March 7, 2022

Mr. Brian Hardy
Richland
3161 Michelson Drive, Suite 425
Irvine, CA 92612

SUBJECT: STONERIDGE COMMERCE CENTER SPECIFIC PLAN (SP NO. 239, A1) ALTERNATIVE TRUCK ACCESS ROUTE NOISE ASSESSMENT (SOUTHERN TRUCK ROUTE)

Dear Mr. Brian Hardy:

Urban Crossroads, Inc. is pleased to provide the following Southern Truck Route Noise Assessment for the Stoneridge Commerce Center Specific Plan (SP No. 239, A1) which is located which is located on a 582.6-acre site west of Lakeview Avenue between Ramona Expressway and Nuevo Road in the County of Riverside. In April 2021, ECORP Consulting prepared the Noise Technical Memorandum for the Stoneridge Commerce Center Specific Plan Alternative Truck Route. The Memorandum evaluated the noise that would result from implementation of this Alternative Truck Route. While the Project site is located in unincorporated Riverside County, it is noted that the implementation of the Alternative Truck Route would mainly affect receptors in the City of Perris in terms of the resultant traffic noise. The contribution of noise would come from two main sources: the temporary construction equipment necessary from the recommended roadway improves (addition /widening of traffic lanes and traffic signal installation) and the increase in traffic on area roadways from the use of the Alternative Truck Route.

The purpose of this Southern Truck Route is evaluate the Project related off-site traffic noise levels consistent with the *Stoneridge Commerce Center Specific Plan (SP No. 239, A1) Alternative Truck Access Route Assessment (Southern Truck Route)* prepared by Urban Crossroads, Inc. on February 21, 2022.

OFF-SITE 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 County of Riverside Noise Guidelines for Land Use Planning all transportation related noise levels are presented in terms of the 24-hour CNEL's.

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. (19) 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. (20) 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. (21)

OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 1 identifies the 6 off-site study area roadway segments, jurisdiction, surrounding land uses, number of lanes and vehicle speeds. The ADT volumes used in this study area presented on Table 2 are based on the *Stoneridge Commerce Center Specific Plan (SP No. 239, A1) Alternative Truck Access Route Assessment (Southern Truck Route)* prepared by Urban Crossroads, Inc. on February 21, 2022, for the following traffic scenarios.

1. Existing plus Ambient Growth (EA) (2030) Conditions
2. Existing plus Ambient Growth plus Project (EAP) (2030) Conditions
3. Existing plus Ambient Growth plus Cumulative (EAC) (2030) Conditions
4. Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2030) Conditions
5. Horizon Year (2040) Without Project (Without MCP)
6. Horizon Year (2040) With Project (Without MCP)

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts at a uniform distance of 100 feet from the centerline of the roadway segment without and with project ADT traffic volumes from the Project traffic study. Table 3 provides the time of day (daytime, evening, and nighttime) vehicle splits. Table 4 shows the traffic flow by vehicle type (vehicle mix) used for all traffic scenarios.

OFF-SITE TRAFFIC NOISE IMPACTS

To assess the off-site traffic CNEL noise level impacts associated with the Project, noise contours were developed based on an estimate of without and with Project. 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. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. 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 5 through 10 present a

summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Appendix A includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (15) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged.

The Federal Interagency Committee on Noise (FICON) (16) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (15) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with the General Plan Noise Element *Standards for Project Noise Impacts for Mobile Sources* (10 p. VII_13), guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (17 p. 2_48).

EA Traffic Noise Level Increases

Table 5 shows the EA without Project conditions CNEL noise levels. The EA without Project exterior noise levels range from 45.1 to 76.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 6 shows the EA with Project (EAP) conditions ranging from 52.4 to 69.3 dBA CNEL. Table 11 shows that the Project off-site traffic noise level increases range from 0.3 to 3.7 dBA CNEL on the study area roadway segments. 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. Therefore, no mitigation measures are considered to reduce the EA with Project traffic noise level increases. The future long-range EAC (2030) and Horizon Year (2040) traffic noise conditions that include all cumulative projects are used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments.

EAC (2030) Traffic Noise Level Increases

Table 7 presents the EAC (2030) without Project conditions CNEL noise levels. The EAC (2030) without Project exterior noise levels range from 52.4 to 70.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8 shows that the EAC (2030) with Project conditions will range from 56.1 to 71.3 dBA CNEL. Table 12 shows that the Project off-site traffic noise level increases range from 0.2 to 3.7 dBA CNEL. Based on the significance criteria for off-site traffic noise, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to the Project-related traffic.

Horizon Year (2040) Without MCP Traffic Noise Level Increases

Table 9 presents the HY (2040) Without MCP without Project conditions CNEL noise levels. The HY (2040) Without MCP without Project exterior noise levels range from 56.9 to 72.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 10 shows that the HY (2040) Without MCP with Project conditions will range from 58.8 to 72.4 dBA CNEL. Table 15 shows that the Project off-site traffic noise level increases range from 0.0 to 1.9 dBA CNEL. Based on the significance criteria for off-site traffic noise, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to the Project-related traffic.

CONCLUSIONS

Traffic generated by the operation of the proposed Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 6 roadway segments surrounding the Project site were calculated based on the change in the average daily traffic (ADT) volumes. The findings of the traffic noise analysis indicates that all the off-site study area roadway segments will experience *less than significant* Project-related traffic noise level increases. If you have any questions, please contact me directly at (949) 584-3148.

Respectfully submitted,

URBAN CROSSROADS, INC.

Bill Lawson, P.E., INCE
Principal

TABLE 1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Jurisdiction	Receiving Land Use	Lanes	Vehicle Speed (mph)
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	Riverside County	Residential and Undeveloped Land	2	55
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	City of Perris	Residential and Undeveloped Land	2	55
3	Dunlap Dr.	North of Nuevo Rd.	City of Perris	Residential	2	45
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	City of Perris	Residential and Undeveloped Land	2	45
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	City of Perris	Residential and Commercial	2	55
6	Redlands Av.	South of San Jacinto Av.	City of Perris	Residential and Commercial	2	55

[1] Stoneridge Commerce Center Specific Plan Alternative Truck Route - Noise Technical Memorandum, ECORP Consulting, Inc.

TABLE 2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes (PCE)[1]					
			EA		EAC (2030)		HY (2040) (Without MCP)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	12,444	44,344	19,470	51,370	61,419	66,703
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	11,539	44,939	16,681	50,081	59,878	63,474
3	Dunlap Dr.	North of Nuevo Rd.	4,631	8,031	5,027	8,427	10,075	10,075
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	1,101	1,101	2,589	2,589	3,096	4,784
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	17,666	18,916	19,154	20,404	17,328	18,816
6	Redlands Av.	South of San Jacinto Av.	32,718	38,790	34,606	40,678	31,590	33,478

[1] Stoneridge Commerce Center Specific Plan (SP No. 239, A1) Alternative Truck Access Route Assessment (Southern Truck Route), Urban Crossroads, Inc.

TABLE 3: TIME OF DAY VEHICLE SPLITS

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

[1] County of Riverside Office of Industrial Hygiene.

TABLE 4: WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	97.42%	1.84%	0.74%	100.00%

[1] County of Riverside Office of Industrial Hygiene.

TABLE 5: EA WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Nuevo Rd.	Between Stoneridge Commerce Cetner SