Boulevard between Harley Knox Boulevard between and Nance Street (OLC3 Traffic Analysis, Urban Crossroads, Inc.)
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow[1]			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	92.50%	3.57%	3.93%	100.00%

[1] Based on the June 8, 2022, 24-hour directional vehicle classification count collected on Perris Boulevard between Harley Knox Boulevard between and Nance Street (OLC3 Traffic Analysis, Urban Crossroads, Inc.)

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

TABLE 6-5: EXISTING 2022 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Perris Blvd.	s/o Harley Knox Blvd.	92.77%	3.44%	3.79%	100.00%
2	Perris Blvd.	n/o Ramona Exp.	93.91%	2.90%	3.20%	100.00%
3	Perris Blvd.	s/o Ramona Exp.	92.91%	3.37%	3.72%	100.00%
4	Perris Blvd.	s/o Rider St.	92.80%	3.43%	3.78%	100.00%
5	Redlands Av.	s/o Harley Knox Blvd.	89.01%	4.19%	6.80%	100.00%
6	Redlands Av.	s/o Markham St.	89.44%	4.11%	6.45%	100.00%
7	Redlands Av.	n/o Ramona Exp.	94.06%	2.82%	3.11%	100.00%
8	Harley Knox Blvd.	w/o Perris Blvd.	90.40%	3.85%	5.75%	100.00%
9	Harley Knox Blvd.	e/o Perris Blvd.	88.84%	4.22%	6.94%	100.00%
10	Perry St.	w/o Redlands Av.	96.54%	0.83%	2.63%	100.00%
11	Ramona Exp.	w/o Indian Av.	93.20%	3.23%	3.57%	100.00%
12	Ramona Exp.	w/o Perris Blvd.	99.00%	0.48%	0.52%	100.00%
13	Ramona Exp.	e/o Redlands Av.	92.82%	3.41%	3.76%	100.00%
14	Ramona Exp.	e/o Evans Rd.	92.74%	3.45%	3.81%	100.00%

[1] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: EAC 2024 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Perris Blvd.	s/o Harley Knox Blvd.	92.73%	3.46%	3.81%	100.00%
2	Perris Blvd.	n/o Ramona Exp.	93.73%	2.98%	3.29%	100.00%
3	Perris Blvd.	s/o Ramona Exp.	92.85%	3.40%	3.75%	100.00%
4	Perris Blvd.	s/o Rider St.	92.74%	3.45%	3.81%	100.00%
5	Redlands Av.	s/o Harley Knox Blvd.	90.73%	3.88%	5.39%	100.00%
6	Redlands Av.	s/o Markham St.	90.85%	3.86%	5.29%	100.00%
7	Redlands Av.	n/o Ramona Exp.	93.41%	3.13%	3.45%	100.00%
8	Harley Knox Blvd.	w/o Perris Blvd.	91.29%	3.73%	4.98%	100.00%
9	Harley Knox Blvd.	e/o Perris Blvd.	90.71%	3.88%	5.40%	100.00%
10	Perry St.	w/o Redlands Av.	96.52%	0.84%	2.64%	100.00%
11	Ramona Exp.	w/o Indian Av.	92.77%	3.44%	3.79%	100.00%
12	Ramona Exp.	w/o Perris Blvd.	98.95%	0.50%	0.55%	100.00%
13	Ramona Exp.	e/o Redlands Av.	92.63%	3.51%	3.87%	100.00%
14	Ramona Exp.	e/o Evans Rd.	92.57%	3.53%	3.90%	100.00%

[1] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: HORIZON YEAR (2045) WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Perris Blvd.	s/o Harley Knox Blvd.	92.62%	3.51%	3.87%	100.00%
2	Perris Blvd.	n/o Ramona Exp.	93.63%	3.03%	3.34%	100.00%
3	Perris Blvd.	s/o Ramona Exp.	92.82%	3.42%	3.77%	100.00%
4	Perris Blvd.	s/o Rider St.	92.68%	3.48%	3.84%	100.00%
5	Redlands Av.	s/o Harley Knox Blvd.	90.89%	3.85%	5.26%	100.00%
6	Redlands Av.	s/o Markham St.	91.00%	3.83%	5.17%	100.00%
7	Redlands Av.	n/o Ramona Exp.	93.34%	3.17%	3.49%	100.00%
8	Harley Knox Blvd.	w/o Perris Blvd.	91.40%	3.72%	4.89%	100.00%
9	Harley Knox Blvd.	e/o Perris Blvd.	90.87%	3.86%	5.27%	100.00%
10	Perry St.	w/o Redlands Av.	96.49%	0.86%	2.65%	100.00%
11	Ramona Exp.	w/o Indian Av.	92.74%	3.45%	3.81%	100.00%
12	Ramona Exp.	w/o Perris Blvd.	98.86%	0.54%	0.60%	100.00%
13	Ramona Exp.	e/o Redlands Av.	92.62%	3.51%	3.87%	100.00%
14	Ramona Exp.	e/o Evans Rd.	92.57%	3.53%	3.90%	100.00%

[1] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

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7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with the development of the proposed Project, noise contours were developed based on the *OLC3 Traffic Analysis* prepared by Urban Crossroads, Inc. (16) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 through 7-6 present a summary of the exterior dBA CNEL traffic noise levels for each traffic condition. Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contour worksheets for each of the traffic conditions.

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	75.1	56	122	262
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	74.9	RW	111	240
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	74.9	RW	75	161
4	Perris Blvd.	s/o Rider St.	Sensitive	74.6	75	162	350
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	70.8	75	161	347
6	Redlands Av.	s/o Markham St.	Non-Sensitive	71.3	170	367	790
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	71.3	166	358	770
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	71.5	166	358	771
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	69.7	314	677	1459
10	Perry St.	w/o Redlands Av.	Non-Sensitive	57.7	269	579	1248
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	76.4	262	564	1215
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	58.9	247	533	1147
13	Ramona Exp.	e/o Redlands Av.	Sensitive	77.0	RW	57	122
14	Ramona Exp.	e/o Evans Rd.	Sensitive	75.4	45	96	207

[1] Based on a review of existing aerial imagery.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	75.1	140	302	652
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	75.2	143	308	663
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	75.0	139	298	643
4	Perris Blvd.	s/o Rider St.	Sensitive	74.7	131	283	610
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	72.5	69	149	321
6	Redlands Av.	s/o Markham St.	Non-Sensitive	72.9	74	159	342
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	71.7	61	131	282
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	72.8	98	211	454
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	71.5	81	174	374
10	Perry St.	w/o Redlands Av.	Non-Sensitive	68.1	RW	59	128
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	76.6	254	548	1180
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	64.5	RW	RW	184
13	Ramona Exp.	e/o Redlands Av.	Sensitive	77.1	273	589	1269
14	Ramona Exp.	e/o Evans Rd.	Sensitive	75.5	214	460	991

[1] Based on a review of existing aerial imagery.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EAC (2024) WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	75.8	156	335	722
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	75.6	152	326	703
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	75.7	153	329	708
4	Perris Blvd.	s/o Rider St.	Sensitive	75.6	152	327	704
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	73.8	84	181	390
6	Redlands Av.	s/o Markham St.	Non-Sensitive	74.1	88	190	410
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	74.1	88	190	409
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	74.0	118	254	548
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	72.9	101	217	467
10	Perry St.	w/o Redlands Av.	Non-Sensitive	58.0	RW	RW	RW
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	80.9	489	1053	2269
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	59.2	RW	RW	RW
13	Ramona Exp.	e/o Redlands Av.	Sensitive	81.1	509	1096	2361
14	Ramona Exp.	e/o Evans Rd.	Sensitive	80.7	472	1017	2191

[1] Based on a review of existing aerial imagery.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: EAPC (2024) WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	75.8	157	338	728
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	75.9	158	341	735
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	75.7	154	332	716
4	Perris Blvd.	s/o Rider St.	Sensitive	75.7	153	329	709
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	74.8	98	210	453
6	Redlands Av.	s/o Markham St.	Non-Sensitive	75.0	101	219	471
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	74.3	91	195	421
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	74.8	133	286	617
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	73.9	116	250	538
10	Perry St.	w/o Redlands Av.	Non-Sensitive	68.1	RW	60	128
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	80.9	494	1064	2292
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	64.6	RW	RW	186
13	Ramona Exp.	e/o Redlands Av.	Sensitive	81.2	511	1101	2372
14	Ramona Exp.	e/o Evans Rd.	Sensitive	80.7	473	1019	2196

[1] Based on a review of existing aerial imagery.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: HORIZON YEAR (2045) WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	78.6	238	513	1105
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	76.0	161	348	749
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	76.1	163	350	754
4	Perris Blvd.	s/o Rider St.	Sensitive	76.8	182	392	844
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	74.2	90	193	416
6	Redlands Av.	s/o Markham St.	Non-Sensitive	74.5	94	203	437
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	74.5	94	202	436
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	74.4	126	271	584
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	73.4	107	231	498
10	Perry St.	w/o Redlands Av.	Non-Sensitive	58.4	RW	RW	RW
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	81.3	521	1123	2418
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	59.6	RW	RW	RW
13	Ramona Exp.	e/o Redlands Av.	Sensitive	81.6	542	1168	2516
14	Ramona Exp.	e/o Evans Rd.	Sensitive	81.1	503	1083	2334

[1] Based on a review of existing aerial imagery.

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

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

TABLE 7-6: HORIZON YEAR (2045) WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	78.6	239	515	1109
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	76.3	168	362	780
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	76.1	164	354	762
4	Perris Blvd.	s/o Rider St.	Sensitive	76.8	183	394	848
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	75.1	103	221	476
6	Redlands Av.	s/o Markham St.	Non-Sensitive	75.4	107	230	496
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	74.7	96	208	447
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	75.1	140	302	651
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	74.2	122	263	567
10	Perry St.	w/o Redlands Av.	Non-Sensitive	68.1	RW	60	129
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	81.4	526	1133	2440
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	64.7	RW	RW	190
13	Ramona Exp.	e/o Redlands Av.	Sensitive	81.6	544	1173	2527
14	Ramona Exp.	e/o Evans Rd.	Sensitive	81.1	504	1086	2340

[1] Based on a review of existing aerial imagery.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *OLC3 Traffic Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 57.7 to 77.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 64.5 to 77.1 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level impacts will range from 0.0 to 10.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, consistent with guidance from the City of Perris, off-site traffic impacts are limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of up to 10.4 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this

increase over time. In addition, the Project-related off-site traffic noise level increase are largely due to the low traffic volumes that currently exist.

7.3 EAC (2024) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Existing Plus Ambient Growth Plus Cumulative Projects (2024) without Project conditions CNEL noise levels. The Existing Plus Ambient Growth Plus Cumulative Projects (2024) without Project exterior noise levels are expected to range from 58.0 to 81.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Existing Plus Ambient Growth Plus Cumulative Projects (2024) with Project conditions will range from 64.6 to 81.2 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases will range from 0.0 to 10.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, consistent with guidance from the City of Perris, off-site traffic impacts are limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of up to 10.1 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this increase over time. In addition, the Project-related off-site traffic noise level increase are largely due to the low traffic volumes that currently exist.

7.4 HY (2045) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the Horizon Year (2045) without Project conditions CNEL noise levels. The Horizon Year (2045) without Project exterior noise levels are expected to range from 58.4 to 81.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the Horizon Year (2045) with Project conditions will range from 64.7 to 81.6 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases will range from 0.0 to 9.7 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, consistent with guidance from the City of Perris, off-site traffic impacts are limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of up to 9.7 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this increase over time. In addition, the Project-related off-site traffic noise level increase are largely due to the low traffic volumes that currently exist.

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

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	75.1	75.1	0.0	n/a	No
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	74.9	75.2	0.3	n/a	No
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	74.9	75.0	0.1	3	No
4	Perris Blvd.	s/o Rider St.	Sensitive	74.6	74.7	0.1	3	No
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	70.8	72.5	1.7	n/a	No
6	Redlands Av.	s/o Markham St.	Non-Sensitive	71.3	72.9	1.6	n/a	No
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	71.3	71.7	0.4	n/a	No
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	71.5	72.8	1.3	n/a	No
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	69.7	71.5	1.8	3	No
10	Perry St.	w/o Redlands Av.	Non-Sensitive	57.7	68.1	10.4	n/a	No
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	76.4	76.6	0.2	n/a	No
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	58.9	64.5	5.6	n/a	No
13	Ramona Exp.	e/o Redlands Av.	Sensitive	77.0	77.1	0.1	3	No
14	Ramona Exp.	e/o Evans Rd.	Sensitive	75.4	75.5	0.1	3	No

[1] Based on a review of existing aerial imagery.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use. The City of Perris does not consider noise increases to non-noise-sensitive uses to be significant.

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

TABLE 7-8: EAC (2024) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	75.8	75.8	0.0	n/a	No
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	75.6	75.9	0.3	n/a	No
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	75.7	75.7	0.0	3	No
4	Perris Blvd.	s/o Rider St.	Sensitive	75.6	75.7	0.1	3	No
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	73.8	74.8	1.0	n/a	No
6	Redlands Av.	s/o Markham St.	Non-Sensitive	74.1	75.0	0.9	n/a	No
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	74.1	74.3	0.2	n/a	No
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	74.0	74.8	0.8	n/a	No
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	72.9	73.9	1.0	3	No
10	Perry St.	w/o Redlands Av.	Non-Sensitive	58.0	68.1	10.1	n/a	No
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	80.9	80.9	0.0	n/a	No
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	59.2	64.6	5.4	n/a	No
13	Ramona Exp.	e/o Redlands Av.	Sensitive	81.1	81.2	0.1	3	No
14	Ramona Exp.	e/o Evans Rd.	Sensitive	80.7	80.7	0.0	3	No

[1] Based on a review of existing aerial imagery.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use. The City of Perris does not consider noise increases to non-noise-sensitive uses to be significant.

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

TABLE 7-9: HORIZON YEAR (2045) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Perris Blvd.	s/o Harley Knox Blvd.	Non-Sensitive	78.6	78.6	0.0	n/a	No
2	Perris Blvd.	n/o Ramona Exp.	Non-Sensitive	76.0	76.3	0.3	n/a	No
3	Perris Blvd.	s/o Ramona Exp.	Sensitive	76.1	76.1	0.0	3	No
4	Perris Blvd.	s/o Rider St.	Sensitive	76.8	76.8	0.0	3	No
5	Redlands Av.	s/o Harley Knox Blvd.	Non-Sensitive	74.2	75.1	0.9	n/a	No
6	Redlands Av.	s/o Markham St.	Non-Sensitive	74.5	75.4	0.9	n/a	No
7	Redlands Av.	n/o Ramona Exp.	Non-Sensitive	74.5	74.7	0.2	n/a	No
8	Harley Knox Blvd.	w/o Perris Blvd.	Non-Sensitive	74.4	75.1	0.7	n/a	No
9	Harley Knox Blvd.	e/o Perris Blvd.	Sensitive	73.4	74.2	0.8	3	No
10	Perry St.	w/o Redlands Av.	Non-Sensitive	58.4	68.1	9.7	n/a	No
11	Ramona Exp.	w/o Indian Av.	Non-Sensitive	81.3	81.4	0.1	n/a	No
12	Ramona Exp.	w/o Perris Blvd.	Non-Sensitive	59.6	64.7	5.1	n/a	No
13	Ramona Exp.	e/o Redlands Av.	Sensitive	81.6	81.6	0.0	3	No
14	Ramona Exp.	e/o Evans Rd.	Sensitive	81.1	81.1	0.0	3	No

[1] Based on a review of existing aerial imagery.

[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use. The City of Perris does not consider noise increases to non-noise-sensitive uses to be significant.

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

8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. As identified in the PVCCSP EIR, sensitive receivers are areas where humans are participating in activities that may be subject to the stress of significant interference from noise and often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Other receivers include office and industrial buildings, which are not considered as sensitive as single-family homes, but are still protected by City of Perris land use compatibility standards.

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

R1: Location R1 represents the property line of the existing residence at 4310 Almaterra Drive, approximately 3,431 feet northeast of the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the property line of the existing residence at 3896 Akina Avenue, approximately 2,279 feet southeast of the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

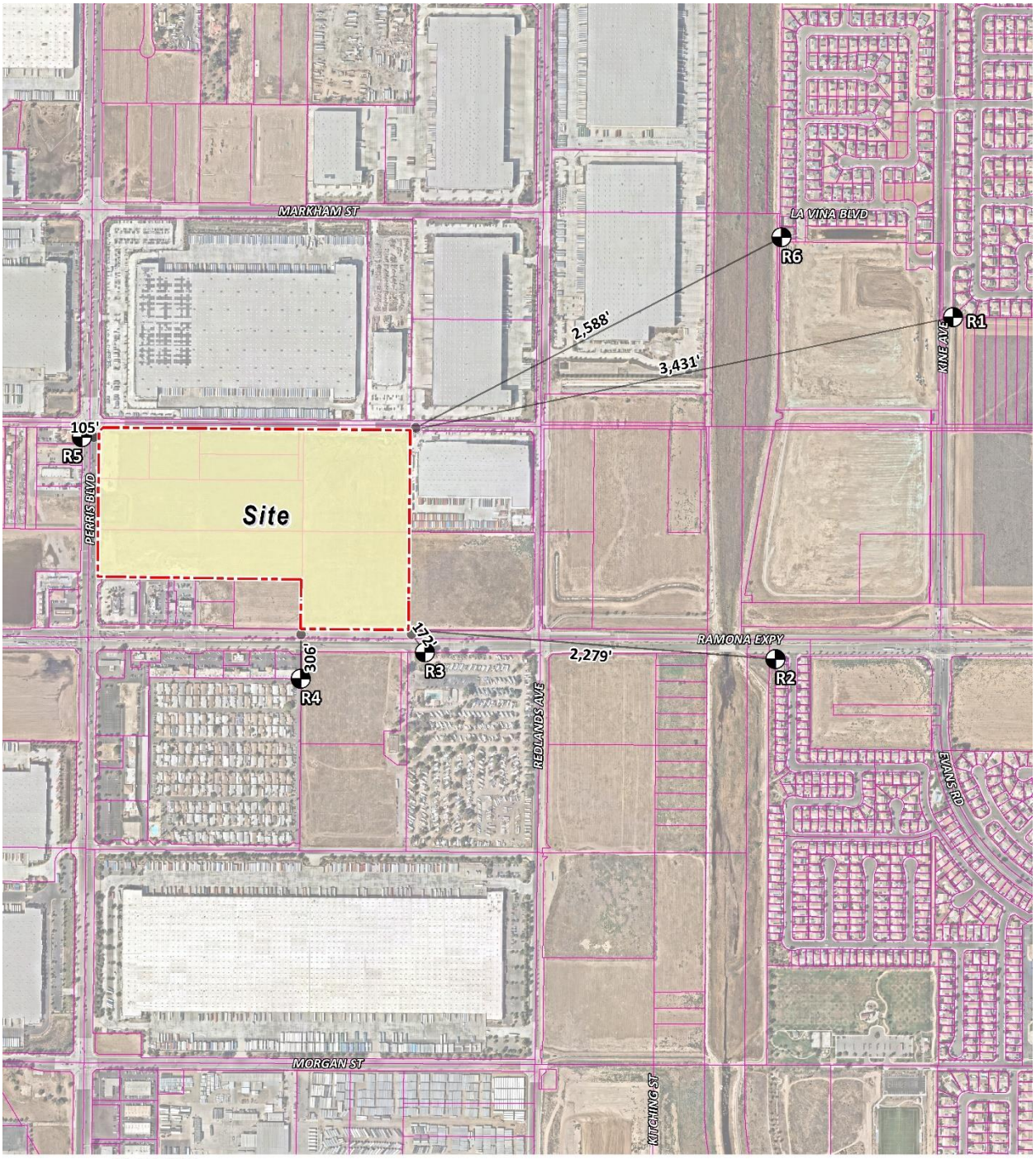
R3: Location R3 represents the property line of the Camper Resorts of America at 375 Ramona Expressway, approximately 172 feet southeast of the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the property line of the Park Place Mobile Home Park at 80 E. Dawes Street, approximately 306 feet south of the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

R5: Location R5 represents the property line of the Katana Motors at 4194 N. Perris Boulevard, approximately 105 feet west of the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents the property line of the existing residence at Albatross Avenue, approximately 2,588 feet northeast of the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

EXHIBIT 8-A: SENSITIVE RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed OLC3 Project. Exhibit 9-A identifies the representative noise source locations used to assess the operational noise levels. The operational noise analysis includes the planned 14-foot-high screen wall on the north and south perimeter of the loading dock areas for the industrial building. The screen wall locations shown on Exhibit 9-A are designed for screening, privacy, noise control, and security.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project warehouse and retail land uses would be operational 24 hours per day, seven days per week. Consistent with similar warehouse and light industrial uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: loading dock activity, truck movements, roof-top air conditioning units, drive-through speakerphone, trash enclosure activity, parking lot vehicle movements and pickleball.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. Table 9-1 presents both the average hourly L_{eq} and the maximum permissible L_{max} reference noise levels. The average hour L_{eq} noise levels are used to calculate the 24-hour noise levels necessary to demonstrate compliance with the City of Perris 60 dBA CNEL exterior noise level standard for new industrial and large commercial facilities within 160 feet of the property line of existing noise-sensitive land uses. In addition, the average hourly L_{eq} noise levels are used to describe the Project related operational noise level increases.

The L_{max} reference noise levels shown on Table 9-1 are used to estimate the Project's maximum permissible exterior noise level consistent with the City's L_{max} noise level standards. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, truck movements, roof-top air conditioning units, drive-through speakerphone, trash enclosure activity, parking lot vehicle movements and pickleball all operating continuously. These sources of noise activity will likely vary throughout the day.

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

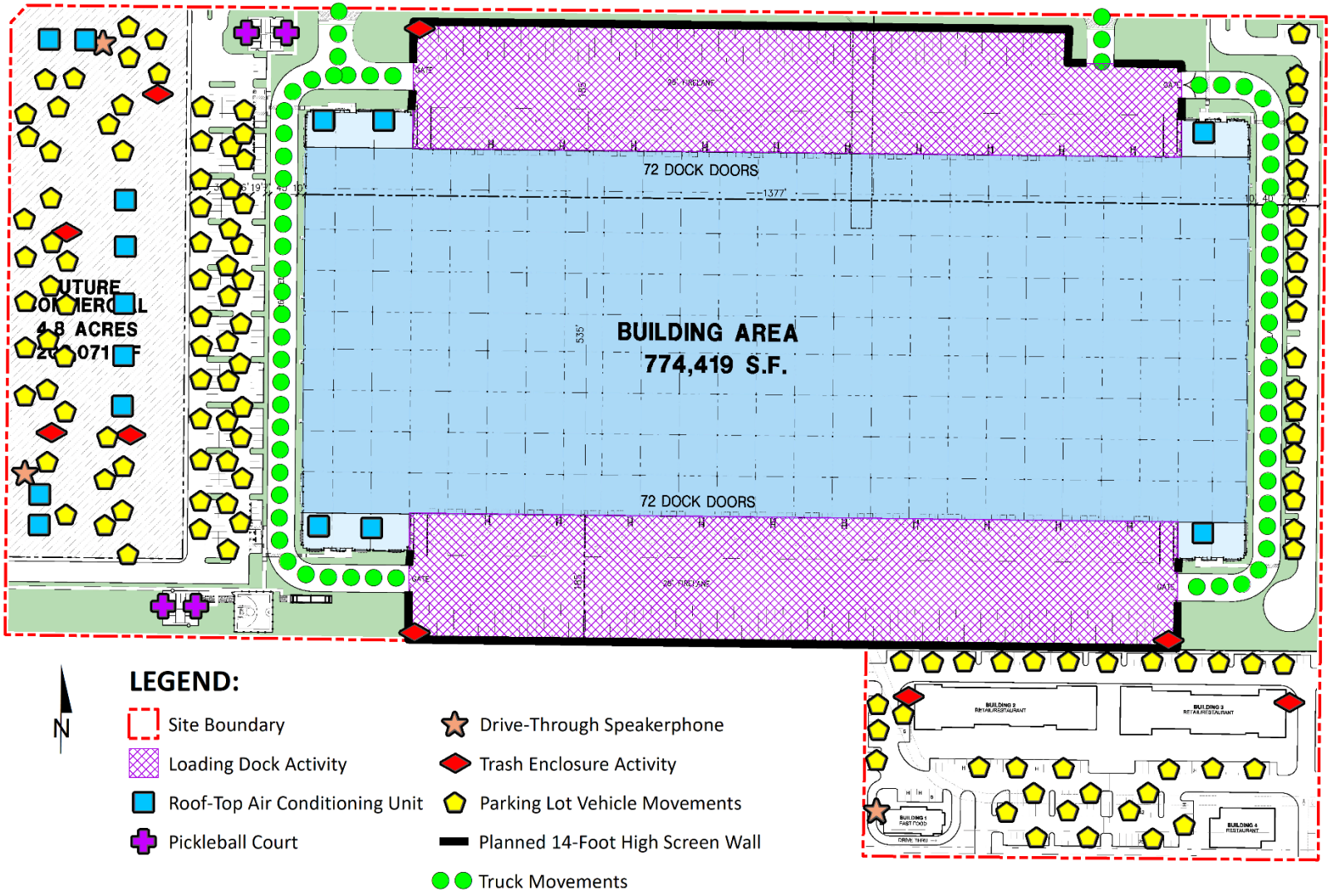


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]		Reference Noise Level (dBA L_{eq})		Reference Noise Level (dBA L_{max})	
		Day	Night	@ Ref. Dist.	@ 50 Feet	@ Ref. Dist.	@ 50 Feet
Loading Dock Activity	8'	60	60	78.4	64.4	88.8	74.8
Truck Movements	8'	60	60	64.0	58.0	79.1	73.1
Roof-Top Air Conditioning Units	5'	39	28	77.2	57.2	77.7	57.7
Drive-Through Speakerphone	3'	60	30	62.0	51.5	65.3	54.8
Trash Enclosure Activity	5'	60	30	72.7	56.8	87.0	71.1
Parking Lot Vehicle Movements	5'	60	30	66.6	56.1	70.2	59.7
Pickleball Court	5'	60	0	72.5	56.6	86.8	69.9

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:01 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:00 a.m.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (10)

9.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical operational noise activities associated with the Project. This includes trucks maneuvering, truck loading, truck unloading, backup alarms or beepers, truck docking, a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. Since the noise levels generated by cold storage loading dock activity can be slightly higher due to the use of refrigerated trucks or reefers, this analysis conservatively assumes that all loading dock activity is associated with cold storage facilities, even though only 5 percent cold storage is anticipated. To describe the warehouse loading dock activities, short-term reference noise level measurements were collected. The reference loading dock activity noise level measurement was taken over a fourteen-minute period and represents multiple noise sources taken from the center of activity generating a reference noise level of 74.8 dBA L_{max} at a uniform reference distance of 50 feet. At this measurement location, the noise sources associated with employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm or beeper.

9.2.3 TRUCK MOVEMENTS

The truck movements reference noise level measurement was taken over a 15-minute period and represents multiple noise sources producing a reference noise level of 73.1 dBA L_{max} and 58.0 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and background truck court activities and forklift backup alarm noise.

9.2.4 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise level measurements were collected from Lennox SCA120 series 10-ton model packaged air conditioning unit. At a uniform reference distance of 50 feet, the roof-top air conditioning units generate a reference noise level of 57.7 dBA L_{max}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

9.2.5 DRIVE-THROUGH SPEAKERPHONE ACTIVITY

To describe the potential noise level impacts associated with potential drive-thru speakerphones and vehicle activities, a reference noise level measurement was collected. The reference noise levels collected are expected to reflect potential drive-thru speakerphone noise level activities at the Project site, since the reference measurement includes both drive-thru speakerphone and vehicle activity noise. The noise sources included in the reference noise level measurement consist of voices of the employees over the speakerphone, customers' voices ordering food, car engines idling, car radios playing music, and cars queuing in the drive-thru lane. At 50 feet from the speakerphone, a reference noise level of 54.8 dBA L_{max} was measured.

9.2.6 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 71.1 dBA L_{max} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for each of the Project buildings.

9.2.7 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity a reference noise level of 59.7 dBA L_{max} at 50 feet is used. Parking activities are expected to take place during the full hour (60 minutes) throughout

the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces.

9.2.8 PICKLEBALL COURT ACTIVITY

To describe the pickleball court activity, a reference noise level measurement was taken. At 50 feet, the reference noise level is 69.9 dBA L_{max} at a noise source height of 5 feet. The reference noise level measurement includes pickleball paddle impact and player communications during peak activities.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source.

Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise dBA L_{max} model inputs including the planned 14-foot-high screen wall used to estimate the Project operational noise levels presented in this section.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, truck movements, roof-top air conditioning units, drive-through speakerphone, trash enclosure activity, parking lot vehicle movements and pickleball, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project operational noise levels during the daytime hours of 7:01 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 44.7 to 59.0 dBA L_{max}.

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (Dba L_{max})					
	R1	R2	R3	R4	R5	R6
Loading Dock Activity	44.2	46.9	51.3	58.4	51.9	46.4
Truck Movements	21.1	22.8	30.3	22.4	33.7	23.6
Roof-Top Air Conditioning Units	20.7	22.3	29.9	32.3	44.6	23.4
Drive-Through Speakerphone	10.1	7.8	14.7	32.6	28.4	11.8
Trash Enclosure Activity	29.8	33.9	48.5	41.7	53.7	32.2
Parking Lot Vehicle Movements	32.2	36.5	48.4	48.2	55.4	34.2
Pickleball Court	28.1	27.9	34.7	41.4	43.3	29.9
Total (All Noise Sources)	**44.7**	**47.5**	**54.5**	**59.0**	**59.0**	**46.9**

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

Table 9-3 shows the Project operational noise levels during the nighttime hours of 10:01 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 44.4 to 58.6 dBA L_{max}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 9-1).

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA L_{max})					
	R1	R2	R3	R4	R5	R6
Loading Dock Activity	44.2	46.9	51.3	58.4	51.9	46.4
Truck Movements	21.1	22.8	30.3	22.4	33.7	23.6
Roof-Top Air Conditioning Units	18.3	19.9	27.5	29.9	42.2	21.0
Drive-Through Speakerphone	6.2	3.8	10.7	28.6	24.5	7.9
Trash Enclosure Activity	25.9	29.9	44.5	37.7	49.7	28.3
Parking Lot Vehicle Movements	28.2	32.5	44.4	44.2	51.4	30.3
Pickleball Court	0.0	0.0	0.0	0.0	0.0	0.0
Total (All Noise Sources)	**44.4**	**47.2**	**52.8**	**58.6**	**56.1**	**46.6**

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

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Perris exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-4 shows the operational noise levels associated with OLC3 Project will not exceed the City of Perris 80 dBA L_{max} daytime and 60 dBA L_{max} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA L_{max})[2]		Exterior Noise Level Standards (dBA L_{max})[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	44.7	44.4	80	60	No	No
R2	47.5	47.2	80	60	No	No
R3	54.5	52.8	80	60	No	No
R4	59.0	58.6	80	60	No	No
R5	59.0	56.1	80	60	No	No
R6	46.9	46.6	80	60	No	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.
[3] Exterior noise level standard as shown on Table 3-1.
[4] Do the estimated Project operational noise source activities exceed the noise level standards? "Daytime" = 7:01 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:00 a.m.

Consistent with the City of Perris General Plan Noise Element, Implementation Measure V.A.1, Project operational noise levels at the nearest sensitive receiver locations cannot exceed 60 dBA CNEL. The CNEL metric is typically used to describe 24-hour transportation-related noise levels, however, the City of Perris General Plan Noise Element requires new industrial facilities and large commercial facilities to demonstrate compliance at any noise-sensitive land use within 160 feet of the Project site.

The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive particularly for noise sensitive residential land use. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. Table 9-5 includes the evening and nighttime adjustments made to the operational noise levels during the applicable hours to convert the hourly operational noise levels (L_{eq}) to 24-hour CNELs. Table 9-5 indicates that the 24-hour noise levels associated with the OLC3 at the nearest receiver locations are expected to range from 41.0 to 57.0 dBA CNEL.

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE (CNEL)

Receiver Location[1]	Project Operational Noise Levels[2]			Exterior Noise Level Standards (CNEL)[3]	Noise Level Standards Exceeded?[4]
	Daytime (dBA L_{eq})	Nighttime (dBA L_{eq})	24-Hour (CNEL)		
R1	35.1	34.3	41.0	60	No
R2	38.4	37.5	44.2	60	No
R3	46.7	44.2	51.0	60	No
R4	47.9	46.3	53.0	60	No
R5	53.2	50.1	57.0	60	No
R6	36.8	35.9	42.7	60	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project operational noise level calculations are included in Appendix 9.2.
[3] City of Perris General Plan Noise Element Implementation Measure V.A.1
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:01 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:00 a.m.

Since CNEL noise criteria is used to describe the noise sensitive time periods during the evening and night hours when noise can become more intrusive, the CNEL calculations are limited to the noise sensitive residential receiver locations. The Project-related operational noise levels shown on Table 9-5 will satisfy the City of Perris 60 dBA CNEL exterior noise level standards at the nearest receiver locations. The 24-hour noise level calculations are included in Appendix 9.2.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (11) Instead, they must be logarithmically added using the following base equation:

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. As indicated on Tables 9-6, the Project will generate a daytime operational noise level increases ranging from 0.0 to 0.1 dBA L_{eq} at the nearest receiver locations. Table 9-7 shows that the Project will generate a nighttime operational noise level increases ranging from 0.0 to 0.2 dBA L_{eq} at the nearest receiver locations. Appendix 9.2 includes the detailed noise dBA L_{eq} model inputs including the planned 14-foot-high screen wall used to estimate the Project operational noise levels presented in this section.

The Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented on Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	35.1	L1	71.2	71.2	0.0	3	No
R2	38.4	L2	69.9	69.9	0.0	3	No
R3	46.7	L3	62.6	62.7	0.1	3	No
R4	47.9	L4	63.3	63.4	0.1	3	No
R5	53.2	L5	73.4	73.4	0.0	3	No
R6	36.8	L1	71.2	71.2	0.0	3	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 9-5.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 9-7: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	34.3	L1	67.8	67.8	0.0	3	No
R2	37.5	L2	68.3	68.3	0.0	3	No
R3	44.2	L3	60.3	60.4	0.1	3	No
R4	46.3	L4	59.7	59.9	0.2	5	No
R5	50.1	L5	72.3	72.3	0.0	3	No
R6	35.9	L1	67.8	67.8	0.0	3	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 9-5.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

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10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8. To prevent high levels of construction noise from impacting noise-sensitive land uses, City of Perris Municipal Code Section 7.34.060 limits construction activities to the hours of 7:00 a.m. to 7:00 p.m. on any day except Sundays and legal holidays (with the exception of Columbus Day and Washington's birthday).

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when operating at the project site boundaries closest the nearest sensitive receiver locations can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

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

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

This construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (17) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment including reference L_{max} noise levels measured at 50 feet.

Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 85 dBA L_{max} 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 85 dBA L_{max} measured at 50 feet from the noise source to the receiver would be reduced to 79 dBA L_{max} at 100 feet from the source to the receiver and would be further reduced to 73 dBA L_{max} at 200 feet from the source to the receiver. Table 10-1 provides a summary of the construction reference noise levels expected with the Project construction activities.

EXHIBIT 10-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS

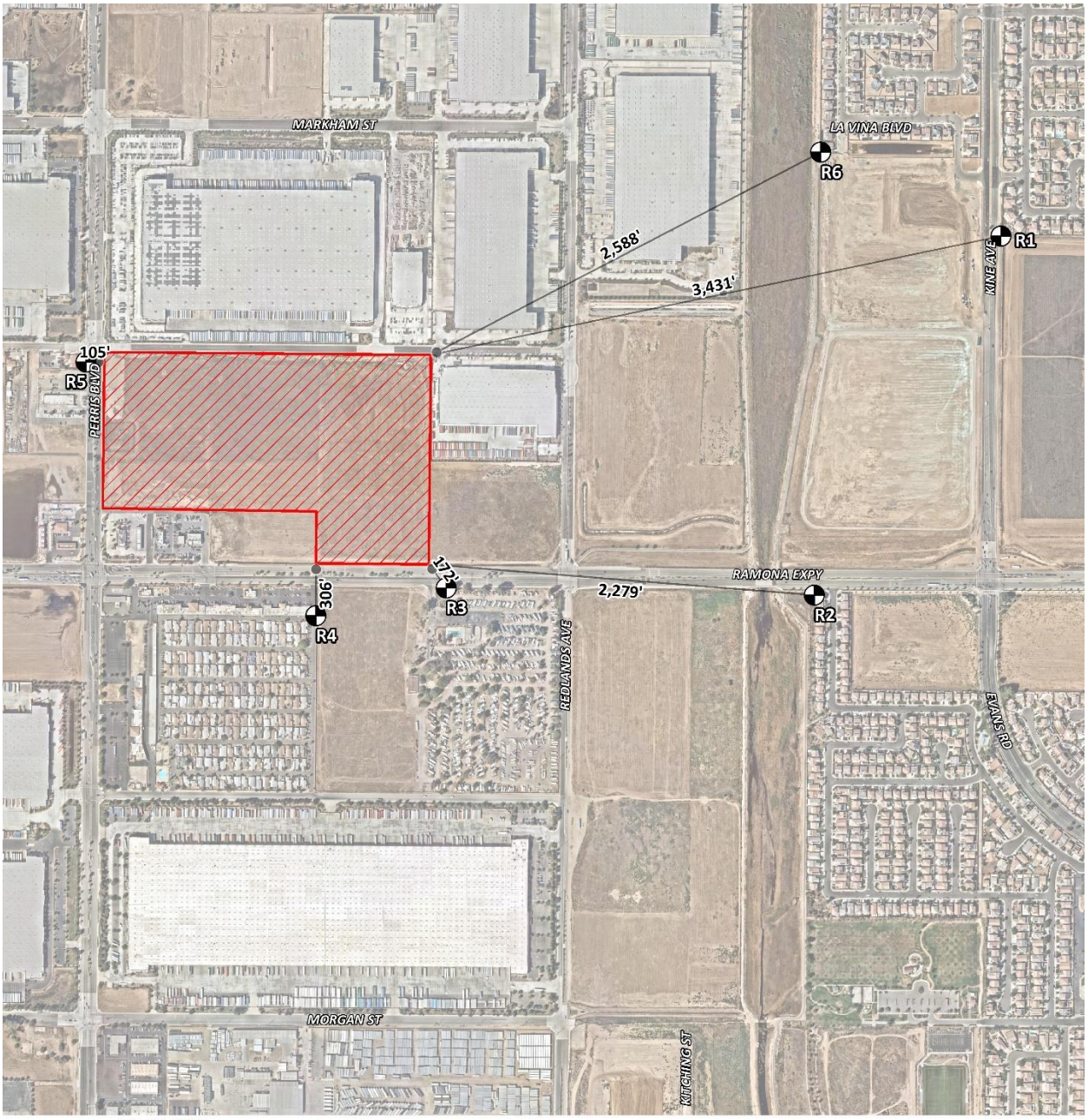


TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{max})[1]	Highest Reference Noise Level (dBA L_{max})
Site Preparation	Crawler Tractors	82	82
	Rubber Tired Dozers	79	
Grading	Crawler Tractors	82	85
	Excavators	81	
	Graders	85	
	Rubber Tired Dozers	79	
	Scrapers	84	
Building Construction	Cranes	81	85
	Forklifts	85	
	Generator Sets	73	
	Backhoes	78	
	Welders	74	
Paving	Pavers	77	85
	Paving Equipment	85	
	Rollers	80	
Arch. Coating	Air Compressors	78	78

[1] FHWA's Roadway Construction Noise Model, January 2006.

10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference RCNM L_{max} construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts with multiple pieces of equipment operating simultaneously at the nearest receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location.

As shown on Table 10-2, the construction noise levels are expected to range from 54.6 to 78.6 dBA L_{max} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-2: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Highest Construction Noise Levels (dBA L_{max})					
	Site Preparation	Grading	Building Construction	Paving	Arch. Coating	Highest Levels[2]
R1	58.6	61.6	61.6	61.6	61.6	61.6
R2	62.1	65.1	65.1	65.1	65.1	65.1
R3	73.2	76.2	76.2	76.2	76.2	76.2
R4	73.2	76.2	76.2	76.2	76.2	76.2
R5	73.0	76.0	76.0	76.0	76.0	76.0
R6	75.6	78.6	78.6	78.6	78.6	78.6

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

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only construction noise levels are evaluated against exterior noise level thresholds established by Section 7.34.060 of City of Perris Municipal Code at the adjacent property line. As shown on Table 10-3, the estimated construction noise levels at the adjacent noise sensitive receiver locations will satisfy the 80 dBA L_{max} construction noise level standard. Therefore, the unmitigated noise impact due to Project construction activities is considered *less than significant*.

TABLE 10-3: UNMITIGATED CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{max})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	61.6	80	No
R2	65.1	80	No
R3	76.2	80	No
R4	76.2	80	No
R5	76.0	80	No
R6	78.6	80	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-2.
[3] Construction noise level thresholds are limited to the noise sensitive receiver locations (Section 3.5).
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building area as shown on Exhibit 10-B. Since the nighttime concrete pours will take place outside the permitted City of Perris Municipal Code Section 7.34.060 hours of 7:00 a.m. to 7:00 p.m. on any day except Sundays and legal holidays (with the exception of Columbus Day and Washington's birthday), the Project Applicant will be required to obtain authorization for nighttime work from the City of Perris.

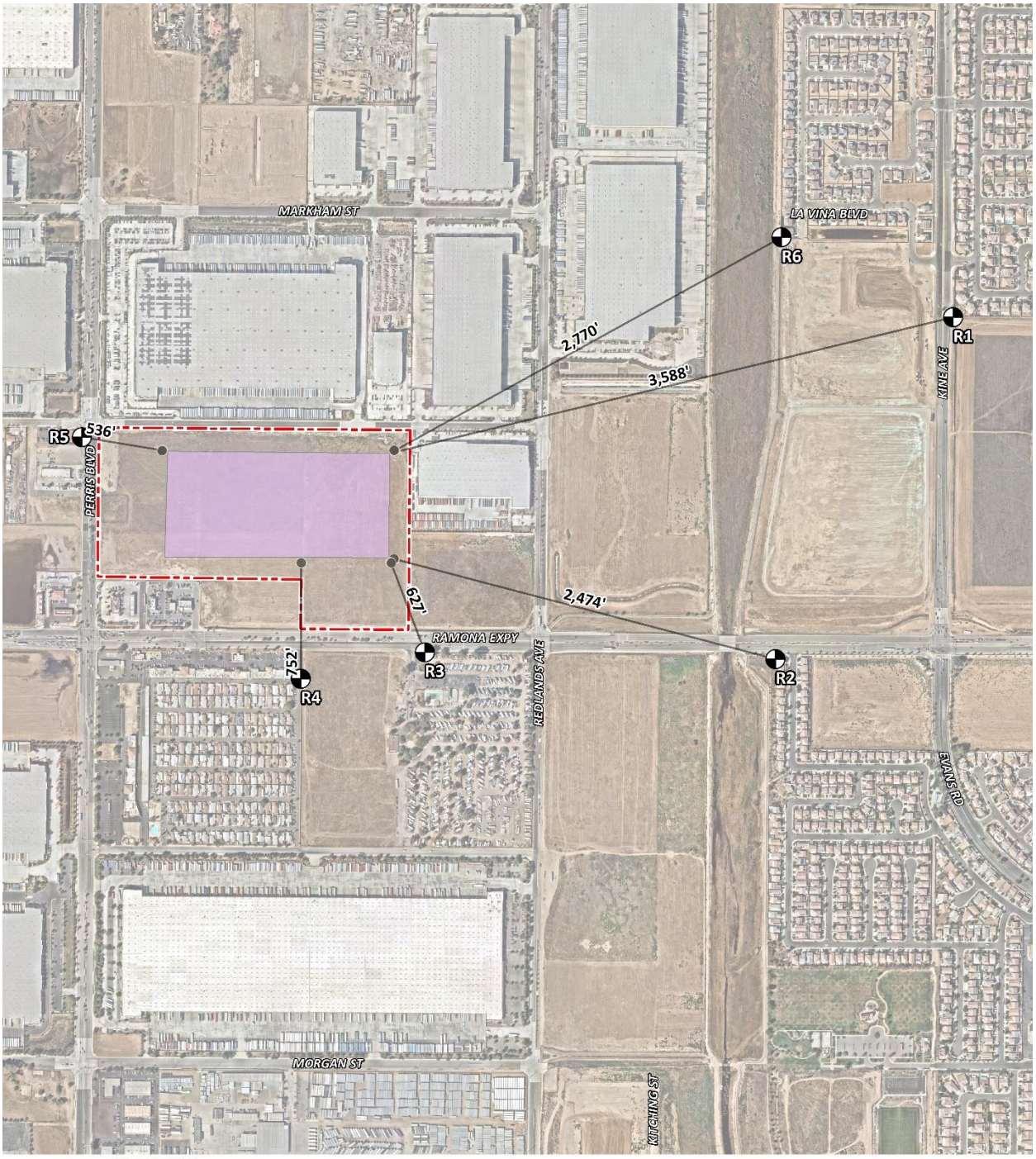
Table 10-4 shows the concrete pour activities noise levels will range from 55.3 to 68.6 dBA L_{max} at the nearby receiver locations. With prior authorization from the City of Perris, the nighttime concrete pour activities will satisfy the 80 dBA L_{max} construction noise level standard. Therefore, the nighttime concrete pour noise levels are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{max})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	55.3	80	No
R2	58.5	80	No
R3	67.7	80	No
R4	68.6	80	No
R5	68.4	80	No
R6	57.6	80	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-4.
[3] Construction noise level thresholds are limited to the noise sensitive receiver locations (Section 3.5).
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

EXHIBIT 10-B: NIGHTTIME CONCRETE POUR CONSTRUCTION ACTIVITY



10.6 CONSTRUCTION VIBRATION ANALYSIS

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

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Using the vibration source level of construction equipment provided on Table 10-5 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration building damage impacts. Table 10-6 presents the expected Project related vibration levels at the nearby building structure locations. At distances ranging from 105 to 3,431 feet from the Project construction boundary to the receiver building locations, construction vibration velocity levels are estimated to be between 0.000 and 0.010 PPV (in/sec). Based on maximum acceptable vibration threshold identified in the PVCCSP EIR (Page 4.9-27) of 0.5 PPV (in/sec), the typical Project construction vibration levels will satisfy the building damage thresholds at all receiver building locations. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

In addition, the typical construction vibration levels are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating.

TABLE 10-8: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R1	3,431'	0.000	0.000	0.000	0.000	0.000	0.000	0.5	No
R2	2,279'	0.000	0.000	0.000	0.000	0.000	0.000	0.5	No
R3	172'	0.000	0.002	0.004	0.005	0.012	0.005	0.5	No
R4	306'	0.000	0.001	0.002	0.002	0.005	0.002	0.5	No
R5	105'	0.000	0.004	0.009	0.010	0.024	0.010	0.5	No
R6	2,588'	0.000	0.000	0.000	0.000	0.000	0.000	0.5	No

[1] Receiver locations are shown on Exhibit 10-A.
[2] Distance from Project construction boundary to the receiver building structure.
[3] Based on the Vibration Source Levels of Construction Equipment (Table 10-5).
[4] PVCC SP EIR, Page 4.9-27.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2019.
2. **City of Perris.** *Perris Valley Commerce Center Specific Plan.* 2022.
3. —. *Perris Valley Commerce Center Specific Plan Environmental Impact Report.* July 2011.
4. **Office of Planning and Research.** *State of California General Plan Guidelines.* 2019.
5. **State of California.** *2022 California Green Building Standards Code.*
6. **City of Perris.** *General Plan Noise Element.* August 2005.
7. —. *Municipal Code, Chapter 7.34 Noise Control.*
8. **County of Riverside.** *Airport Land Use Compatibility Plan.* October 2004.
9. **Riverside County Airport Land Use Commission.** *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan.* November 2014.
10. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
11. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
12. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
13. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
14. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
15. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
16. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
17. **Urban Crossroads, Inc.** *OLC3 Traffic Analysis.* January 2023.
18. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

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12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed OLC3 Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 3.1:

CITY OF PERRIS MUNICIPAL CODE

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CHAPTER 7.34. - NOISE CONTROL

Sec. 7.34.010. - Declaration of policy.

Excessive noise levels are detrimental to the health and safety of individuals. Noise is considered a public nuisance, and the city discourages unnecessary, excessive or annoying noises from all sources. Creating, maintaining, causing, or allowing to be created, caused or maintained, any noise or vibration in a manner prohibited by the provisions of the ordinance codified in this chapter is a public nuisance and shall be punishable as a misdemeanor.

(Code 1972, § 7.34.010; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.020. - Definitions.

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

Ambient noise means the all-encompassing noise associated with a given environment usually being composed of sounds from many sources near and far. For the purpose of this chapter, ambient noise level is the level obtained when the noise level is averaged over a period of five minutes without inclusion of noise from isolated identifiable sources at the location and time of day near that at which a comparison is to be made.

Decibel (dB) means an intensity unit which denotes the ratio between two quantities which are proportional to power; the number of decibels corresponding to the ratio is ten times the common logarithm of this ratio.

Sound amplifying equipment means any machine or device for the amplification of the human voice, music or any other sound. The term "sound amplifying equipment" does not include standard vehicle radios when used and heard only by the occupants of the vehicle in which the vehicle radio is installed. The term "sound amplifying equipment," as used in this chapter, does not include warning devices on any vehicle used only for traffic safety purposes and shall not include communications equipment used by public or private utilities when restoring utility service following a public emergency or when doing work required to protect person or property from an imminent exposure to danger.

Sound level (noise level) in decibels is the value of a sound measurement using the "A" weighting network of a sound level meter. Slow response of the sound level meter needle shall be used except where the sound is impulsive or rapidly varying in nature, in which case, fast response shall be used.

Sound level meter means an instrument, including a microphone, an amplifier, an output meter and frequency weighting networks, for the measurement of sound levels, which satisfies the pertinent requirements in American National Standards Institute's specification S1.4-1971 or the most recent revision for type S-2A general purpose sound level meters.

(b) *Supplementary definitions of technical terms.* Definitions of technical terms not defined in this section shall be obtained from the American National Standards Institute's Acoustical Terminology S1-1971 or the most recent revision thereof.

(Code 1972, § 7.34.020; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.030. - Measurement methods.

(a) Sound shall be measured with a sound level meter as defined in section 7.34.020.

(b) Unless otherwise provided, outdoor measurements shall be taken with the microphone located at any point on the property line of the noise source but no closer than five feet from any wall or vertical obstruction and three to five feet above ground level whenever possible.

(c) Unless otherwise provided, indoor measurements shall be taken inside the structure with the microphone located at any point as follows:

(1) No less than three feet above floor level;

(2) No less than five feet from any wall or vertical obstruction; and

(3) Not under common possession and control with the building or portion of the building from which the sound is emanating.

(Code 1972, § 7.34.030; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.040. - Sound amplification.

No person shall amplify sound using sound amplifying equipment contrary to any of the following:

(1) The only amplified sound permitted shall be either music or the human voice, or both.

(2) The volume of amplified sound shall not exceed the noise levels set forth in this subsection when measured outdoors at or beyond the property line of the property from which the sound emanates.

Time Period	Maximum Noise Level
10:01 p.m.—7:00 a.m.	60 dBA
7:01 a.m.—10:00 p.m.	80 dBA

(Code 1972, § 7.34.040; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.050. - General prohibition.

(a) It unlawful for any person to willfully make, cause or suffer, or permit to be made or caused, any loud excessive or offensive noises or sounds which unreasonably disturb the peace and quiet of any residential neighborhood or which are physically annoying to persons of ordinary sensitivity or which are so harsh, prolonged or unnatural or unusual in their use, time or place as to occasion physical discomfort to the inhabitants of the city, or any section thereof. The standards for dBA noise level in section 7.34.040 shall apply to this section. To the extent that the noise created causes the noise level at the property line to exceed the ambient noise level by more than 1.0 decibels, it shall be presumed that the noise being created also is in violation of this section.

(b) The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists should include, but not be limited to, the following:

(1) The level of the noise;

(2) Whether the nature of the noise is usual or unusual;

(3) Whether the origin of the noise is natural or unnatural;

(4) The level of the ambient noise;

(5) The proximity of the noise to sleeping facilities;

(6) The nature and zoning of the area from which the noise emanates and the area where it is received;

(7) The time of day or night the noise occurs;

(8) The duration of the noise; and

(9) Whether the noise is recurrent, intermittent or constant.

(Code 1972, § 7.34.050; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.060. - Construction noise.

It is unlawful for any person between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on a legal holiday, with the exception of Columbus Day and Washington's birthday, or on Sundays to erect, construct, demolish, excavate, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise. Construction activity shall not exceed 80 dBA in residential zones in the city.

(Code 1972, § 7.34.060; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.070. - Refuse vehicles and parking lot sweepers.

No person shall operate or permit to be operated a refuse compacting, processing or collection vehicle or parking lot sweeper between the hours of 7:00 p.m. to 7:00 a.m. in any residential area unless a permit has been applied for and granted by the city.

(Code 1972, § 7.34.070; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.080. - Disturbing, excessive, offensive noises; declaration of certain acts constituting.

The following activities, among others, are declared to cause loud, disturbing, excessive or offensive noises in violation of this section and are unlawful, namely:

(1) *Horns, signaling devices, etc.* Unnecessary use or operation of horns, signaling devices or other similar devices on automobiles, motorcycles or any other vehicle.

(2) *Radios, television sets, phonographs, loud speaking amplifiers and similar devices.* The use or operation of any sound production or reproduction device, radio receiving set, musical instrument, drums, phonograph, television set, loudspeakers, sound amplifier, or other similar machine or device for the producing or reproducing of sound, in such a manner as to disturb the peace, quiet or comfort of any reasonable person of normal sensitivity in any area of the city is prohibited. This provision shall not apply to any participant in a licensed parade or to any person who has been otherwise duly authorized by the city to engage in such conduct.

(3) *Animals.*

a. The keeping or maintenance, or the permitting to be kept or maintained, upon any premises owned, occupied or controlled by any person of any animal or animals which by any frequent or long-continued noise shall cause annoyance or discomfort to a reasonable person of normal sensitiveness

in the vicinity.

b. The noise from any such animal or animals that disturbs two or more residents residing in separate residences adjacent to any part of the property on which the subject animal or animals are kept or maintained, or three or more residents residing in separate residences in close proximity to the property on which the subject animal or animals are kept or maintained, shall be prima facie evidence of a violation of this section.

(4) *Hospitals, schools, libraries, rest homes, long-term medical or mental care facilities.* To make loud, disturbing, excessive noises adjacent to a hospital, school, library, rest home or long-term medical or mental care facility, which noise unreasonably interferes with the workings of such institutions or which disturbs or unduly annoys occupants in said institutions.

(5) *Playing of radios on buses and trolleys.* The operation of any radio, phonograph or tape player on an urban transit bus or trolley so as to emit noise that is audible to any other person in the vehicle is prohibited.

(6) *Playing of radios, phonographs and other sound production or reproduction devices in public parks and public parking lots and streets adjacent thereto.* The operation of any radio, phonograph, television set or any other sound production or reproduction device in any public park or any public parking lot, or street adjacent to such park or beach, without the prior written approval of the city manager or the administrator, in such a manner that such radio, phonograph, television set or sound production or reproduction device emits a sound level exceeding those found in the table in section 7.34.040.

(7) *Leaf blowers.*

a. The term "leaf blower" means any portable, hand-held or backpack, engine-powered device with a nozzle that creates a directable airstream which is capable of and intended for moving leaves and light materials.

b. No person shall operate a leaf blower in any residential zoned area between the hours of 7:00 p.m. and 8:00 a.m. on weekdays and 5:00 p.m. and 9:00 a.m. on weekends or on legal holidays.

c. No person may operate any leaf blower at a sound level in excess of 80 decibels measured at a distance of 50 feet or greater from the point of noise origin.

d. Leaf blowers shall be equipped with functional mufflers and an approved sound limiting device required to ensure that the leaf blower is not capable of generating a sound level exceeding any limit prescribed in this section.

(Code 1972, § 7.34.080; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.090. - Burglar alarms.

(a) Audible burglar alarms for structures or motor vehicles are prohibited unless the operation of such burglar alarm can be terminated within 20 minutes of being activated.

(b) Notwithstanding the requirements of this provision, any member of the county sheriff's department, Perris Division, shall have the right to take such steps as may be reasonable and necessary to disconnect any such alarm installed in any building, dwelling or motor vehicle at any time during the period of its activation. On or after 30 days from the effective date of the ordinance codified in this chapter, any building, dwelling or motor vehicle upon which a burglar alarm has been installed shall prominently display the telephone number at which communication may be made with the owner of such building, dwelling or motor vehicle.

(Code 1972, § 7.34.090; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.100. - Motor vehicles.

(a) Off-highway.

(1) Except as otherwise provided for in this chapter, it shall be unlawful to operate any motor vehicle of any type on any site, other than on a public street or highway as defined in the California Vehicle Code, in any manner so as to cause noise in excess of those noise levels permitted for on-highway motor vehicles as specified in the table for "45-mile-per-hour or less speed limits" contained in section 23130 of the California Vehicle Code and as corrected for distances set forth in subsection (a)(2) of this section.

(2) The maximum noise level as the on-highway vehicle passes may be measured at a distance of other than 50 feet from the centerline of travel, provided the measurement is further adjusted by adding algebraically the application correction as follows:

Distance (feet)	Correction (decibels)
25	−6
28	−5
32	−4
35	−3
40	−2
45	−1
50 (preferred distance)	0
56	+1
63	+2
70	+3
80	+4
90	+5

100	+6

(b) Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations including the blowing of sirens and/or horns.

(Code 1972, § 7.34.100; Ord. No. 1082, § 2(part), 2000)

APPENDIX 5.1:

STUDY AREA PHOTOS

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JN: 14428 Study Area Photos

L1_E
33, 51' 1.070000"117, 12' 30.830000"

L1_N
33, 51' 1.050000"117, 12' 30.830000"

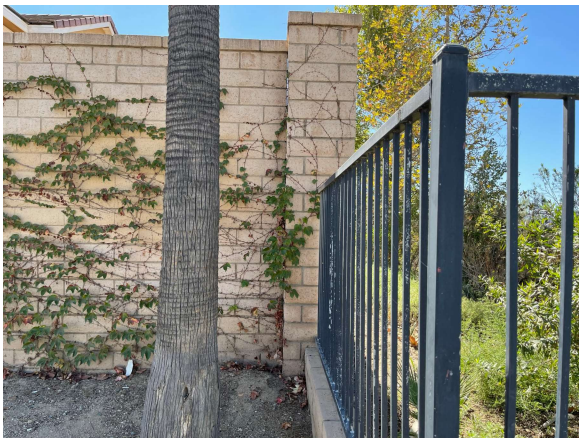
L1_S
33, 51' 1.040000"117, 12' 30.830000"

L1_W
33, 51' 1.050000"117, 12' 30.830000"

L2_E
33, 50' 39.810000"117, 12' 43.470000"

L2_N
33, 50' 39.720000"117, 12' 43.280000"

JN: 14428 Study Area Photos



L2_S
33, 50' 39.790000"117, 12' 43.410000"

L2_W
33, 50' 39.810000"117, 12' 43.470000"

L3_E
33, 50' 38.940000"117, 13' 9.750000"

L3_N
33, 50' 38.980000"117, 13' 9.750000"

L3_S
33, 50' 38.940000"117, 13' 9.780000"

L3_W
33, 50' 38.940000"117, 13' 9.780000"

JN: 14428 Study Area Photos

L4_E
33, 50' 37.650000"117, 13' 29.560000"

L4_N
33, 50' 37.660000"117, 13' 29.500000"

L4_S
33, 50' 37.620000"117, 13' 29.530000"

L4_W
33, 50' 37.660000"117, 13' 29.560000"

L5_E
33, 50' 54.300000"117, 13' 34.640000"

L5_N
33, 50' 54.270000"117, 13' 34.690000"

JN: 14428 Study Area Photos

L5_S
33, 50' 54.300000"117, 13' 34.640000"

L5_W
33, 50' 54.280000"117, 13' 34.610000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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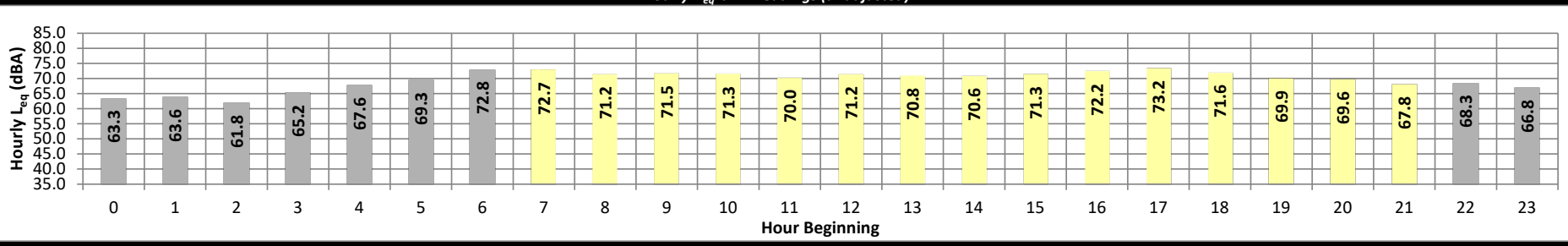
24-Hour Noise Level Measurement Summary

Date: Wednesday, October 13, 2021 | *Location:* L1 - Located northeast of the Project site near the property | *Meter:* Piccolo II | *JN:* 14428

Project: OLC 3 | *Source:* line of the single-family residence at 807 Amaya Drive. | *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	63.3	74.5	49.6	74.1	73.3	70.3	68.2	62.2	56.9	50.9	50.3	49.7	63.3	10.0	73.3
	1	63.6	75.1	49.1	74.6	73.7	70.8	68.8	62.1	56.4	50.5	49.8	49.2	63.6	10.0	73.6
	2	61.8	73.9	46.4	73.5	72.7	69.1	66.2	59.7	54.4	47.8	47.1	46.6	61.8	10.0	71.8
	3	65.2	76.2	52.6	75.7	75.0	72.2	69.7	64.4	60.0	54.3	53.5	52.8	65.2	10.0	75.2
	4	67.6	77.5	56.4	76.9	75.9	73.6	72.3	68.0	63.8	58.3	57.3	56.7	67.6	10.0	77.6
	5	69.3	78.4	58.7	78.0	77.3	75.1	73.8	70.0	66.3	60.2	59.4	58.8	69.3	10.0	79.3
	6	72.8	83.9	61.6	83.4	82.0	78.5	76.8	72.7	69.1	63.6	62.5	61.7	72.8	10.0	82.8
Day	7	72.7	80.9	63.2	80.5	79.6	77.5	76.3	73.6	71.0	65.8	64.6	63.5	72.7	0.0	72.7
	8	71.2	79.7	59.7	79.3	78.6	76.6	75.6	72.3	68.7	62.1	60.9	59.8	71.2	0.0	71.2
	9	71.5	81.7	58.4	81.3	80.4	78.0	76.1	71.4	67.4	60.7	59.6	58.6	71.5	0.0	71.5
	10	71.3	81.1	58.6	80.6	79.9	77.4	75.9	71.7	67.7	61.2	60.1	58.9	71.3	0.0	71.3
	11	70.0	79.6	57.1	79.2	78.3	75.8	74.3	70.4	66.8	60.3	59.0	57.4	70.0	0.0	70.0
	12	71.2	80.7	58.9	80.3	79.3	76.8	75.4	71.9	68.2	61.8	60.4	59.1	71.2	0.0	71.2
	13	70.8	80.0	58.7	79.7	78.9	76.8	75.2	71.2	67.9	61.5	60.3	59.0	70.8	0.0	70.8
	14	70.6	79.9	56.9	79.4	78.5	76.3	74.8	71.3	68.0	60.4	58.5	57.2	70.6	0.0	70.6
	15	71.3	80.0	58.7	79.6	78.8	76.7	75.5	72.1	68.6	62.2	60.4	59.0	71.3	0.0	71.3
	16	72.2	81.5	60.2	80.9	80.2	77.8	76.2	72.7	69.6	63.3	61.9	60.5	72.2	0.0	72.2
	17	73.2	82.9	61.2	82.4	81.3	78.9	77.4	73.5	70.5	64.2	62.7	61.5	73.2	0.0	73.2
	18	71.6	80.0	60.0	79.6	78.9	76.9	76.1	72.4	69.5	63.0	61.5	60.3	71.6	0.0	71.6
	19	69.9	78.2	58.4	77.8	77.1	75.3	74.1	70.9	67.6	61.2	60.1	58.6	69.9	5.0	74.9
	20	69.6	79.1	58.3	78.6	77.7	75.4	74.2	70.2	66.5	60.3	59.2	58.5	69.6	5.0	74.6
	21	67.8	76.6	56.4	76.2	75.5	73.4	72.2	68.8	64.9	58.4	57.4	56.6	67.8	5.0	72.8
Night	22	68.3	79.3	55.3	78.7	77.7	75.3	73.2	67.6	63.5	57.2	56.3	55.5	68.3	10.0	78.3
	23	66.8	79.0	52.4	78.4	77.2	73.5	71.0	65.3	60.7	54.3	53.4	52.7	66.8	10.0	76.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	67.8	76.6	56.4	76.2	75.5	73.4	72.2	68.8	64.9	58.4	57.4	56.6
	Max	73.2	82.9	63.2	82.4	81.3	78.9	77.4	73.6	71.0	65.8	64.6	63.5
Energy Average		71.2	Average:		79.7	78.9	76.6	75.3	71.6	68.2	61.8	60.4	59.2
Night	Min	61.8	73.9	46.4	73.5	72.7	69.1	66.2	59.7	54.4	47.8	47.1	46.6
	Max	72.8	83.9	61.6	83.4	82.0	78.5	76.8	72.7	69.1	63.6	62.5	61.7
Energy Average		67.8	Average:		77.0	76.1	73.2	71.1	65.8	61.2	55.2	54.4	53.7

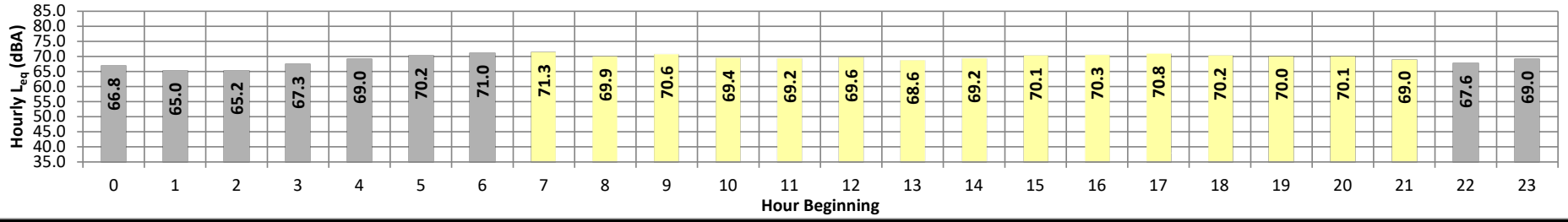
24-Hour	L_{eq} (dBA) Daytime (7am-10pm)	Nighttime (10pm-7am)
70.2	**71.2**	**67.8**

24-Hour Noise Level Measurement Summary

Date: Wednesday, October 13, 2021 *Location:* L2 - Located southeast of the Project site near the property *Meter:* Piccolo II *JN:* 14428

Project: OLC 3 *Source:* line of the single-family residence at 3896 Akina Avenue. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	66.8	75.5	54.7	75.1	74.5	73.1	71.8	67.5	63.3	56.3	55.5	54.8	66.8	10.0	76.8
	1	65.0	73.6	52.6	73.2	72.9	71.3	70.0	65.9	60.9	54.4	53.5	52.8	65.0	10.0	75.0
	2	65.2	74.4	53.4	73.9	73.4	71.6	70.2	65.3	61.1	55.5	54.2	53.5	65.2	10.0	75.2
	3	67.3	75.3	58.0	75.0	74.6	73.3	72.1	67.8	64.5	59.6	58.9	58.2	67.3	10.0	77.3
	4	69.0	76.0	61.0	75.7	75.3	74.0	73.0	69.9	67.4	62.8	62.1	61.2	69.0	10.0	79.0
	5	70.2	78.4	62.3	77.8	77.2	75.4	73.9	71.0	68.3	63.8	63.0	62.5	70.2	10.0	80.2
	6	71.0	78.8	62.4	78.6	78.1	76.5	75.1	71.9	68.7	63.9	63.1	62.6	71.0	10.0	81.0
Day	7	71.3	79.1	63.6	78.8	78.4	76.7	75.5	71.9	69.0	65.0	64.4	63.8	71.3	0.0	71.3
	8	69.9	77.3	62.2	76.8	76.3	74.9	73.8	70.9	67.9	63.6	62.9	62.3	69.9	0.0	69.9
	9	70.6	78.3	60.1	77.8	77.3	76.0	74.8	71.4	68.7	62.2	61.1	60.4	70.6	0.0	70.6
	10	69.4	77.4	58.0	77.0	76.6	74.7	73.4	70.4	67.3	60.6	59.5	58.2	69.4	0.0	69.4
	11	69.2	77.1	56.9	76.8	76.4	74.8	73.5	70.2	66.6	59.6	58.1	57.1	69.2	0.0	69.2
	12	69.6	78.8	58.8	78.3	77.6	75.4	73.8	70.1	66.8	61.4	60.3	59.0	69.6	0.0	69.6
	13	68.6	76.2	58.2	75.9	75.4	73.7	72.5	69.7	66.8	60.7	59.6	58.4	68.6	0.0	68.6
	14	69.2	78.4	59.4	77.8	77.0	74.9	73.4	69.8	66.8	61.4	60.4	59.6	69.2	0.0	69.2
	15	70.1	78.2	60.4	77.9	77.4	75.8	74.1	70.9	68.1	62.5	61.5	60.6	70.1	0.0	70.1
	16	70.3	77.6	61.7	77.3	76.6	74.9	73.7	71.2	68.9	64.0	62.9	61.9	70.3	0.0	70.3
	17	70.8	78.1	62.3	77.7	77.2	75.5	74.1	71.8	69.3	64.6	63.6	62.6	70.8	0.0	70.8
	18	70.2	76.3	62.1	75.9	75.5	74.4	73.7	71.5	69.1	64.0	63.2	62.3	70.2	0.0	70.2
	19	70.0	77.9	60.7	77.6	77.0	75.4	74.0	70.7	68.0	62.9	61.8	60.9	70.0	5.0	75.0
	20	70.1	77.9	59.6	77.5	77.1	76.0	74.8	70.9	67.5	61.7	60.6	59.8	70.1	5.0	75.1
	21	69.0	76.7	58.8	76.3	75.7	74.2	73.1	70.1	66.7	61.0	60.0	59.0	69.0	5.0	74.0
Night	22	67.6	74.9	56.1	74.5	74.1	72.9	72.2	68.9	65.2	58.4	57.1	56.3	67.6	10.0	77.6
	23	69.0	77.8	56.5	77.4	76.9	75.4	73.9	69.7	65.5	58.6	57.5	56.7	69.0	10.0	79.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	68.6	76.2	56.9	75.9	75.4	73.7	72.5	69.7	66.6	59.6	58.1	57.1
	Max	71.3	79.1	63.6	78.8	78.4	76.7	75.5	71.9	69.3	65.0	64.4	63.8
Energy Average		69.9	Average:		77.3	76.8	75.2	73.9	70.8	67.8	62.4	61.3	60.4
Night	Min	65.0	73.6	52.6	73.2	72.9	71.3	70.0	65.3	60.9	54.4	53.5	52.8
	Max	71.0	78.8	62.4	78.6	78.1	76.5	75.1	71.9	68.7	63.9	63.1	62.6
Energy Average		68.3	Average:		75.7	75.2	73.7	72.5	68.7	65.0	59.3	58.3	57.6

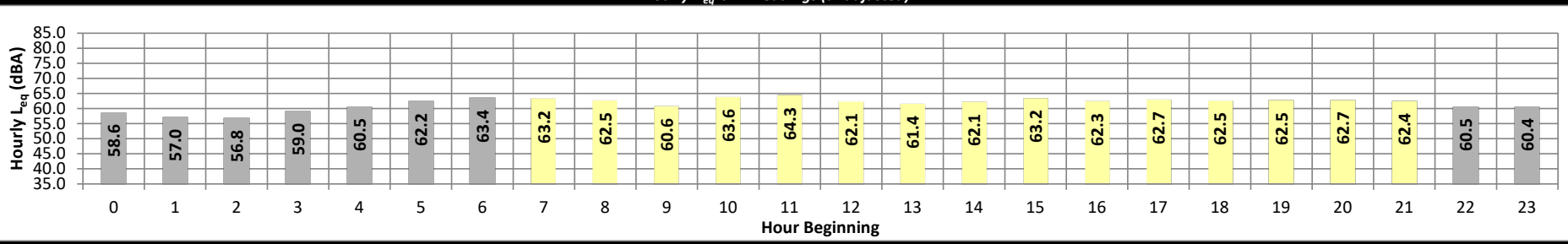
24-Hour	L_{eq} (dBA) Daytime (7am-10pm)	Nighttime (10pm-7am)
69.4	**69.9**	**68.3**

24-Hour Noise Level Measurement Summary

Date: Wednesday, October 13, 2021 | *Location:* L3 - Located south of the Project site near the property line of Camper Resorts of America Clubhouse at 375 Ramona Expressway. | *Meter:* Piccolo II | *JN:* 14428

Project: OLC 3 | *Source:* | *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*	*L_{eq}*	*Adj.*	*Adj. L_{eq}*
Night	0	58.6	68.0	47.9	67.6	67.2	65.6	64.1	58.1	54.4	49.3	48.7	48.1	58.6	10.0	68.6
	1	57.0	66.2	47.2	65.8	65.3	63.5	61.7	57.4	53.5	48.5	47.9	47.4	57.0	10.0	67.0
	2	56.8	64.9	47.1	64.6	64.3	63.0	61.8	57.4	53.5	48.4	47.7	47.2	56.8	10.0	66.8
	3	59.0	67.2	49.3	66.9	66.7	65.3	63.9	59.6	55.9	51.0	50.1	49.5	59.0	10.0	69.0
	4	60.5	66.5	53.3	66.3	66.0	65.2	64.5	61.6	59.0	54.6	53.9	53.4	60.5	10.0	70.5
	5	62.2	70.1	54.6	69.7	69.3	68.3	67.1	62.5	59.9	55.9	55.3	54.7	62.2	10.0	72.2
	6	63.4	75.3	64.2	74.8	74.3	72.3	70.6	67.7	66.1	64.6	64.4	64.2	63.4	10.0	73.4
Day	7	63.2	70.5	56.0	70.2	69.7	68.1	67.0	63.9	61.5	57.3	56.6	56.1	63.2	0.0	63.2
	8	62.5	70.8	54.4	70.4	69.9	68.2	66.6	62.9	60.4	55.8	55.1	54.6	62.5	0.0	62.5
	9	60.6	68.3	51.9	67.9	67.5	66.4	65.0	61.3	58.4	53.7	52.9	52.1	60.6	0.0	60.6
	10	63.6	73.8	52.4	73.2	72.4	70.1	67.8	63.6	60.1	54.9	53.7	52.6	63.6	0.0	63.6
	11	64.3	75.5	51.7	75.1	74.7	70.9	69.0	62.7	59.7	54.1	53.1	51.9	64.3	0.0	64.3
	12	62.1	69.6	53.3	69.1	68.6	67.6	66.6	63.0	59.9	55.3	54.4	53.5	62.1	0.0	62.1
	13	61.4	69.0	52.5	68.5	68.0	66.7	65.6	62.2	59.3	54.6	53.8	52.9	61.4	0.0	61.4
	14	62.1	71.6	51.7	71.1	70.5	68.4	66.2	62.1	59.2	54.1	53.1	52.0	62.1	0.0	62.1
	15	63.2	73.1	53.4	72.6	71.9	69.7	68.4	62.8	59.5	55.3	54.4	53.6	63.2	0.0	63.2
	16	62.3	70.8	54.3	70.2	69.7	68.0	65.8	62.8	60.3	56.2	55.2	54.5	62.3	0.0	62.3
	17	62.7	70.9	54.7	70.2	69.5	67.6	66.3	63.6	61.1	56.5	55.7	54.9	62.7	0.0	62.7
	18	62.5	68.7	55.4	68.3	67.9	66.7	65.7	63.5	61.4	57.3	56.4	55.6	62.5	0.0	62.5
	19	62.5	70.0	54.8	69.4	68.9	67.8	66.7	63.2	60.9	56.6	55.7	55.0	62.5	5.0	67.5
	20	62.7	70.5	53.3	70.2	69.7	68.3	66.9	63.5	60.7	55.2	54.2	53.5	62.7	5.0	67.7
	21	62.4	70.5	53.1	70.0	69.6	68.1	66.8	62.9	59.7	55.2	54.4	53.4	62.4	5.0	67.4
Night	22	60.5	69.3	50.5	68.9	68.3	66.5	65.2	60.8	57.6	52.1	51.4	50.7	60.5	10.0	70.5
	23	60.4	69.4	49.5	69.0	68.5	67.1	65.7	60.6	56.8	51.2	50.4	49.6	60.4	10.0	70.4

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	60.6	68.3	51.7	67.9	67.5	66.4	65.0	61.3	58.4	53.7	52.9	51.9
	Max	64.3	75.5	56.0	75.1	74.7	70.9	69.0	63.9	61.5	57.3	56.6	56.1
Energy Average		62.6	Average:		70.4	69.9	68.2	66.7	62.9	60.2	55.5	54.6	53.7
Night	Min	56.8	64.9	47.1	64.6	64.3	63.0	61.7	57.4	53.5	48.4	47.7	47.2
	Max	63.4	75.3	64.2	74.8	74.3	72.3	70.6	67.7	66.1	64.6	64.4	64.2
Energy Average		60.3	Average:		68.2	67.8	66.3	65.0	60.6	57.4	52.8	52.2	51.6

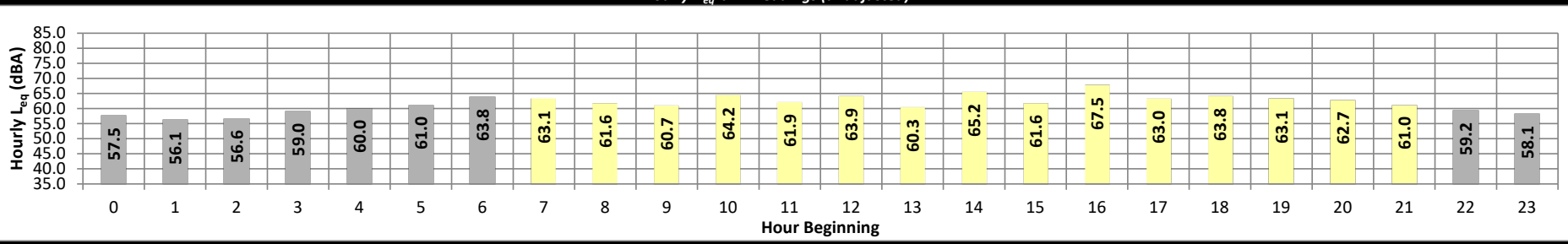
L_{eq} (dBA)	*Daytime (7am-10pm)*	*Nighttime (10pm-7am)*
24-Hour		
61.9	**62.6**	**60.3**

24-Hour Noise Level Measurement Summary

Date: Wednesday, October 13, 2021 *Location:* L4 - Located south of the Project site near the property line of *Meter:* Piccolo II *JN:* 14428

Project: OLC 3 *Source:* Park Place Mobile Home Park at 80 East Dawes Street. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.5	66.4	52.5	65.8	65.0	62.9	61.7	57.3	54.9	53.1	52.8	52.6	57.5	10.0	67.5
	1	56.1	63.5	50.2	63.1	62.5	60.7	59.6	56.2	54.7	51.9	51.5	50.6	56.1	10.0	66.1
	2	56.6	65.3	50.4	64.8	64.2	62.7	60.9	56.4	53.7	51.3	50.9	50.5	56.6	10.0	66.6
	3	59.0	65.2	53.6	64.7	64.3	63.2	62.3	59.6	57.8	55.0	54.3	53.8	59.0	10.0	69.0
	4	60.0	66.6	55.4	66.1	65.6	64.2	63.2	60.5	58.7	56.5	56.1	55.6	60.0	10.0	70.0
	5	61.0	68.8	56.7	68.4	67.8	66.0	64.7	60.9	59.1	57.3	57.1	56.8	61.0	10.0	71.0
	6	63.8	73.4	57.6	72.5	71.5	69.1	67.7	63.8	61.2	58.4	58.0	57.7	63.8	10.0	73.8
Day	7	63.1	72.9	57.7	72.2	71.2	68.8	66.9	62.6	60.3	58.4	58.2	57.8	63.1	0.0	63.1
	8	61.6	71.0	55.9	70.7	69.8	67.0	65.0	61.2	59.2	56.8	56.4	56.0	61.6	0.0	61.6
	9	60.7	70.4	53.1	69.9	69.2	67.0	65.5	60.2	57.2	54.2	53.7	53.3	60.7	0.0	60.7
	10	64.2	73.5	55.1	73.0	72.2	70.6	69.7	64.1	60.6	56.6	56.0	55.3	64.2	0.0	64.2
	11	61.9	69.1	56.2	68.6	68.0	66.8	65.8	62.4	60.1	57.4	57.0	56.4	61.9	0.0	61.9
	12	63.9	74.1	57.2	73.5	72.4	70.3	67.7	63.5	60.7	58.1	57.7	57.4	63.9	0.0	63.9
	13	60.3	70.0	53.8	69.1	68.0	65.7	64.2	60.4	57.7	54.8	54.4	54.0	60.3	0.0	60.3
	14	65.2	77.2	56.1	76.5	75.4	72.3	69.1	62.7	60.1	57.1	56.6	56.2	65.2	0.0	65.2
	15	61.6	69.9	55.6	69.5	68.9	66.9	65.5	61.7	59.3	56.7	56.2	55.7	61.6	0.0	61.6
	16	67.5	78.5	58.1	77.8	76.7	73.6	72.1	66.8	62.9	59.4	58.8	58.3	67.5	0.0	67.5
	17	63.0	70.3	57.6	69.8	69.1	67.5	66.4	63.6	61.6	58.7	58.2	57.8	63.0	0.0	63.0
	18	63.8	71.3	58.4	70.5	69.6	68.1	67.3	64.5	62.5	59.5	59.0	58.5	63.8	0.0	63.8
	19	63.1	70.8	57.6	70.3	69.5	67.7	66.7	63.5	61.5	58.7	58.2	57.7	63.1	5.0	68.1
	20	62.7	70.7	56.2	70.3	69.9	68.5	67.1	62.9	60.2	57.3	56.8	56.4	62.7	5.0	67.7
	21	61.0	68.2	54.3	67.8	67.3	66.1	65.1	61.8	59.0	55.7	55.1	54.5	61.0	5.0	66.0
Night	22	59.2	67.5	54.2	66.8	65.9	64.0	62.6	59.4	57.3	55.2	54.8	54.3	59.2	10.0	69.2
	23	58.1	67.2	52.1	66.6	65.7	63.7	62.6	57.9	55.7	53.1	52.7	52.2	58.1	10.0	68.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	60.3	68.2	53.1	67.8	67.3	65.7	64.2	60.2	57.2	54.2	53.7	53.3
	Max	67.5	78.5	58.4	77.8	76.7	73.6	72.1	66.8	62.9	59.5	59.0	58.5
Energy Average		63.3	Average:		71.3	70.5	68.4	66.9	62.8	60.2	57.3	56.8	56.3
Night	Min	56.1	63.5	50.2	63.1	62.5	60.7	59.6	56.2	53.7	51.3	50.9	50.5
	Max	63.8	73.4	57.6	72.5	71.5	69.1	67.7	63.8	61.2	58.4	58.0	57.7
Energy Average		59.7	Average:		66.5	65.8	64.1	62.8	59.1	57.0	54.6	54.2	53.8

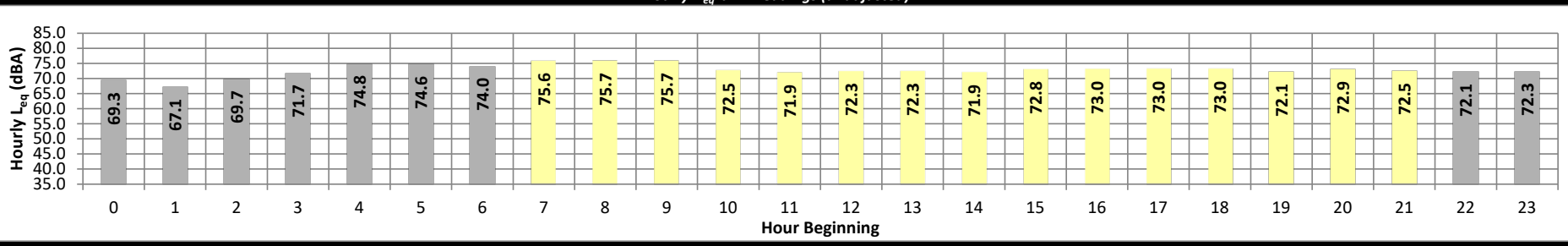
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
62.3	**63.3**	**59.7**

24-Hour Noise Level Measurement Summary

Date: Wednesday, October 13, 2021 | *Location:* L5 - Located west of the Project site near the property line of | *Meter:* Piccolo II | *JN:* 14428

Project: OLC 3 | *Source:* the single-family residence at 4194 North Perris Boulevard. | *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	69.3	79.2	51.8	78.8	78.2	76.3	74.8	69.3	62.7	53.7	52.7	52.0	69.3	10.0	79.3
	1	67.1	78.0	49.7	77.5	77.0	74.9	73.1	65.6	57.7	50.9	50.3	49.8	67.1	10.0	77.1
	2	69.7	80.1	50.8	79.7	79.2	77.0	75.3	69.1	62.4	52.7	51.5	50.9	69.7	10.0	79.7
	3	71.7	81.1	53.7	80.8	80.3	78.5	77.3	72.0	66.2	56.7	54.9	53.8	71.7	10.0	81.7
	4	74.8	83.0	59.9	82.6	82.1	80.6	79.6	75.9	71.7	62.9	61.4	60.1	74.8	10.0	84.8
	5	74.6	83.4	59.5	83.0	82.5	80.8	79.8	75.6	70.6	62.1	60.6	59.7	74.6	10.0	84.6
	6	74.0	82.9	59.4	82.4	81.9	80.1	79.0	75.0	69.9	61.4	60.3	59.5	74.0	10.0	84.0
Day	7	75.6	83.6	60.6	83.2	82.8	81.6	80.5	76.8	72.1	63.7	62.2	60.9	75.6	0.0	75.6
	8	75.7	94.4	68.5	93.7	92.9	90.4	88.2	80.6	75.9	71.2	70.4	69.0	75.7	0.0	75.7
	9	75.7	84.1	57.6	83.5	83.0	81.7	80.9	77.0	71.0	61.2	59.5	57.9	75.7	0.0	75.7
	10	72.5	80.6	57.3	80.2	79.7	78.2	77.4	73.7	69.3	60.6	58.7	57.6	72.5	0.0	72.5
	11	71.9	80.1	55.3	79.7	79.2	77.8	76.8	73.0	68.4	58.5	57.0	55.6	71.9	0.0	71.9
	12	72.3	81.0	57.2	80.5	79.7	78.1	77.0	73.3	68.9	60.9	59.1	57.6	72.3	0.0	72.3
	13	72.3	80.2	57.5	79.8	79.3	77.7	76.8	73.6	69.9	60.7	59.1	57.8	72.3	0.0	72.3
	14	71.9	81.4	56.1	81.0	80.2	77.9	76.4	72.5	68.5	59.3	57.9	56.3	71.9	0.0	71.9
	15	72.8	81.2	57.1	80.8	80.2	78.3	77.1	74.2	70.4	61.0	59.3	57.5	72.8	0.0	72.8
	16	73.0	80.8	57.6	80.4	79.8	78.1	77.3	74.3	70.9	61.3	59.4	58.0	73.0	0.0	73.0
	17	73.0	81.4	56.9	81.0	80.4	78.7	77.7	74.4	70.0	60.5	59.0	57.3	73.0	0.0	73.0
	18	73.0	81.8	56.3	81.2	80.4	78.5	77.5	74.4	69.8	60.0	58.2	56.6	73.0	0.0	73.0
	19	72.1	82.0	55.0	81.5	80.8	78.5	76.9	72.9	67.6	58.1	56.7	55.3	72.1	5.0	77.1
	20	72.9	83.0	56.5	82.4	81.7	79.1	77.5	73.5	68.8	59.4	58.2	56.9	72.9	5.0	77.9
	21	72.5	81.6	55.9	81.2	80.7	78.7	77.5	73.2	68.5	59.4	57.6	56.2	72.5	5.0	77.5
Night	22	72.1	81.2	53.9	80.8	80.2	78.5	77.3	72.7	67.5	56.7	55.2	54.0	72.1	10.0	82.1
	23	72.3	81.9	53.9	81.5	80.7	78.9	77.6	72.9	67.3	56.8	55.3	54.1	72.3	10.0	82.3

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	71.9	80.1	55.0	79.7	79.2	77.7	76.4	72.5	67.6	58.1	56.7	55.3
	Max	75.7	94.4	68.5	93.7	92.9	90.4	88.2	80.6	75.9	71.2	70.4	69.0
Energy Average		73.4	Average:		82.0	81.4	79.6	78.4	74.5	70.0	61.1	59.5	58.0
Night	Min	67.1	78.0	49.7	77.5	77.0	74.9	73.1	65.6	57.7	50.9	50.3	49.8
	Max	74.8	83.4	59.9	83.0	82.5	80.8	79.8	75.9	71.7	62.9	61.4	60.1
Energy Average		72.3	Average:		80.8	80.2	78.4	77.1	72.0	66.2	57.1	55.8	54.9

24-Hour	L_{eq} (dBA) Daytime (7am-10pm)	Nighttime (10pm-7am)
73.0	**73.4**	**72.3**

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APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,254 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.07	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.07	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.64	-0.11	-1.20	*-5.31*	0.000	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	66.3	64.4	62.7	69.8	70.1
Medium Trucks:	64.1	63.8	59.2	58.1	65.7	65.9
Heavy Trucks:	69.3	68.2	66.0	65.4	72.3	72.5
Vehicle Noise:	72.1	71.2	68.8	67.8	74.8	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	133	287	618	1,332
CNEL:	139	300	646	1,392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,151 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,740 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.77%
Medium Trucks:	77.6%	6.8%	15.6%	3.44%
Heavy Trucks:	65.0%	9.6%	25.4%	3.79%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.24	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.07	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.64	-0.11	-1.20	*-5.31*	0.000	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	66.4	64.5	62.9	70.0	70.3
Medium Trucks:	64.1	63.8	59.2	58.1	65.7	65.9
Heavy Trucks:	69.3	68.2	66.0	65.4	72.3	72.5
Vehicle Noise:	72.2	71.3	68.8	67.8	74.8	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	134	289	624	1,344
CNEL:	140	302	652	1,404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,677 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,984 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.80	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.34	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.91	-0.11	-1.20	*-5.31*	0.000	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	67.0	65.1	63.5	70.5	70.8
Medium Trucks:	64.8	64.5	60.0	58.8	66.4	66.7
Heavy Trucks:	70.0	69.0	66.7	66.1	73.0	73.3
Vehicle Noise:	72.9	72.0	69.5	68.5	75.5	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	321	692	1,490
CNEL:	156	335	722	1,556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,573 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,046 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.73%
Medium Trucks:	77.6%	6.8%	15.6%	3.46%
Heavy Trucks:	65.0%	9.6%	25.4%	3.81%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.94	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.34	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.91	-0.11	-1.20	*-5.31*	0.000	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	67.1	65.2	63.6	70.7	71.0
Medium Trucks:	64.8	64.5	60.0	58.8	66.4	66.7
Heavy Trucks:	70.0	69.0	66.7	66.1	73.0	73.3
Vehicle Noise:	72.9	72.0	69.5	68.5	75.6	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	150	323	696	1,501
CNEL:	157	338	728	1,568

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Perris Blvd.
Road Segment: s/o Harley Knox Blvd.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,218 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	3,752 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.57	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-10.57	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-10.15	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.7	69.8	67.9	66.2	73.3	73.6
Medium Trucks:	67.6	67.3	62.7	61.6	69.2	69.4
Heavy Trucks:	72.8	71.7	69.5	68.9	75.8	76.0
Vehicle Noise:	75.6	74.7	72.3	71.3	78.3	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	228	491	1,057	2,278
CNEL:	238	513	1,105	2,380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP
Road Name: Perris Blvd.
Road Segment: s/o Harley Knox Blvd.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,115 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	3,814 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.62%
Medium Trucks:	77.6%	6.8%	15.6%	3.51%
Heavy Trucks:	65.0%	9.6%	25.4%	3.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.64	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-10.57	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-10.15	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.8	67.9	66.3	73.4	73.7
Medium Trucks:	67.6	67.3	62.7	61.6	69.2	69.4
Heavy Trucks:	72.8	71.7	69.5	68.9	75.8	76.0
Vehicle Noise:	75.6	74.8	72.3	71.3	78.3	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	229	493	1,061	2,287
CNEL:	239	515	1,109	2,389

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Perris Blvd.
Road Segment: n/o Ramona Exp.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,348 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,616 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.09	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.23	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.81	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.1	64.2	62.6	69.6	69.9
Medium Trucks:	63.9	63.6	59.1	57.9	65.5	65.8
Heavy Trucks:	69.1	68.1	65.8	65.2	72.1	72.4
Vehicle Noise:	72.0	71.1	68.6	67.6	74.6	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	603	1,299
CNEL:	136	292	630	1,357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Perris Blvd.
Road Segment: n/o Ramona Exp.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,732 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	93.91%
Medium Trucks:	77.6%	6.8%	15.6%	2.90%
Heavy Trucks:	65.0%	9.6%	25.4%	3.20%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.87	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.23	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.81	-0.11	-1.20	*-5.31*	0.000	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	67.1	65.2	63.5	70.6	70.9
Medium Trucks:	63.9	63.6	59.1	57.9	65.5	65.8
Heavy Trucks:	69.1	68.1	65.8	65.2	72.1	72.4
Vehicle Noise:	72.3	71.4	69.0	67.9	74.9	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	294	634	1,367
CNEL:	143	308	663	1,428

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,547 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,906 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.63	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.51	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.09	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	64.9	63.3	70.3	70.7
Medium Trucks:	64.6	64.3	59.8	58.6	66.2	66.5
Heavy Trucks:	69.9	68.8	66.5	66.0	72.8	73.1
Vehicle Noise:	72.7	71.8	69.3	68.3	75.3	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	145	313	673	1,451
CNEL:	152	326	703	1,515

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,929 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,279 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	93.73%
Medium Trucks:	77.6%	6.8%	15.6%	2.98%
Heavy Trucks:	65.0%	9.6%	25.4%	3.29%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.46	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.51	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.09	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.7	64.1	71.2	71.5
Medium Trucks:	64.6	64.3	59.8	58.6	66.2	66.5
Heavy Trucks:	69.9	68.8	66.5	66.0	72.8	73.1
Vehicle Noise:	73.0	72.1	69.6	68.6	75.6	75.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	151	326	703	1,515
CNEL:	158	341	735	1,583

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,301 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,097 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.04	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.10	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.67	-0.11	-1.20	*-5.31*	0.000	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	67.2	65.3	63.7	70.7	71.1
Medium Trucks:	65.0	64.7	60.2	59.0	66.6	66.9
Heavy Trucks:	70.3	69.2	66.9	66.4	73.2	73.5
Vehicle Noise:	73.1	72.2	69.7	68.7	75.7	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	333	717	1,546
CNEL:	161	348	749	1,615

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | *Project Name:* OLC3
Road Name: Perris Blvd. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,684 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	93.63%
Medium Trucks:	77.6%	6.8%	15.6%	3.03%
Heavy Trucks:	65.0%	9.6%	25.4%	3.34%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.80	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.10	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.67	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	68.0	66.1	64.5	71.5	71.8
Medium Trucks:	65.0	64.7	60.2	59.0	66.6	66.9
Heavy Trucks:	70.3	69.2	66.9	66.4	73.2	73.5
Vehicle Noise:	73.4	72.5	70.0	69.0	76.0	76.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	161	346	746	1,608
CNEL:	168	362	780	1,680

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,608 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,634 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.04	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-14.18	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.76	-0.11	-1.20	-5.31	0.000	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	66.1	64.2	62.6	69.7	70.0
Medium Trucks:	64.0	63.7	59.1	57.9	65.6	65.8
Heavy Trucks:	69.2	68.1	65.9	65.3	72.1	72.4
Vehicle Noise:	72.0	71.1	68.6	67.7	74.7	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	131	282	607	1,309
CNEL:	137	295	635	1,367

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,954 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,727 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.91%
Medium Trucks:	77.6%	6.8%	15.6%	3.37%
Heavy Trucks:	65.0%	9.6%	25.4%	3.72%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.22	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-14.18	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.76	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	66.4	64.5	62.9	69.9	70.2
Medium Trucks:	64.0	63.7	59.1	57.9	65.6	65.8
Heavy Trucks:	69.2	68.1	65.9	65.3	72.1	72.4
Vehicle Noise:	72.1	71.2	68.7	67.7	74.7	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	286	615	1,326
CNEL:	139	298	643	1,385

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,822 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,925 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.67	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.47	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.05	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	66.9	65.0	63.3	70.4	70.7
Medium Trucks:	64.7	64.4	59.8	58.7	66.3	66.5
Heavy Trucks:	69.9	68.8	66.6	66.0	72.9	73.1
Vehicle Noise:	72.7	71.8	69.4	68.4	75.4	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	146	315	678	1,460
CNEL:	153	329	708	1,525

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,168 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,018 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.85%
Medium Trucks:	77.6%	6.8%	15.6%	3.40%
Heavy Trucks:	65.0%	9.6%	25.4%	3.75%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.89	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.47	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.05	-0.11	-1.20	-5.31	0.000	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	67.1	65.2	63.6	70.6	70.9
Medium Trucks:	64.7	64.4	59.8	58.7	66.3	66.5
Heavy Trucks:	69.9	68.8	66.6	66.0	72.9	73.1
Vehicle Noise:	72.8	71.9	69.4	68.4	75.4	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	148	318	685	1,476
CNEL:	154	332	716	1,542

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,605 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.08	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.06	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.63	-0.11	-1.20	-5.31	0.000	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	67.3	65.4	63.8	70.8	71.1
Medium Trucks:	65.1	64.8	60.3	59.1	66.7	67.0
Heavy Trucks:	70.3	69.2	67.0	66.4	73.3	73.5
Vehicle Noise:	73.1	72.2	69.8	68.8	75.8	76.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	156	335	722	1,556
CNEL:	163	350	754	1,625

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,950 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.82%
Medium Trucks:	77.6%	6.8%	15.6%	3.42%
Heavy Trucks:	65.0%	9.6%	25.4%	3.77%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.28	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.06	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.63	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	67.5	65.6	64.0	71.0	71.3
Medium Trucks:	65.1	64.8	60.3	59.1	66.7	67.0
Heavy Trucks:	70.3	69.2	67.0	66.4	73.3	73.5
Vehicle Noise:	73.2	72.3	69.8	68.8	75.9	76.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	157	339	729	1,572
CNEL:	164	354	762	1,642

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,932 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,518 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.36	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-14.50	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-14.08	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	65.8	63.9	62.3	69.3	69.7
Medium Trucks:	63.6	63.3	58.8	57.6	65.2	65.5
Heavy Trucks:	68.9	67.8	65.5	65.0	71.8	72.1
Vehicle Noise:	71.7	70.8	68.3	67.3	74.3	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	125	268	578	1,246
CNEL:	130	280	604	1,302

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | Project Name: OLC3
Road Name: Perris Blvd. | Job Number: 14428
Road Segment: s/o Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,830 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.80%
Medium Trucks:	77.6%	6.8%	15.6%	3.43%
Heavy Trucks:	65.0%	9.6%	25.4%	3.78%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.18	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-14.50	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-14.08	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.0	64.1	62.5	69.5	69.9
Medium Trucks:	63.6	63.3	58.8	57.6	65.2	65.5
Heavy Trucks:	68.9	67.8	65.5	65.0	71.8	72.1
Vehicle Noise:	71.8	70.9	68.4	67.4	74.4	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	126	271	584	1,258
CNEL:	131	283	610	1,314

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: s/o Rider St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,577 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,908 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.63	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.51	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.08	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.8	64.9	63.3	70.3	70.7
Medium Trucks:	64.6	64.3	59.8	58.6	66.2	66.5
Heavy Trucks:	69.9	68.8	66.5	66.0	72.8	73.1
Vehicle Noise:	72.7	71.8	69.3	68.3	75.3	75.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	145	313	674	1,452
CNEL:	152	327	704	1,516

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: s/o Rider St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,474 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.74%
Medium Trucks:	77.6%	6.8%	15.6%	3.45%
Heavy Trucks:	65.0%	9.6%	25.4%	3.81%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.78	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-13.51	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.08	-0.11	-1.20	*-5.31*	0.000	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	67.0	65.1	63.5	70.5	70.8
Medium Trucks:	64.6	64.3	59.8	58.6	66.2	66.5
Heavy Trucks:	69.9	68.8	66.5	66.0	72.8	73.1
Vehicle Noise:	72.7	71.8	69.4	68.4	75.4	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	146	315	679	1,462
CNEL:	153	329	709	1,528

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Perris Blvd.
Road Segment: s/o Rider St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,181 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,504 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-12.33	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-11.90	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.9	68.0	66.1	64.5	71.5	71.8
Medium Trucks:	65.8	65.5	61.0	59.8	67.4	67.7
Heavy Trucks:	71.0	70.0	67.7	67.1	74.0	74.3
Vehicle Noise:	73.9	73.0	70.5	69.5	76.5	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	174	375	807	1,740
CNEL:	182	392	844	1,817

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP
Road Name: Perris Blvd.
Road Segment: s/o Rider St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,078 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,566 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.68%
Medium Trucks:	77.6%	6.8%	15.6%	3.48%
Heavy Trucks:	65.0%	9.6%	25.4%	3.84%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.92	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-12.33	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-11.90	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.1	68.1	66.2	64.6	71.6	72.0
Medium Trucks:	65.8	65.5	61.0	59.8	67.4	67.7
Heavy Trucks:	71.0	70.0	67.7	67.1	74.0	74.3
Vehicle Noise:	73.9	73.0	70.5	69.5	76.6	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	175	377	812	1,749
CNEL:	183	394	848	1,828

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,499 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	519 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.51	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-18.65	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-18.23	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.5	59.6	58.0	65.0	65.4
Medium Trucks:	59.6	59.3	54.7	53.6	61.2	61.4
Heavy Trucks:	65.3	64.2	61.9	61.4	68.2	68.5
Vehicle Noise:	67.8	66.9	64.4	63.5	70.5	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	506
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,793 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	539 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	89.01%
Medium Trucks:	77.6%	6.8%	15.6%	4.19%
Heavy Trucks:	65.0%	9.6%	25.4%	6.80%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.51	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-17.79	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-15.68	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.5	61.5	59.6	58.0	65.0	65.4
Medium Trucks:	60.4	60.1	55.6	54.4	62.0	62.3
Heavy Trucks:	67.8	66.8	64.5	63.9	70.8	71.0
Vehicle Noise:	69.5	68.6	66.1	65.3	72.2	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	66	143	308	663
CNEL:	69	149	321	692

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,058 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,042 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.49	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-15.63	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-15.20	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.6	62.7	61.0	68.1	68.4
Medium Trucks:	62.6	62.3	57.8	56.6	64.2	64.5
Heavy Trucks:	68.3	67.2	65.0	64.4	71.3	71.5
Vehicle Noise:	70.8	69.9	67.5	66.5	73.5	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	173	374	805
CNEL:	84	181	390	841

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: s/o Harley Knox Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,352 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,062 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	90.73%
Medium Trucks:	77.6%	6.8%	15.6%	3.88%
Heavy Trucks:	65.0%	9.6%	25.4%	5.39%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.49	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-15.17	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.75	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.6	62.7	61.0	68.1	68.4
Medium Trucks:	63.1	62.8	58.2	57.0	64.7	64.9
Heavy Trucks:	69.8	68.7	66.4	65.9	72.7	73.0
Vehicle Noise:	71.8	70.8	68.4	67.5	74.5	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	93	201	434	934
CNEL:	98	210	453	975

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Redlands Av.
Road Segment: s/o Harley Knox Blvd.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,564 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,146 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.07	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-15.21	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.79	1.71	-1.20	*-5.46*	0.000	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	65.0	63.1	61.5	68.5	68.8
Medium Trucks:	63.0	62.7	58.2	57.0	64.6	64.9
Heavy Trucks:	68.7	67.7	65.4	64.8	71.7	71.9
Vehicle Noise:	71.3	70.3	67.9	66.9	73.9	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	185	398	858
CNEL:	90	193	416	896

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP
Road Name: Redlands Av.
Road Segment: s/o Harley Knox Blvd.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,858 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,167 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	90.89%
Medium Trucks:	77.6%	6.8%	15.6%	3.85%
Heavy Trucks:	65.0%	9.6%	25.4%	5.26%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.07	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-14.80	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.45	1.71	-1.20	*-5.46*	0.000	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	65.0	63.1	61.5	68.5	68.8
Medium Trucks:	63.4	63.1	58.6	57.4	65.0	65.3
Heavy Trucks:	70.1	69.0	66.7	66.2	73.0	73.3
Vehicle Noise:	72.1	71.2	68.7	67.8	74.8	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	98	212	456	983
CNEL:	103	221	476	1,027

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Redlands Av.
Road Segment: s/o Markham St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,582 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	594 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.93	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-18.07	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-17.64	1.71	-1.20	*-5.46*	0.000	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	62.1	60.2	58.6	65.6	66.0
Medium Trucks:	60.2	59.9	55.3	54.1	61.8	62.0
Heavy Trucks:	65.9	64.8	62.5	62.0	68.8	69.1
Vehicle Noise:	68.4	67.5	65.0	64.1	71.1	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	554
CNEL:	58	125	268	578

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Redlands Av.
Road Segment: s/o Markham St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,876 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	614 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	89.44%
Medium Trucks:	77.6%	6.8%	15.6%	4.11%
Heavy Trucks:	65.0%	9.6%	25.4%	6.45%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.93	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-17.30	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-15.35	1.71	-1.20	*-5.46*	0.000	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	62.1	60.2	58.6	65.6	66.0
Medium Trucks:	60.9	60.6	56.1	54.9	62.5	62.8
Heavy Trucks:	68.2	67.1	64.8	64.3	71.1	71.4
Vehicle Noise:	69.9	69.0	66.5	65.7	72.6	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	71	152	327	705
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Redlands Av.
Road Segment: s/o Markham St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,208 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.17	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-15.31	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.88	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.9	63.0	61.4	68.4	68.7
Medium Trucks:	62.9	62.6	58.1	56.9	64.5	64.8
Heavy Trucks:	68.6	67.6	65.3	64.7	71.6	71.8
Vehicle Noise:	71.2	70.3	67.8	66.8	73.8	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	182	393	846
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Redlands Av.
Road Segment: s/o Markham St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,502 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	90.85%
Medium Trucks:	77.6%	6.8%	15.6%	3.86%
Heavy Trucks:	65.0%	9.6%	25.4%	5.29%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.17	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-14.89	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.52	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.9	63.0	61.4	68.4	68.7
Medium Trucks:	63.3	63.0	58.5	57.3	64.9	65.2
Heavy Trucks:	70.0	68.9	66.7	66.1	72.9	73.2
Vehicle Noise:	72.0	71.1	68.6	67.8	74.7	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	451	972
CNEL:	101	219	471	1,015

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Redlands Av.
Road Segment: s/o Markham St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,829 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,234 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.75	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-14.89	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.47	1.71	-1.20	*-5.46*	0.000	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	65.3	63.4	61.8	68.8	69.1
Medium Trucks:	63.3	63.0	58.5	57.3	64.9	65.2
Heavy Trucks:	69.0	68.0	65.7	65.1	72.0	72.3
Vehicle Noise:	71.6	70.7	68.2	67.2	74.2	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	901
CNEL:	94	203	437	941

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP
Road Name: Redlands Av.
Road Segment: s/o Markham St.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,123 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	91.00%
Medium Trucks:	77.6%	6.8%	15.6%	3.83%
Heavy Trucks:	65.0%	9.6%	25.4%	5.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.75	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-14.51	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-13.21	1.71	-1.20	*-5.46*	0.000	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	65.3	63.4	61.8	68.8	69.1
Medium Trucks:	63.7	63.4	58.9	57.7	65.3	65.6
Heavy Trucks:	70.3	69.2	67.0	66.4	73.3	73.5
Vehicle Noise:	72.4	71.4	69.0	68.1	75.1	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	221	475	1,024
CNEL:	107	230	496	1,069

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,539 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	591 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.95	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-18.09	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-17.66	1.71	-1.20	*-5.46*	0.000	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	62.1	60.2	58.6	65.6	65.9
Medium Trucks:	60.1	59.8	55.3	54.1	61.7	62.0
Heavy Trucks:	65.8	64.8	62.5	61.9	68.8	69.1
Vehicle Noise:	68.4	67.5	65.0	64.0	71.0	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	256	552
CNEL:	58	124	267	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,782 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	746 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	94.06%
Medium Trucks:	77.6%	6.8%	15.6%	2.82%
Heavy Trucks:	65.0%	9.6%	25.4%	3.11%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-2.86	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-18.09	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-17.66	1.71	-1.20	*-5.46*	0.000	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	63.2	61.3	59.7	66.7	67.0
Medium Trucks:	60.1	59.8	55.3	54.1	61.7	62.0
Heavy Trucks:	65.8	64.8	62.5	61.9	68.8	69.1
Vehicle Noise:	68.7	67.8	65.4	64.4	71.4	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	270	581
CNEL:	61	131	282	607

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,162 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,118 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-1.18	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-15.32	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.89	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.9	63.0	61.3	68.4	68.7
Medium Trucks:	62.9	62.6	58.1	56.9	64.5	64.8
Heavy Trucks:	68.6	67.5	65.3	64.7	71.6	71.8
Vehicle Noise:	71.1	70.2	67.8	66.8	73.8	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	182	392	844
CNEL:	88	190	409	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,405 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,274 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	93.41%
Medium Trucks:	77.6%	6.8%	15.6%	3.13%
Heavy Trucks:	65.0%	9.6%	25.4%	3.45%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.57	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-15.32	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.89	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.5	63.6	62.0	69.0	69.3
Medium Trucks:	62.9	62.6	58.1	56.9	64.5	64.8
Heavy Trucks:	68.6	67.5	65.3	64.7	71.6	71.8
Vehicle Noise:	71.3	70.4	68.0	67.0	74.0	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	91	195	421	907

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,778 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,230 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.76	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-14.90	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.48	1.71	-1.20	*-5.46*	0.000	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	65.3	63.4	61.8	68.8	69.1
Medium Trucks:	63.3	63.0	58.5	57.3	64.9	65.2
Heavy Trucks:	69.0	68.0	65.7	65.1	72.0	72.2
Vehicle Noise:	71.6	70.7	68.2	67.2	74.2	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	90	194	418	900
CNEL:	94	202	436	939

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | *Project Name:* OLC3
Road Name: Redlands Av. | *Job Number:* 14428
Road Segment: n/o Ramona Exp.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,021 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	56 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	47.0 feet
Centerline Dist. to Observer:	47.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	93.34%
Medium Trucks:	77.6%	6.8%	15.6%	3.17%
Heavy Trucks:	65.0%	9.6%	25.4%	3.49%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	38.079
Medium Trucks:	37.846
Heavy Trucks:	37.869

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.21	1.67	-1.20	*-4.63*	0.000	0.000
Medium Trucks:	77.72	-14.90	1.71	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-14.48	1.71	-1.20	*-5.46*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	65.8	63.9	62.3	69.4	69.7
Medium Trucks:	63.3	63.0	58.5	57.3	64.9	65.2
Heavy Trucks:	69.0	68.0	65.7	65.1	72.0	72.2
Vehicle Noise:	71.7	70.8	68.4	67.4	74.4	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	199	428	923
CNEL:	96	208	447	964

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,576 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	732 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.53	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-17.67	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.25	-0.11	-1.20	*-5.31*	0.000	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	62.7	60.8	59.1	66.2	66.5
Medium Trucks:	60.5	60.2	55.6	54.5	62.1	62.3
Heavy Trucks:	65.7	64.6	62.4	61.8	68.7	68.9
Vehicle Noise:	68.5	67.6	65.2	64.2	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	165	356	766
CNEL:	80	172	372	800

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,319 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	783 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	90.40%
Medium Trucks:	77.6%	6.8%	15.6%	3.85%
Heavy Trucks:	65.0%	9.6%	25.4%	5.75%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.34	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-17.04	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.30	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.9	61.0	59.3	66.4	66.7
Medium Trucks:	61.1	60.8	56.3	55.1	62.7	63.0
Heavy Trucks:	67.6	66.6	64.3	63.7	70.6	70.9
Vehicle Noise:	69.8	68.9	66.4	65.5	72.5	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	435	936
CNEL:	98	211	454	977

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,952 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,311 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.00	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-15.14	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.71	-0.11	-1.20	*-5.31*	0.000	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	65.2	63.3	61.7	68.7	69.0
Medium Trucks:	63.0	62.7	58.2	57.0	64.6	64.9
Heavy Trucks:	68.2	67.2	64.9	64.3	71.2	71.5
Vehicle Noise:	71.1	70.2	67.7	66.7	73.7	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	244	525	1,130
CNEL:	118	254	548	1,181

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,694 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,363 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	91.29%
Medium Trucks:	77.6%	6.8%	15.6%	3.73%
Heavy Trucks:	65.0%	9.6%	25.4%	4.98%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.89	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.78	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.52	-0.11	-1.20	*-5.31*	0.000	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	65.3	63.4	61.8	68.8	69.1
Medium Trucks:	63.4	63.1	58.5	57.4	65.0	65.2
Heavy Trucks:	69.4	68.4	66.1	65.5	72.4	72.6
Vehicle Noise:	71.8	70.9	68.4	67.5	74.5	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	274	591	1,273
CNEL:	133	286	617	1,330

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,847 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,443 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.58	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.72	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.30	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.6	63.7	62.1	69.1	69.4
Medium Trucks:	63.4	63.1	58.6	57.4	65.0	65.3
Heavy Trucks:	68.6	67.6	65.3	64.7	71.6	71.9
Vehicle Noise:	71.5	70.6	68.1	67.1	74.1	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	260	559	1,205
CNEL:	126	271	584	1,258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,589 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	91.40%
Medium Trucks:	77.6%	6.8%	15.6%	3.72%
Heavy Trucks:	65.0%	9.6%	25.4%	4.89%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.48	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-14.39	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.20	-0.11	-1.20	*-5.31*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.7	63.8	62.2	69.2	69.5
Medium Trucks:	63.7	63.5	58.9	57.7	65.4	65.6
Heavy Trucks:	69.7	68.7	66.4	65.8	72.7	73.0
Vehicle Noise:	72.2	71.2	68.8	67.8	74.8	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	134	289	624	1,343
CNEL:	140	302	651	1,403

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: e/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,137 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.24	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-19.38	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.95	-0.11	-1.20	*-5.31*	0.000	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	61.0	59.1	57.4	64.5	64.8
Medium Trucks:	58.8	58.5	53.9	52.8	60.4	60.6
Heavy Trucks:	64.0	62.9	60.7	60.1	66.9	67.2
Vehicle Noise:	66.8	65.9	63.5	62.5	69.5	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	590
CNEL:	62	133	286	616

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: e/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,431 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	514 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	88.84%
Medium Trucks:	77.6%	6.8%	15.6%	4.22%
Heavy Trucks:	65.0%	9.6%	25.4%	6.94%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.24	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-18.48	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.31	-0.11	-1.20	*-5.31*	0.000	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	61.0	59.1	57.4	64.5	64.8
Medium Trucks:	59.7	59.4	54.8	53.7	61.3	61.5
Heavy Trucks:	66.6	65.6	63.3	62.7	69.6	69.9
Vehicle Noise:	68.5	67.6	65.1	64.3	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	772
CNEL:	81	174	374	805

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: e/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,901 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.04	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-16.18	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.76	-0.11	-1.20	*-5.31*	0.000	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	64.1	62.2	60.6	67.7	68.0
Medium Trucks:	62.0	61.7	57.1	55.9	63.6	63.8
Heavy Trucks:	67.2	66.1	63.9	63.3	70.1	70.4
Vehicle Noise:	70.0	69.1	66.6	65.7	72.7	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	96	207	447	963
CNEL:	101	217	467	1,006

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Harley Knox Blvd. | *Job Number:* 14428
Road Segment: e/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,195 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,051 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	90.71%
Medium Trucks:	77.6%	6.8%	15.6%	3.88%
Heavy Trucks:	65.0%	9.6%	25.4%	5.40%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.04	-0.13	-1.20	*-4.70*	0.000	0.000
Medium Trucks:	79.45	-15.73	-0.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.29	-0.11	-1.20	*-5.31*	0.000	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	64.1	62.2	60.6	67.7	68.0
Medium Trucks:	62.4	62.1	57.6	56.4	64.0	64.3
Heavy Trucks:	68.7	67.6	65.3	64.8	71.6	71.9
Vehicle Noise:	70.9	70.0	67.5	66.6	73.6	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	515	1,111
CNEL:	116	250	538	1,160

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: OLC3
Road Name: Harley Knox Blvd. | Job Number: 14428
Road Segment: e/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,391 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,134 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.63	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-15.77	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-15.34	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	64.6	62.7	61.0	68.1	68.4
Medium Trucks:	62.4	62.1	57.5	56.4	64.0	64.2
Heavy Trucks:	67.6	66.5	64.3	63.7	70.6	70.8
Vehicle Noise:	70.4	69.5	67.1	66.1	73.1	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	103	221	476	1,026
CNEL:	107	231	498	1,072

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | Project Name: OLC3
Road Name: Harley Knox Blvd. | Job Number: 14428
Road Segment: e/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,685 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,155 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	90.87%
Medium Trucks:	77.6%	6.8%	15.6%	3.86%
Heavy Trucks:	65.0%	9.6%	25.4%	5.27%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	50.210
Medium Trucks:	50.033
Heavy Trucks:	50.050

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.63	-0.13	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-15.35	-0.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.99	-0.11	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	64.6	62.7	61.0	68.1	68.4
Medium Trucks:	62.8	62.5	58.0	56.8	64.4	64.7
Heavy Trucks:	69.0	67.9	65.6	65.0	71.9	72.2
Vehicle Noise:	71.2	70.3	67.9	66.9	73.9	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	252	543	1,170
CNEL:	122	263	567	1,221

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: OLC3
Road Name: Perry St. | Job Number: 14428
Road Segment: w/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	332 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	23 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.355
Medium Trucks:	35.104
Heavy Trucks:	35.129

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-18.05	2.15	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-32.19	2.20	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-31.76	2.20	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	48.5	46.6	45.0	52.0	52.3
Medium Trucks:	46.5	46.2	41.7	40.5	48.1	48.4
Heavy Trucks:	52.2	51.2	48.9	48.3	55.2	55.5
Vehicle Noise:	54.8	53.9	51.4	50.4	57.4	57.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	5	12	25	54
CNEL:	6	12	26	56

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | Project Name: OLC3
Road Name: Perry St. | Job Number: 14428
Road Segment: w/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,965 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	344 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	96.54%
Medium Trucks:	77.6%	6.8%	15.6%	0.83%
Heavy Trucks:	65.0%	9.6%	25.4%	2.63%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	35.355
Medium Trucks:	35.104
Heavy Trucks:	35.129

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.12	2.15	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-26.77	2.20	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-21.76	2.20	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	60.4	58.5	56.9	63.9	64.3
Medium Trucks:	51.9	51.6	47.1	45.9	53.6	53.8
Heavy Trucks:	62.2	61.2	58.9	58.3	65.2	65.5
Vehicle Noise:	65.0	64.1	61.9	60.8	67.8	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	57	122	263
CNEL:	28	59	128	275

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perry St.
Road Segment: w/o Redlands Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	353 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	24 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.355
Medium Trucks:	35.104
Heavy Trucks:	35.129

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-17.79	2.15	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-31.93	2.20	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-31.51	2.20	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	49.7	48.7	46.8	45.2	52.3	52.6
Medium Trucks:	46.8	46.5	42.0	40.8	48.4	48.7
Heavy Trucks:	52.5	51.4	49.2	48.6	55.4	55.7
Vehicle Noise:	55.0	54.1	51.7	50.7	57.7	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	27	58

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perry St.
Road Segment: w/o Redlands Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,986 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	345 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	96.52%
Medium Trucks:	77.6%	6.8%	15.6%	0.84%
Heavy Trucks:	65.0%	9.6%	25.4%	2.64%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.355
Medium Trucks:	35.104
Heavy Trucks:	35.129

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.10	2.15	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-26.70	2.20	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-21.74	2.20	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.4	58.5	56.9	63.9	64.3
Medium Trucks:	52.0	51.7	47.2	46.0	53.6	53.9
Heavy Trucks:	62.3	61.2	58.9	58.4	65.2	65.5
Vehicle Noise:	65.1	64.1	61.9	60.8	67.8	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	264
CNEL:	28	60	128	276

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Perry St.
Road Segment: w/o Redlands Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	388 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	27 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.355
Medium Trucks:	35.104
Heavy Trucks:	35.129

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-17.38	2.15	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-31.51	2.20	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-31.09	2.20	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.1	49.2	47.3	45.6	52.7	53.0
Medium Trucks:	47.2	46.9	42.4	41.2	48.8	49.1
Heavy Trucks:	52.9	51.8	49.6	49.0	55.9	56.1
Vehicle Noise:	55.4	54.5	52.1	51.1	58.1	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	60
CNEL:	6	13	29	62

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP
Road Name: Perry St.
Road Segment: w/o Redlands Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,021 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	347 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	96.49%
Medium Trucks:	77.6%	6.8%	15.6%	0.86%
Heavy Trucks:	65.0%	9.6%	25.4%	2.65%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	35.355
Medium Trucks:	35.104
Heavy Trucks:	35.129

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-6.07	2.15	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-26.57	2.20	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-21.69	2.20	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.4	60.5	58.6	56.9	64.0	64.3
Medium Trucks:	52.1	51.9	47.3	46.1	53.8	54.0
Heavy Trucks:	62.3	61.2	59.0	58.4	65.3	65.5
Vehicle Noise:	65.1	64.1	61.9	60.9	67.8	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	266
CNEL:	28	60	129	278

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ramona Exp.
Road Segment: w/o Indian Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,037 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,425 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.80	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-13.34	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-12.92	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.3	66.4	64.8	71.8	72.2
Medium Trucks:	65.8	65.5	60.9	59.7	67.4	67.6
Heavy Trucks:	70.2	69.1	66.8	66.3	73.1	73.4
Vehicle Noise:	73.5	72.7	70.2	69.1	76.2	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	237	510	1,099	2,367
CNEL:	247	533	1,148	2,474

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ramona Exp.
Road Segment: w/o Indian Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,626 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,673 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	93.20%
Medium Trucks:	77.6%	6.8%	15.6%	3.23%
Heavy Trucks:	65.0%	9.6%	25.4%	3.57%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.25	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-13.34	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-12.92	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.8	66.9	65.3	72.3	72.6
Medium Trucks:	65.8	65.5	60.9	59.7	67.4	67.6
Heavy Trucks:	70.2	69.1	66.8	66.3	73.1	73.4
Vehicle Noise:	73.7	72.8	70.4	69.3	76.3	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	243	524	1,129	2,432
CNEL:	254	548	1,180	2,542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Ramona Exp.
Road Segment: w/o Indian Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	97,334 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	6,735 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.24	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.90	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.48	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.7	72.8	70.9	69.2	76.3	76.6
Medium Trucks:	70.2	69.9	65.4	64.2	71.8	72.1
Heavy Trucks:	74.6	73.5	71.3	70.7	77.6	77.8
Vehicle Noise:	78.0	77.1	74.6	73.6	80.6	80.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	468	1,008	2,172	4,678
CNEL:	489	1,053	2,269	4,889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Ramona Exp.
Road Segment: w/o Indian Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	100,922 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	6,984 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.77%
Medium Trucks:	77.6%	6.8%	15.6%	3.44%
Heavy Trucks:	65.0%	9.6%	25.4%	3.79%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.41	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.90	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.48	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.9	72.9	71.0	69.4	76.4	76.8
Medium Trucks:	70.2	69.9	65.4	64.2	71.8	72.1
Heavy Trucks:	74.6	73.5	71.3	70.7	77.6	77.8
Vehicle Noise:	78.0	77.2	74.7	73.6	80.7	80.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	472	1,018	2,193	4,724
CNEL:	494	1,064	2,292	4,938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ramona Exp.
Road Segment: w/o Indian Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	107,067 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,409 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.65	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.49	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.06	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.1	73.2	71.3	69.7	76.7	77.0
Medium Trucks:	70.6	70.3	65.8	64.6	72.2	72.5
Heavy Trucks:	75.0	74.0	71.7	71.1	78.0	78.2
Vehicle Noise:	78.4	77.5	75.0	74.0	81.0	81.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	499	1,074	2,314	4,985
CNEL:	521	1,123	2,418	5,210

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP
Road Name: Ramona Exp.
Road Segment: w/o Indian Av.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	110,655 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,657 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.74%
Medium Trucks:	77.6%	6.8%	15.6%	3.45%
Heavy Trucks:	65.0%	9.6%	25.4%	3.81%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.80	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.49	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.06	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.3	73.3	71.4	69.8	76.8	77.2
Medium Trucks:	70.6	70.3	65.8	64.6	72.2	72.5
Heavy Trucks:	75.0	74.0	71.7	71.1	78.0	78.2
Vehicle Noise:	78.4	77.6	75.1	74.0	81.1	81.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	503	1,084	2,335	5,030
CNEL:	526	1,133	2,440	5,257

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ramona Exp.
Road Segment: w/o Perris Blvd.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	621 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	43 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-16.71	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-30.85	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-30.43	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	51.7	50.8	48.9	47.3	54.3	54.7
Medium Trucks:	48.2	47.9	43.4	42.2	49.8	50.1
Heavy Trucks:	52.7	51.6	49.3	48.8	55.6	55.9
Vehicle Noise:	56.0	55.1	52.7	51.6	58.6	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	161
CNEL:	17	36	78	168

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ramona Exp.
Road Segment: w/o Perris Blvd.
Project Name: OLC3
Job Number: 14428

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,659 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	99.00%
Medium Trucks:	77.6%	6.8%	15.6%	0.48%
Heavy Trucks:	65.0%	9.6%	25.4%	0.52%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-7.67	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-30.85	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-30.43	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.8	59.9	58.0	56.3	63.4	63.7
Medium Trucks:	48.2	47.9	43.4	42.2	49.8	50.1
Heavy Trucks:	52.7	51.6	49.3	48.8	55.6	55.9
Vehicle Noise:	61.6	60.7	58.6	57.2	64.2	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	378
CNEL:	40	85	184	397

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	659 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	46 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-16.46	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-30.60	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-30.17	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.0	51.1	49.2	47.5	54.6	54.9
Medium Trucks:	48.5	48.2	43.7	42.5	50.1	50.4
Heavy Trucks:	52.9	51.9	49.6	49.0	55.9	56.1
Vehicle Noise:	56.3	55.4	52.9	51.9	58.9	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	36	78	167
CNEL:	18	38	81	175

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,697 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	325 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	98.95%
Medium Trucks:	77.6%	6.8%	15.6%	0.50%
Heavy Trucks:	65.0%	9.6%	25.4%	0.55%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-7.64	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-30.60	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-30.17	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.8	59.9	58.0	56.4	63.4	63.7
Medium Trucks:	48.5	48.2	43.7	42.5	50.1	50.4
Heavy Trucks:	52.9	51.9	49.6	49.0	55.9	56.1
Vehicle Noise:	61.7	60.8	58.7	57.2	64.3	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	82	177	382
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	725 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	50 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-16.04	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-30.18	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-29.76	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.4	51.5	49.6	48.0	55.0	55.3
Medium Trucks:	48.9	48.6	44.1	42.9	50.5	50.8
Heavy Trucks:	53.3	52.3	50.0	49.4	56.3	56.6
Vehicle Noise:	56.7	55.8	53.4	52.3	59.3	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	38	83	178
CNEL:	19	40	87	186

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: w/o Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,762 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	330 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	98.86%
Medium Trucks:	77.6%	6.8%	15.6%	0.54%
Heavy Trucks:	65.0%	9.6%	25.4%	0.60%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-7.58	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-30.18	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-29.76	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.9	59.9	58.0	56.4	63.5	63.8
Medium Trucks:	48.9	48.6	44.1	42.9	50.5	50.8
Heavy Trucks:	53.3	52.3	50.0	49.4	56.3	56.6
Vehicle Noise:	61.8	60.9	58.8	57.4	64.4	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	181	390
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,964 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,765 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.37	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-12.77	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-12.34	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.8	68.9	67.0	65.4	72.4	72.7
Medium Trucks:	66.3	66.0	61.5	60.3	67.9	68.2
Heavy Trucks:	70.7	69.7	67.4	66.8	73.7	74.0
Vehicle Noise:	74.1	73.2	70.8	69.7	76.7	77.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	258	557	1,200	2,584
CNEL:	270	582	1,254	2,701

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,758 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	2,890 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.82%
Medium Trucks:	77.6%	6.8%	15.6%	3.41%
Heavy Trucks:	65.0%	9.6%	25.4%	3.76%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.58	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-12.77	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-12.34	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.1	67.2	65.6	72.6	72.9
Medium Trucks:	66.3	66.0	61.5	60.3	67.9	68.2
Heavy Trucks:	70.7	69.7	67.4	66.8	73.7	74.0
Vehicle Noise:	74.2	73.3	70.9	69.8	76.8	77.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	262	563	1,214	2,615
CNEL:	273	589	1,269	2,734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	103,300 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.49	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.65	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.22	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.0	73.0	71.1	69.5	76.5	76.9
Medium Trucks:	70.4	70.2	65.6	64.4	72.1	72.3
Heavy Trucks:	74.9	73.8	71.5	71.0	77.8	78.1
Vehicle Noise:	78.2	77.4	74.9	73.8	80.9	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	487	1,049	2,259	4,868
CNEL:	509	1,096	2,361	5,087

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	105,094 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,272 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.63%
Medium Trucks:	77.6%	6.8%	15.6%	3.51%
Heavy Trucks:	65.0%	9.6%	25.4%	3.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.58	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.65	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.22	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.0	73.1	71.2	69.6	76.6	76.9
Medium Trucks:	70.4	70.2	65.6	64.4	72.1	72.3
Heavy Trucks:	74.9	73.8	71.5	71.0	77.8	78.1
Vehicle Noise:	78.3	77.4	74.9	73.9	80.9	81.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	489	1,054	2,270	4,890
CNEL:	511	1,101	2,372	5,111

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	113,630 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,863 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.91	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.23	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-7.81	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.4	73.4	71.5	69.9	76.9	77.3
Medium Trucks:	70.9	70.6	66.0	64.9	72.5	72.7
Heavy Trucks:	75.3	74.2	72.0	71.4	78.2	78.5
Vehicle Noise:	78.6	77.8	75.3	74.2	81.3	81.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	519	1,118	2,408	5,187
CNEL:	542	1,168	2,516	5,421

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	115,423 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,987 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.62%
Medium Trucks:	77.6%	6.8%	15.6%	3.51%
Heavy Trucks:	65.0%	9.6%	25.4%	3.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.98	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-8.23	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-7.81	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	74.4	73.5	71.6	70.0	77.0	77.3
Medium Trucks:	70.9	70.6	66.0	64.9	72.5	72.7
Heavy Trucks:	75.3	74.2	72.0	71.4	78.2	78.5
Vehicle Noise:	78.7	77.8	75.3	74.3	81.3	81.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	521	1,122	2,418	5,209
CNEL:	544	1,173	2,527	5,444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,726 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,919 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.22	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-14.36	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-13.93	-2.11	-1.20	*-5.18*	0.000	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	67.3	65.4	63.8	70.8	71.1
Medium Trucks:	64.7	64.4	59.9	58.7	66.3	66.6
Heavy Trucks:	69.2	68.1	65.8	65.3	72.1	72.4
Vehicle Noise:	72.5	71.6	69.2	68.1	75.1	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	203	436	940	2,025
CNEL:	212	456	983	2,117

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | *Project Name:* OLC3
Road Name: Ramona Exp. | *Job Number:* 14428
Road Segment: e/o Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,623 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	1,981 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	66.9%	10.8%	22.3%	92.74%
Medium Trucks:	77.6%	6.8%	15.6%	3.45%
Heavy Trucks:	65.0%	9.6%	25.4%	3.81%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.07	-2.12	-1.20	*-4.76*	0.000	0.000
Medium Trucks:	82.40	-14.36	-2.11	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-13.93	-2.11	-1.20	*-5.18*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.5	65.6	63.9	71.0	71.3
Medium Trucks:	64.7	64.4	59.9	58.7	66.3	66.6
Heavy Trucks:	69.2	68.1	65.8	65.3	72.1	72.4
Vehicle Noise:	72.6	71.7	69.2	68.2	75.2	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	204	440	948	2,043
CNEL:	214	460	991	2,135

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: e/o Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	92,299 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	6,387 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.01	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-9.13	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.71	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.5	72.5	70.6	69.0	76.0	76.4
Medium Trucks:	70.0	69.7	65.1	64.0	71.6	71.8
Heavy Trucks:	74.4	73.3	71.0	70.5	77.3	77.6
Vehicle Noise:	77.7	76.9	74.4	73.3	80.4	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	452	973	2,096	4,516
CNEL:	472	1,017	2,191	4,719

Wednesday, January 18, 2023

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: e/o Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	93,195 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	6,449 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.57%
Medium Trucks:	77.6%	6.8%	15.6%	3.53%
Heavy Trucks:	65.0%	9.6%	25.4%	3.90%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.05	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-9.13	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.71	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.5	72.6	70.7	69.1	76.1	76.4
Medium Trucks:	70.0	69.7	65.1	64.0	71.6	71.8
Heavy Trucks:	74.4	73.3	71.0	70.5	77.3	77.6
Vehicle Noise:	77.8	76.9	74.4	73.4	80.4	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	453	975	2,101	4,527
CNEL:	473	1,019	2,196	4,732

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: e/o Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	101,529 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,026 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.50%
Medium Trucks:	77.6%	6.8%	15.6%	3.57%
Heavy Trucks:	65.0%	9.6%	25.4%	3.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.42	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-8.72	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.29	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.9	72.9	71.0	69.4	76.5	76.8
Medium Trucks:	70.4	70.1	65.5	64.4	72.0	72.2
Heavy Trucks:	74.8	73.7	71.5	70.9	77.8	78.0
Vehicle Noise:	78.2	77.3	74.8	73.8	80.8	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	481	1,037	2,233	4,812
CNEL:	503	1,083	2,334	5,029

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP | Project Name: OLC3
Road Name: Ramona Exp. | Job Number: 14428
Road Segment: e/o Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	102,425 vehicles
Peak Hour Percentage:	6.92%
Peak Hour Volume:	7,088 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	124 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	92.0 feet
Centerline Dist. to Observer:	92.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	66.9%	10.8%	22.3%	92.57%
Medium Trucks:	77.6%	6.8%	15.6%	3.53%
Heavy Trucks:	65.0%	9.6%	25.4%	3.90%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	68.154
Medium Trucks:	68.024
Heavy Trucks:	68.037

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.46	-2.12	-1.20	-4.76	0.000	0.000
Medium Trucks:	82.40	-8.72	-2.11	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.29	-2.11	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.9	73.0	71.1	69.5	76.5	76.8
Medium Trucks:	70.4	70.1	65.5	64.4	72.0	72.2
Heavy Trucks:	74.8	73.7	71.5	70.9	77.8	78.0
Vehicle Noise:	78.2	77.3	74.8	73.8	80.8	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	482	1,039	2,239	4,823
CNEL:	504	1,086	2,340	5,041

Wednesday, January 18, 2023

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APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS (LMAX)

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14428 - OLC3

CadnaA Noise Prediction Model: 14428-03.cna
Date: 20.01.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	44.8	44.4	51.1	80.0	60.0	0.0				5.00	a	6270637.54	2254307.01	5.00
RECEIVERS		R2	47.6	47.2	53.9	80.0	60.0	0.0				5.00	a	6269538.27	2252191.32	5.00
RECEIVERS		R3	54.5	52.9	59.6	80.0	60.0	0.0				5.00	a	6267368.77	2252233.53	5.00
RECEIVERS		R4	58.9	58.6	65.3	80.0	60.0	0.0				5.00	a	6266601.49	2252069.79	5.00
RECEIVERS		R5	59.0	56.1	63.0	80.0	60.0	0.0				5.00	a	6265247.46	2253565.37	5.00
RECEIVERS		R6	47.0	46.6	53.3	80.0	60.0	0.0				5.00	a	6269576.10	2254801.84	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265462.08	2253572.58	30.00
POINTSOURCE		AC02	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265408.51	2253573.49	30.00
POINTSOURCE		AC03	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265520.18	2253338.34	30.00
POINTSOURCE		AC04	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265520.18	2253270.25	30.00
POINTSOURCE		AC05	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265518.37	2253186.72	30.00
POINTSOURCE		AC06	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265517.46	2253110.45	30.00
POINTSOURCE		AC07	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265515.64	2253036.91	30.00
POINTSOURCE		AC08	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265394.89	2252907.08	30.00
POINTSOURCE		AC09	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265393.98	2252862.59	30.00
POINTSOURCE		AC10	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265899.56	2253813.06	5.00
POINTSOURCE		AC11	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6267098.80	2253437.20	50.00
POINTSOURCE		AC12	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6267097.34	2252850.74	50.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC13	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265880.55	2252858.05	50.00
POINTSOURCE		AC14	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265803.04	2252860.98	50.00
POINTSOURCE		AC15	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265898.10	2253454.75	50.00
POINTSOURCE		AC16	89.4	89.4	89.4	Lw	89.4		585.00	0.00	252.00	5.00	g	6265810.35	2253454.75	50.00
POINTSOURCE		CAR00	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265689.10	2253157.93	5.00
POINTSOURCE		CAR01	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265669.59	2253132.16	5.00
POINTSOURCE		CAR01	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265493.85	2252991.52	5.00
POINTSOURCE		CAR02	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265687.70	2253099.42	5.00
POINTSOURCE		CAR02	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265410.32	2253410.06	5.00
POINTSOURCE		CAR03	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265670.99	2253074.35	5.00
POINTSOURCE		CAR03	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265377.64	2253431.85	5.00
POINTSOURCE		CAR04	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265691.19	2253036.04	5.00
POINTSOURCE		CAR04	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265374.01	2253465.45	5.00
POINTSOURCE		CAR05	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265668.90	2253015.84	5.00
POINTSOURCE		CAR05	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265422.13	2253475.43	5.00
POINTSOURCE		CAR06	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265689.10	2252991.46	5.00
POINTSOURCE		CAR06	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265444.82	2253517.20	5.00
POINTSOURCE		CAR07	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265669.59	2252956.63	5.00
POINTSOURCE		CAR07	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265403.06	2253515.38	5.00
POINTSOURCE		CAR08	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265691.19	2252931.56	5.00
POINTSOURCE		CAR08	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265524.72	2253592.55	5.00
POINTSOURCE		CAR09	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265668.90	2252894.64	5.00
POINTSOURCE		CAR09	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265564.67	2253574.40	5.00
POINTSOURCE		CAR10	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265688.40	2252866.78	5.00
POINTSOURCE		CAR10	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265525.63	2253548.07	5.00
POINTSOURCE		CAR11	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265670.29	2252827.08	5.00
POINTSOURCE		CAR11	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265569.21	2253524.46	5.00
POINTSOURCE		CAR12	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265629.20	2252857.03	5.00
POINTSOURCE		CAR12	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265515.64	2253478.16	5.00
POINTSOURCE		CAR13	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265629.89	2252898.12	5.00
POINTSOURCE		CAR13	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265495.67	2253450.01	5.00
POINTSOURCE		CAR14	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265630.59	2252958.72	5.00
POINTSOURCE		CAR14	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265516.55	2253410.97	5.00
POINTSOURCE		CAR15	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265629.89	2253018.62	5.00
POINTSOURCE		CAR15	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265373.10	2253052.35	5.00
POINTSOURCE		CAR16	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265630.59	2253076.44	5.00
POINTSOURCE		CAR16	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265374.01	2253123.16	5.00
POINTSOURCE		CAR17	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265631.29	2253124.50	5.00
POINTSOURCE		CAR17	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265374.01	2253190.35	5.00
POINTSOURCE		CAR18	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265630.59	2253168.38	5.00
POINTSOURCE		CAR18	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265374.01	2253255.72	5.00
POINTSOURCE		CAR19	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265629.89	2253222.71	5.00
POINTSOURCE		CAR19	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265372.19	2253311.10	5.00
POINTSOURCE		CAR20	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265629.89	2253277.04	5.00
POINTSOURCE		CAR20	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265411.23	2253341.97	5.00
POINTSOURCE		CAR21	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265629.89	2253328.58	5.00
POINTSOURCE		CAR21	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265413.05	2253276.60	5.00
POINTSOURCE		CAR22	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265630.59	2253369.68	5.00
POINTSOURCE		CAR22	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265434.84	2253249.36	5.00
POINTSOURCE		CAR23	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265631.29	2253425.40	5.00
POINTSOURCE		CAR23	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265410.32	2253213.05	5.00
POINTSOURCE		CAR24	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265632.68	2253475.55	5.00
POINTSOURCE		CAR24	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265433.93	2253185.81	5.00
POINTSOURCE		CAR25	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265406.69	2253134.06	5.00
POINTSOURCE		CAR26	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265431.21	2253109.54	5.00
POINTSOURCE		CAR27	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265405.78	2253061.43	5.00
POINTSOURCE		CAR28	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265432.11	2253028.74	5.00
POINTSOURCE		CAR29	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265405.78	2252955.20	5.00
POINTSOURCE		CAR30	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265433.02	2252878.03	5.00
POINTSOURCE		CAR31	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265517.46	2252948.84	5.00
POINTSOURCE		CAR32	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265490.22	2252929.78	5.00
POINTSOURCE		CAR33	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265515.64	2252884.38	5.00
POINTSOURCE		CAR34	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265490.22	2252862.59	5.00
POINTSOURCE		CAR35	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265523.81	2252819.92	5.00
POINTSOURCE		CAR36	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267215.70	2252659.34	5.00
POINTSOURCE		CAR37	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267169.86	2252660.17	5.00
POINTSOURCE		CAR38	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267120.69	2252661.84	5.00
POINTSOURCE		CAR39	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267072.35	2252662.67	5.00
POINTSOURCE		CAR40	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267023.18	2252663.50	5.00
POINTSOURCE		CAR41	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266957.34	2252661.84	5.00
POINTSOURCE		CAR42	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266900.67	2252663.50	5.00
POINTSOURCE		CAR43	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266849.83	2252663.50	5.00
POINTSOURCE		CAR44	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266803.16	2252662.67	5.00
POINTSOURCE		CAR45	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266748.16	2252662.67	5.00
POINTSOURCE		CAR46	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266701.49	2252661.84	5.00
POINTSOURCE		CAR47	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266655.65	2252663.50	5.00
POINTSOURCE		CAR48	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266621.48	2252600.16	5.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		CAR49	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266658.98	2252586.00	5.00
POINTSOURCE		CAR50	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266622.31	2252562.66	5.00
POINTSOURCE		CAR51	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266619.81	2252518.49	5.00
POINTSOURCE		CAR52	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266769.83	2252508.49	5.00
POINTSOURCE		CAR53	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266824.83	2252507.66	5.00
POINTSOURCE		CAR54	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266893.17	2252506.82	5.00
POINTSOURCE		CAR55	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267047.35	2252505.16	5.00
POINTSOURCE		CAR56	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267111.52	2252506.82	5.00
POINTSOURCE		CAR57	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267173.20	2252505.99	5.00
POINTSOURCE		CAR58	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266849.83	2252470.15	5.00
POINTSOURCE		CAR59	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266933.18	2252470.15	5.00
POINTSOURCE		CAR60	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267017.35	2252470.99	5.00
POINTSOURCE		CAR61	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267069.85	2252423.48	5.00
POINTSOURCE		CAR62	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267024.02	2252403.48	5.00
POINTSOURCE		CAR63	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266989.85	2252444.32	5.00
POINTSOURCE		CAR64	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266929.01	2252405.98	5.00
POINTSOURCE		CAR65	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266899.84	2252444.32	5.00
POINTSOURCE		CAR66	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266854.00	2252405.15	5.00
POINTSOURCE		CAR67	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6266809.83	2252442.65	5.00
POINTSOURCE		CAR68	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267230.99	2252856.46	5.00
POINTSOURCE		CAR69	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267230.47	2252827.30	5.00
POINTSOURCE		CAR70	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267229.43	2252926.44	5.00
POINTSOURCE		CAR71	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267230.99	2252899.36	5.00
POINTSOURCE		CAR72	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267231.39	2252968.10	5.00
POINTSOURCE		CAR73	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267230.87	2252996.75	5.00
POINTSOURCE		CAR74	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267231.92	2253030.72	5.00
POINTSOURCE		CAR75	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267232.44	2253107.69	5.00
POINTSOURCE		CAR76	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267233.14	2253061.35	5.00
POINTSOURCE		CAR77	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267234.00	2253176.44	5.00
POINTSOURCE		CAR78	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267233.48	2253212.37	5.00
POINTSOURCE		CAR79	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267234.52	2253247.79	5.00
POINTSOURCE		CAR80	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267233.48	2253281.12	5.00
POINTSOURCE		CAR81	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267236.08	2253315.50	5.00
POINTSOURCE		CAR82	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267236.08	2253355.08	5.00
POINTSOURCE		CAR83	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267234.52	2253383.21	5.00
POINTSOURCE		CAR84	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267234.52	2253420.19	5.00
POINTSOURCE		CAR85	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267235.04	2253451.44	5.00
POINTSOURCE		CAR86	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267235.04	2253494.15	5.00
POINTSOURCE		CAR87	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267235.56	2253521.75	5.00
POINTSOURCE		CAR88	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6267237.99	2253582.96	5.00
POINTSOURCE		CAR89	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265693.97	2253470.67	5.00
POINTSOURCE		CAR90	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265693.28	2253435.85	5.00
POINTSOURCE		CAR91	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265674.47	2253417.04	5.00
POINTSOURCE		CAR92	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265693.97	2253398.24	5.00
POINTSOURCE		CAR93	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265674.47	2253355.05	5.00
POINTSOURCE		CAR94	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265693.28	2253333.46	5.00
POINTSOURCE		CAR95	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265673.08	2253296.54	5.00
POINTSOURCE		CAR96	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265689.79	2253274.25	5.00
POINTSOURCE		CAR97	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265669.59	2253242.91	5.00
POINTSOURCE		CAR98	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265691.88	2253222.01	5.00
POINTSOURCE		CAR99	91.4	91.4	91.4	Lw	91.4		900.00	0.00	270.00	5.00	a	6265671.68	2253198.33	5.00
POINTSOURCE		DT01	86.5	86.5	86.5	Lw	86.5		900.00	0.00	270.00	5.00	a	6265373.10	2252938.86	5.00
POINTSOURCE		DT02	86.5	86.5	86.5	Lw	86.5		900.00	0.00	270.00	5.00	a	6265487.50	2253568.95	5.00
POINTSOURCE		DT03	86.5	86.5	86.5	Lw	86.5		900.00	0.00	270.00	5.00	a	6266619.81	2252444.32	5.00
POINTSOURCE		PICKLE01	102.6	102.6	102.6	Lw	102.6		900.00	0.00	0.00	5.00	a	6265623.59	2252743.83	5.00
POINTSOURCE		PICKLE02	102.6	102.6	102.6	Lw	102.6		900.00	0.00	0.00	5.00	a	6265575.28	2252743.83	5.00
POINTSOURCE		PICKLE03	102.6	102.6	102.6	Lw	102.6		900.00	0.00	0.00	5.00	a	6265756.24	2253583.45	5.00
POINTSOURCE		PICKLE04	102.6	102.6	102.6	Lw	102.6		900.00	0.00	0.00	5.00	a	6265697.74	2253583.45	5.00
POINTSOURCE		TRASH01	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6265527.44	2252994.24	5.00
POINTSOURCE		TRASH02	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6265412.14	2252997.87	5.00
POINTSOURCE		TRASH03	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6265433.93	2253291.13	5.00
POINTSOURCE		TRASH04	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6265567.39	2253493.59	5.00
POINTSOURCE		TRASH05	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6267224.03	2252602.66	5.00
POINTSOURCE		TRASH06	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6266666.48	2252611.00	5.00
POINTSOURCE		TRASH07	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6265943.29	2252704.79	5.00
POINTSOURCE		TRASH08	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6267047.24	2252693.62	5.00
POINTSOURCE		TRASH09	102.8	102.8	102.8	Lw	102.8		900.00	0.00	270.00	5.00	a	6265950.75	2253589.49	5.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	91.4	91.4	91.4	78.0	78.0	78.0	Lw	91.4									8	a
LINESOURCE		TRUCK02	91.4	91.4	91.4	76.1	76.1	76.1	Lw	91.4									8	a
LINESOURCE		TRUCK03	91.4	91.4	91.4	66.8	66.8	66.8	Lw	91.4									8	a
LINESOURCE		TRUCK04	91.4	91.4	91.4	76.6	76.6	76.6	Lw	91.4									8	a

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK05	91.4	91.4	91.4	66.8	66.8	66.8	Lw	91.4									8	a

Name	ID	Height			Coordinates			
		Begin		End	x	y	z	Ground
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	TRUCK01	8.00	a		6266949.41	2253538.61	8.00	0.00
					6266949.38	2253609.86	8.00	0.00
LINESOURCE	TRUCK02	8.00	a		6265941.13	2253519.29	8.00	0.00
					6265830.61	2253521.01	8.00	0.00
LINESOURCE	TRUCK03	8.00	a		6265934.95	2252784.33	8.00	0.00
					6265803.00	2252786.09	8.00	0.00
					6265792.59	2252787.75	8.00	0.00
					6265782.60	2252791.14	8.00	0.00
					6265773.33	2252796.17	8.00	0.00
					6265765.03	2252802.68	8.00	0.00
					6265757.95	2252810.50	8.00	0.00
					6265752.29	2252819.40	8.00	0.00
					6265748.21	2252829.12	8.00	0.00
					6265745.83	2252839.39	8.00	0.00
					6265745.21	2252849.92	8.00	0.00
					6265752.97	2253484.78	8.00	0.00
					6265762.96	2253495.72	8.00	0.00
					6265774.54	2253504.95	8.00	0.00
					6265787.42	2253512.26	8.00	0.00
					6265801.29	2253517.44	8.00	0.00
					6265815.81	2253520.39	8.00	0.00
					6265830.61	2253521.01	8.00	0.00
LINESOURCE	TRUCK04	8.00	a		6265830.61	2253521.01	8.00	0.00
					6265832.33	2253620.21	8.00	0.00
LINESOURCE	TRUCK05	8.00	a		6267060.62	2252771.39	8.00	0.00
					6267148.63	2252773.15	8.00	0.00
					6267158.65	2252778.14	8.00	0.00
					6267167.72	2252784.68	8.00	0.00
					6267175.61	2252792.60	8.00	0.00
					6267182.11	2252801.70	8.00	0.00
					6267187.05	2252811.74	8.00	0.00
					6267190.30	2252822.44	8.00	0.00
					6267191.76	2252833.53	8.00	0.00
					6267196.94	2253458.04	8.00	0.00
					6267195.56	2253466.46	8.00	0.00
					6267192.84	2253474.54	8.00	0.00
					6267188.85	2253482.07	8.00	0.00
					6267183.69	2253488.86	8.00	0.00
					6267177.51	2253494.73	8.00	0.00
					6267170.46	2253499.52	8.00	0.00
					6267162.73	2253503.11	8.00	0.00
					6267154.52	2253505.41	8.00	0.00
					6267146.04	2253506.35	8.00	0.00
					6267066.15	2253506.35	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		DOCK01	119.7	119.7	119.7	77.0	77.0	77.0	Lw	119.7					8	a
AREASOURCE		DOCK02	119.7	119.7	119.7	76.8	76.8	76.8	Lw	119.7					8	a

Name	ID	Height			Coordinates			
		Begin		End	x	y	z	Ground
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	DOCK01	8.00	a		6265941.88	2253599.51	8.00	0.00
					6266901.93	2253588.29	8.00	0.00
					6266899.35	2253539.13	8.00	0.00
					6267065.82	2253537.40	8.00	0.00
					6267066.69	2253455.46	8.00	0.00
					6267066.69	2253401.11	8.00	0.00
					6265940.15	2253414.05	8.00	0.00
AREASOURCE	DOCK02	8.00	a		6265935.84	2252880.11	8.00	0.00
					6267061.51	2252867.17	8.00	0.00
					6267059.79	2252681.72	8.00	0.00
					6265934.12	2252694.66	8.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
				left	right		horz.	vert.	Begin		End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIEREXISTING			0						14.00	a		6265938.43	2253470.12	14.00	0.00
												6265940.94	2253498.53	14.00	0.00
BARRIEREXISTING			0						14.00	a		6265941.32	2253539.16	14.00	0.00
												6265941.88	2253599.51	14.00	0.00
												6266901.93	2253588.29	14.00	0.00
												6266899.35	2253539.13	14.00	0.00
												6266926.95	2253538.84	14.00	0.00
BARRIEREXISTING			0						14.00	a		6266967.54	2253538.42	14.00	0.00
												6267065.82	2253537.40	14.00	0.00
												6267065.95	2253525.33	14.00	0.00
BARRIEREXISTING			0						14.00	a		6267066.34	2253488.24	14.00	0.00
												6267066.69	2253455.46	14.00	0.00
BARRIEREXISTING			0						14.00	a		6267062.37	2252813.69	14.00	0.00
												6267060.83	2252793.83	14.00	0.00
BARRIEREXISTING			0						14.00	a		6267060.42	2252749.86	14.00	0.00
												6267059.79	2252681.72	14.00	0.00
												6265934.12	2252694.66	14.00	0.00
												6265934.77	2252765.31	14.00	0.00
BARRIEREXISTING			0						14.00	a		6265935.12	2252802.51	14.00	0.00
												6265937.57	2252825.77	14.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING			BUILDING00001	x	0		25.00	a	6266675.65	2252628.50	25.00	0.00
									6266940.68	2252626.83	25.00	0.00
									6266940.68	2252560.99	25.00	0.00
									6266676.49	2252562.66	25.00	0.00
BUILDING			BUILDING00002	x	0		25.00	a	6266975.68	2252625.17	25.00	0.00
									6267217.37	2252621.83	25.00	0.00
									6267216.53	2252550.16	25.00	0.00
									6266974.01	2252554.33	25.00	0.00
BUILDING			BUILDING00003	x	0		25.00	a	6267121.53	2252446.82	25.00	0.00
									6267199.03	2252445.98	25.00	0.00
									6267200.70	2252397.65	25.00	0.00
									6267178.20	2252387.65	25.00	0.00
									6267104.02	2252390.15	25.00	0.00
									6267106.52	2252431.82	25.00	0.00
BUILDING			BUILDING00004	x	0		25.00	a	6266628.15	2252445.15	25.00	0.00
									6266718.99	2252445.15	25.00	0.00
									6266718.16	2252410.98	25.00	0.00
									6266628.98	2252410.15	25.00	0.00
BUILDING			BUILDING00005	x	0		25.00	a	6265392.17	2253589.83	25.00	0.00
									6265473.88	2253590.74	25.00	0.00
									6265474.79	2253553.51	25.00	0.00
									6265389.44	2253552.61	25.00	0.00
BUILDING			BUILDING00006	x	0		25.00	a	6265485.68	2253345.60	25.00	0.00
									6265544.70	2253345.60	25.00	0.00
									6265541.97	2253018.75	25.00	0.00
									6265479.33	2253018.75	25.00	0.00
BUILDING			BUILDING00007	x	0		25.00	a	6265376.73	2252923.42	25.00	0.00
									6265409.42	2252923.42	25.00	0.00
									6265407.60	2252843.53	25.00	0.00
									6265377.64	2252842.62	25.00	0.00
BUILDING			BUILDING00008	x	0		45.00	a	6265783.16	2253470.98	45.00	0.00
									6265938.43	2253470.12	45.00	0.00
									6265940.15	2253414.05	45.00	0.00
									6267066.69	2253401.11	45.00	0.00
									6267066.69	2253455.46	45.00	0.00
									6267162.43	2253454.59	45.00	0.00
									6267158.12	2252811.97	45.00	0.00
									6267062.37	2252813.69	45.00	0.00
									6267061.51	2252867.17	45.00	0.00
									6265935.84	2252880.11	45.00	0.00
									6265937.57	2252825.77	45.00	0.00
									6265777.99	2252827.50	45.00	0.00

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APPENDIX 9.2:

CADNAA OPERATIONAL NOISE MODEL INPUTS (LEQ)

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14428 - OLC3

CadnaA Noise Prediction Model: 14428-03_CNEL.cna
Date: 20.01.23
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	35.1	34.3	41.0	80.0	60.0	0.0				5.00	a	6270637.54	2254307.01	5.00
RECEIVERS		R2	38.4	37.5	44.2	80.0	60.0	0.0				5.00	a	6269538.27	2252191.32	5.00
RECEIVERS		R3	46.7	44.2	51.0	80.0	60.0	0.0				5.00	a	6267368.77	2252233.53	5.00
RECEIVERS		R4	47.9	46.3	53.0	80.0	60.0	0.0				5.00	a	6266601.49	2252069.79	5.00
RECEIVERS		R5	53.2	50.1	57.0	80.0	60.0	0.0				5.00	a	6265247.46	2253565.37	5.00
RECEIVERS		R6	36.8	35.9	42.7	80.0	60.0	0.0				5.00	a	6269576.10	2254801.84	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265462.08	2253572.58	30.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265408.51	2253573.49	30.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265520.18	2253338.34	30.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265520.18	2253270.25	30.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265518.37	2253186.72	30.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265517.46	2253110.45	30.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265515.64	2253036.91	30.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265394.89	2252907.08	30.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265393.98	2252862.59	30.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265899.56	2253813.06	5.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6267098.80	2253437.20	50.00
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6267097.34	2252850.74	50.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265880.55	2252858.05	50.00
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265803.04	2252860.98	50.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265898.10	2253454.75	50.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6265810.35	2253454.75	50.00
POINTSOURCE		CAR00	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265689.10	2253157.93	5.00
POINTSOURCE		CAR01	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265669.59	2253132.16	5.00
POINTSOURCE		CAR01	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265493.85	2252991.52	5.00
POINTSOURCE		CAR02	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265687.70	2253099.42	5.00
POINTSOURCE		CAR02	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265410.32	2253410.06	5.00
POINTSOURCE		CAR03	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265670.99	2253074.35	5.00
POINTSOURCE		CAR03	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265377.64	2253431.85	5.00
POINTSOURCE		CAR04	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265691.19	2253036.04	5.00
POINTSOURCE		CAR04	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265374.01	2253465.45	5.00
POINTSOURCE		CAR05	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265668.90	2253015.84	5.00
POINTSOURCE		CAR05	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265422.13	2253475.43	5.00
POINTSOURCE		CAR06	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265689.10	2252991.46	5.00
POINTSOURCE		CAR06	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265444.82	2253517.20	5.00
POINTSOURCE		CAR07	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265669.59	2252956.63	5.00
POINTSOURCE		CAR07	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265403.06	2253515.38	5.00
POINTSOURCE		CAR08	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265691.19	2252931.56	5.00
POINTSOURCE		CAR08	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265524.72	2253592.55	5.00
POINTSOURCE		CAR09	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265668.90	2252894.64	5.00
POINTSOURCE		CAR09	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265564.67	2253574.40	5.00
POINTSOURCE		CAR10	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265688.40	2252866.78	5.00
POINTSOURCE		CAR10	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265525.63	2253548.07	5.00
POINTSOURCE		CAR11	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265670.29	2252827.08	5.00
POINTSOURCE		CAR11	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265569.21	2253524.46	5.00
POINTSOURCE		CAR12	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265629.20	2252857.03	5.00
POINTSOURCE		CAR12	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265515.64	2253478.16	5.00
POINTSOURCE		CAR13	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265629.89	2252898.12	5.00
POINTSOURCE		CAR13	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265495.67	2253450.01	5.00
POINTSOURCE		CAR14	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265630.59	2252958.72	5.00
POINTSOURCE		CAR14	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265516.55	2253410.97	5.00
POINTSOURCE		CAR15	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265629.89	2253018.62	5.00
POINTSOURCE		CAR15	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265373.10	2253052.35	5.00
POINTSOURCE		CAR16	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265630.59	2253076.44	5.00
POINTSOURCE		CAR16	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265374.01	2253123.16	5.00
POINTSOURCE		CAR17	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265631.29	2253124.50	5.00
POINTSOURCE		CAR17	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265374.01	2253190.35	5.00
POINTSOURCE		CAR18	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265630.59	2253168.38	5.00
POINTSOURCE		CAR18	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265374.01	2253255.72	5.00
POINTSOURCE		CAR19	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265629.89	2253222.71	5.00
POINTSOURCE		CAR19	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265372.19	2253311.10	5.00
POINTSOURCE		CAR20	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265629.89	2253277.04	5.00
POINTSOURCE		CAR20	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265411.23	2253341.97	5.00
POINTSOURCE		CAR21	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265629.89	2253328.58	5.00
POINTSOURCE		CAR21	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265413.05	2253276.60	5.00
POINTSOURCE		CAR22	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265630.59	2253369.68	5.00
POINTSOURCE		CAR22	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265434.84	2253249.36	5.00
POINTSOURCE		CAR23	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265631.29	2253425.40	5.00
POINTSOURCE		CAR23	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265410.32	2253213.05	5.00
POINTSOURCE		CAR24	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265632.68	2253475.55	5.00
POINTSOURCE		CAR24	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265433.93	2253185.81	5.00
POINTSOURCE		CAR25	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265406.69	2253134.06	5.00
POINTSOURCE		CAR26	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265431.21	2253109.54	5.00
POINTSOURCE		CAR27	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265405.78	2253061.43	5.00
POINTSOURCE		CAR28	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265432.11	2253028.74	5.00
POINTSOURCE		CAR29	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265405.78	2252955.20	5.00
POINTSOURCE		CAR30	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265433.02	2252878.03	5.00
POINTSOURCE		CAR31	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265517.46	2252948.84	5.00
POINTSOURCE		CAR32	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265490.22	2252929.78	5.00
POINTSOURCE		CAR33	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265515.64	2252884.38	5.00
POINTSOURCE		CAR34	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265490.22	2252862.59	5.00
POINTSOURCE		CAR35	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265523.81	2252819.92	5.00
POINTSOURCE		CAR36	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267215.70	2252659.34	5.00
POINTSOURCE		CAR37	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267169.86	2252660.17	5.00
POINTSOURCE		CAR38	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267120.69	2252661.84	5.00
POINTSOURCE		CAR39	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267072.35	2252662.67	5.00
POINTSOURCE		CAR40	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267023.18	2252663.50	5.00
POINTSOURCE		CAR41	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266957.34	2252661.84	5.00
POINTSOURCE		CAR42	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266900.67	2252663.50	5.00
POINTSOURCE		CAR43	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266849.83	2252663.50	5.00
POINTSOURCE		CAR44	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266803.16	2252662.67	5.00
POINTSOURCE		CAR45	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266748.16	2252662.67	5.00
POINTSOURCE		CAR46	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266701.49	2252661.84	5.00
POINTSOURCE		CAR47	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266655.65	2252663.50	5.00
POINTSOURCE		CAR48	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266621.48	2252600.16	5.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		CAR49	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266658.98	2252586.00	5.00
POINTSOURCE		CAR50	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266622.31	2252562.66	5.00
POINTSOURCE		CAR51	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266619.81	2252518.49	5.00
POINTSOURCE		CAR52	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266769.83	2252508.49	5.00
POINTSOURCE		CAR53	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266824.83	2252507.66	5.00
POINTSOURCE		CAR54	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266893.17	2252506.82	5.00
POINTSOURCE		CAR55	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267047.35	2252505.16	5.00
POINTSOURCE		CAR56	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267111.52	2252506.82	5.00
POINTSOURCE		CAR57	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267173.20	2252505.99	5.00
POINTSOURCE		CAR58	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266849.83	2252470.15	5.00
POINTSOURCE		CAR59	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266933.18	2252470.15	5.00
POINTSOURCE		CAR60	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267017.35	2252470.99	5.00
POINTSOURCE		CAR61	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267069.85	2252423.48	5.00
POINTSOURCE		CAR62	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267024.02	2252403.48	5.00
POINTSOURCE		CAR63	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266989.85	2252444.32	5.00
POINTSOURCE		CAR64	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266929.01	2252405.98	5.00
POINTSOURCE		CAR65	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266899.84	2252444.32	5.00
POINTSOURCE		CAR66	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266854.00	2252405.15	5.00
POINTSOURCE		CAR67	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6266809.83	2252442.65	5.00
POINTSOURCE		CAR68	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267230.99	2252856.46	5.00
POINTSOURCE		CAR69	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267230.47	2252827.30	5.00
POINTSOURCE		CAR70	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267229.43	2252926.44	5.00
POINTSOURCE		CAR71	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267230.99	2252899.36	5.00
POINTSOURCE		CAR72	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267231.39	2252968.10	5.00
POINTSOURCE		CAR73	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267230.87	2252996.75	5.00
POINTSOURCE		CAR74	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267231.92	2253030.72	5.00
POINTSOURCE		CAR75	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267232.44	2253107.69	5.00
POINTSOURCE		CAR76	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267233.14	2253061.35	5.00
POINTSOURCE		CAR77	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267234.00	2253176.44	5.00
POINTSOURCE		CAR78	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267233.48	2253212.37	5.00
POINTSOURCE		CAR79	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267234.52	2253247.79	5.00
POINTSOURCE		CAR80	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267233.48	2253281.12	5.00
POINTSOURCE		CAR81	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267236.08	2253315.50	5.00
POINTSOURCE		CAR82	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267236.08	2253355.08	5.00
POINTSOURCE		CAR83	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267234.52	2253383.21	5.00
POINTSOURCE		CAR84	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267234.52	2253420.19	5.00
POINTSOURCE		CAR85	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267235.04	2253451.44	5.00
POINTSOURCE		CAR86	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267235.04	2253494.15	5.00
POINTSOURCE		CAR87	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267235.56	2253521.75	5.00
POINTSOURCE		CAR88	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6267237.99	2253582.96	5.00
POINTSOURCE		CAR89	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265693.97	2253470.67	5.00
POINTSOURCE		CAR90	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265693.28	2253435.85	5.00
POINTSOURCE		CAR91	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265674.47	2253417.04	5.00
POINTSOURCE		CAR92	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265693.97	2253398.24	5.00
POINTSOURCE		CAR93	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265674.47	2253355.05	5.00
POINTSOURCE		CAR94	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265693.28	2253333.46	5.00
POINTSOURCE		CAR95	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265673.08	2253296.54	5.00
POINTSOURCE		CAR96	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265689.79	2253274.25	5.00
POINTSOURCE		CAR97	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265669.59	2253242.91	5.00
POINTSOURCE		CAR98	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265691.88	2253222.01	5.00
POINTSOURCE		CAR99	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	5.00	a	6265671.68	2253198.33	5.00
POINTSOURCE		DT01	83.2	83.2	83.2	Lw	83.2		900.00	0.00	270.00	5.00	a	6265373.10	2252938.86	5.00
POINTSOURCE		DT02	83.2	83.2	83.2	Lw	83.2		900.00	0.00	270.00	5.00	a	6265487.50	2253568.95	5.00
POINTSOURCE		DT03	83.2	83.2	83.2	Lw	83.2		900.00	0.00	270.00	5.00	a	6266619.81	2252444.32	5.00
POINTSOURCE		PICKLE01	88.8	88.8	88.8	Lw	88.8		900.00	0.00	0.00	5.00	a	6265623.59	2252743.83	5.00
POINTSOURCE		PICKLE02	88.8	88.8	88.8	Lw	88.8		900.00	0.00	0.00	5.00	a	6265575.28	2252743.83	5.00
POINTSOURCE		PICKLE03	88.8	88.8	88.8	Lw	88.8		900.00	0.00	0.00	5.00	a	6265756.24	2253583.45	5.00
POINTSOURCE		PICKLE04	88.8	88.8	88.8	Lw	88.8		900.00	0.00	0.00	5.00	a	6265697.74	2253583.45	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6265527.44	2252994.24	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6265412.14	2252997.87	5.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6265433.93	2253291.13	5.00
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6265567.39	2253493.59	5.00
POINTSOURCE		TRASH05	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6267224.03	2252602.66	5.00
POINTSOURCE		TRASH06	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6266666.48	2252611.00	5.00
POINTSOURCE		TRASH07	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6265943.29	2252704.79	5.00
POINTSOURCE		TRASH08	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6267047.24	2252693.62	5.00
POINTSOURCE		TRASH09	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6265950.75	2253589.49	5.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	89.7	89.7	89.7	76.3	76.3	76.3	Lw	89.7									8	a
LINESOURCE		TRUCK02	89.7	89.7	89.7	74.4	74.4	74.4	Lw	89.7									8	a
LINESOURCE		TRUCK03	89.7	89.7	89.7	65.1	65.1	65.1	Lw	89.7									8	a
LINESOURCE		TRUCK04	89.7	89.7	89.7	74.9	74.9	74.9	Lw	89.7									8	a

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK05	89.7	89.7	89.7	65.1	65.1	65.1	Lw	89.7									8	a

Name	ID	Height			Coordinates			
		Begin		End	x	y	z	Ground
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	TRUCK01	8.00	a		6266949.41	2253538.61	8.00	0.00
					6266949.38	2253609.86	8.00	0.00
LINESOURCE	TRUCK02	8.00	a		6265941.13	2253519.29	8.00	0.00
					6265830.61	2253521.01	8.00	0.00
LINESOURCE	TRUCK03	8.00	a		6265934.95	2252784.33	8.00	0.00
					6265803.00	2252786.09	8.00	0.00
					6265792.59	2252787.75	8.00	0.00
					6265782.60	2252791.14	8.00	0.00
					6265773.33	2252796.17	8.00	0.00
					6265765.03	2252802.68	8.00	0.00
					6265757.95	2252810.50	8.00	0.00
					6265752.29	2252819.40	8.00	0.00
					6265748.21	2252829.12	8.00	0.00
					6265745.83	2252839.39	8.00	0.00
					6265745.21	2252849.92	8.00	0.00
					6265752.97	2253484.78	8.00	0.00
					6265762.96	2253495.72	8.00	0.00
					6265774.54	2253504.95	8.00	0.00
					6265787.42	2253512.26	8.00	0.00
					6265801.29	2253517.44	8.00	0.00
					6265815.81	2253520.39	8.00	0.00
					6265830.61	2253521.01	8.00	0.00
LINESOURCE	TRUCK04	8.00	a		6265830.61	2253521.01	8.00	0.00
					6265832.33	2253620.21	8.00	0.00
LINESOURCE	TRUCK05	8.00	a		6267060.62	2252771.39	8.00	0.00
					6267148.63	2252773.15	8.00	0.00
					6267158.65	2252778.14	8.00	0.00
					6267167.72	2252784.68	8.00	0.00
					6267175.61	2252792.60	8.00	0.00
					6267182.11	2252801.70	8.00	0.00
					6267187.05	2252811.74	8.00	0.00
					6267190.30	2252822.44	8.00	0.00
					6267191.76	2252833.53	8.00	0.00
					6267196.94	2253458.04	8.00	0.00
					6267195.56	2253466.46	8.00	0.00
					6267192.84	2253474.54	8.00	0.00
					6267188.85	2253482.07	8.00	0.00
					6267183.69	2253488.86	8.00	0.00
					6267177.51	2253494.73	8.00	0.00
					6267170.46	2253499.52	8.00	0.00
					6267162.73	2253503.11	8.00	0.00
					6267154.52	2253505.41	8.00	0.00
					6267146.04	2253506.35	8.00	0.00
					6267066.15	2253506.35	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		DOCK01	111.5	111.5	111.5	68.9	68.9	68.9	Lw	111.5					8	a
AREASOURCE		DOCK02	111.5	111.5	111.5	68.7	68.7	68.7	Lw	111.5					8	a

Name	ID	Height			Coordinates			
		Begin		End	x	y	z	Ground
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	DOCK01	8.00	a		6265944.67	2253596.41	8.00	0.00
					6266898.52	2253585.81	8.00	0.00
					6266897.17	2253536.65	8.00	0.00
					6267063.96	2253534.61	8.00	0.00
					6267065.76	2253455.46	8.00	0.00
					6267067.00	2253401.11	8.00	0.00
					6265942.32	2253418.40	8.00	0.00
AREASOURCE	DOCK02	8.00	a		6265940.59	2252877.62	8.00	0.00
					6267061.51	2252867.17	8.00	0.00
					6267057.50	2252685.71	8.00	0.00
					6265935.47	2252696.70	8.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
				left	right		horz.	vert.	Begin		End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIEREXISTING			0						14.00	a		6265938.43	2253470.12	14.00	0.00
												6265940.94	2253498.53	14.00	0.00
BARRIEREXISTING			0						14.00	a		6265941.32	2253539.16	14.00	0.00
												6265941.88	2253599.51	14.00	0.00
												6266901.93	2253588.29	14.00	0.00
												6266899.35	2253539.13	14.00	0.00
												6266926.95	2253538.84	14.00	0.00
BARRIEREXISTING			0						14.00	a		6266967.54	2253538.42	14.00	0.00
												6267065.82	2253537.40	14.00	0.00
												6267065.95	2253525.33	14.00	0.00
BARRIEREXISTING			0						14.00	a		6267066.34	2253488.24	14.00	0.00
												6267066.69	2253455.46	14.00	0.00
BARRIEREXISTING			0						14.00	a		6267062.37	2252813.69	14.00	0.00
												6267060.83	2252793.83	14.00	0.00
BARRIEREXISTING			0						14.00	a		6267060.42	2252749.86	14.00	0.00
												6267059.79	2252681.72	14.00	0.00
												6265934.12	2252694.66	14.00	0.00
												6265934.77	2252765.31	14.00	0.00
BARRIEREXISTING			0						14.00	a		6265935.12	2252802.51	14.00	0.00
												6265937.57	2252825.77	14.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING			BUILDING00001	x	0		25.00	a	6266675.65	2252628.50	25.00	0.00
									6266940.68	2252626.83	25.00	0.00
									6266940.68	2252560.99	25.00	0.00
									6266676.49	2252562.66	25.00	0.00
BUILDING			BUILDING00002	x	0		25.00	a	6266975.68	2252625.17	25.00	0.00
									6267217.37	2252621.83	25.00	0.00
									6267216.53	2252550.16	25.00	0.00
									6266974.01	2252554.33	25.00	0.00
BUILDING			BUILDING00003	x	0		25.00	a	6267121.53	2252446.82	25.00	0.00
									6267199.03	2252445.98	25.00	0.00
									6267200.70	2252397.65	25.00	0.00
									6267178.20	2252387.65	25.00	0.00
									6267104.02	2252390.15	25.00	0.00
									6267106.52	2252431.82	25.00	0.00
BUILDING			BUILDING00004	x	0		25.00	a	6266628.15	2252445.15	25.00	0.00
									6266718.99	2252445.15	25.00	0.00
									6266718.16	2252410.98	25.00	0.00
									6266628.98	2252410.15	25.00	0.00
BUILDING			BUILDING00005	x	0		25.00	a	6265392.17	2253589.83	25.00	0.00
									6265473.88	2253590.74	25.00	0.00
									6265474.79	2253553.51	25.00	0.00
									6265389.44	2253552.61	25.00	0.00
BUILDING			BUILDING00006	x	0		25.00	a	6265485.68	2253345.60	25.00	0.00
									6265544.70	2253345.60	25.00	0.00
									6265541.97	2253018.75	25.00	0.00
									6265479.33	2253018.75	25.00	0.00
BUILDING			BUILDING00007	x	0		25.00	a	6265376.73	2252923.42	25.00	0.00
									6265409.42	2252923.42	25.00	0.00
									6265407.60	2252843.53	25.00	0.00
									6265377.64	2252842.62	25.00	0.00
BUILDING			BUILDING00008	x	0		45.00	a	6265783.16	2253470.98	45.00	0.00
									6265938.43	2253470.12	45.00	0.00
									6265940.15	2253414.05	45.00	0.00
									6267066.69	2253401.11	45.00	0.00
									6267066.69	2253455.46	45.00	0.00
									6267162.43	2253454.59	45.00	0.00
									6267158.12	2252811.97	45.00	0.00
									6267062.37	2252813.69	45.00	0.00
									6267061.51	2252867.17	45.00	0.00
									6265935.84	2252880.11	45.00	0.00
									6265937.57	2252825.77	45.00	0.00
									6265777.99	2252827.50	45.00	0.00

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APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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14428 - OLC3

CadnaA Noise Prediction Model: 14428-02_construction.cna
Date: 10.11.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	61.6	61.6	68.3	80.0	60.0	0.0				5.00	a	6270637.54	2254307.01	5.00
RECEIVERS		R2	65.1	65.1	71.7	80.0	60.0	0.0				5.00	a	6269538.27	2252191.32	5.00
RECEIVERS		R3	76.2	76.2	82.9	80.0	60.0	0.0				5.00	a	6267368.77	2252233.53	5.00
RECEIVERS		R4	76.0	76.0	82.7	80.0	60.0	0.0				5.00	a	6266601.49	2252069.79	5.00
RECEIVERS		R5	78.6	78.6	85.2	80.0	60.0	0.0				5.00	a	6265247.46	2253565.37	5.00
RECEIVERS		R6	63.8	63.8	70.5	80.0	60.0	0.0				5.00	a	6269576.10	2254801.84	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	137.7	137.7	137.7	85.0	85.0	85.0	Lw''	85					8	a

Name	Height			Coordinates			
	Begin		End	x	y	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	a		6266604.53	2252684.08	8.00	0.00
				6265343.87	2252702.08	8.00	0.00
				6265352.81	2253598.70	8.00	0.00
				6265376.12	2253623.37	8.00	0.00
				6267278.63	2253606.72	8.00	0.00
				6267266.02	2252372.08	8.00	0.00
				6266599.80	2252377.64	8.00	0.00

APPENDIX 10.2:

CADNAA CONCRETE POUR NOISE MODEL INPUTS

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14428 - OLC3

CadnaA Noise Prediction Model: 14428-02_concrete.cna
Date: 10.11.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	55.3	55.3	62.0	80.0	60.0	0.0				5.00	a	6270637.54	2254307.01	5.00
RECEIVERS		R2	58.5	58.5	65.1	80.0	60.0	0.0				5.00	a	6269538.27	2252191.32	5.00
RECEIVERS		R3	67.7	67.7	74.4	80.0	60.0	0.0				5.00	a	6267368.77	2252233.53	5.00
RECEIVERS		R4	68.6	68.6	75.2	80.0	60.0	0.0				5.00	a	6266601.49	2252069.79	5.00
RECEIVERS		R5	68.4	68.4	75.1	80.0	60.0	0.0				5.00	a	6265247.46	2253565.37	5.00
RECEIVERS		R6	57.6	57.6	64.2	80.0	60.0	0.0				5.00	a	6269576.10	2254801.84	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
CONCRETE		CONCRETE	131.2	131.2	131.2	82.0	82.0	82.0	Lw"	82					8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
CONCRETE	8.00	a			6265776.49	2253478.28	8.00	0.00
					6267150.21	2253463.85	8.00	0.00
					6267145.40	2252819.47	8.00	0.00
					6265758.85	2252824.28	8.00	0.00

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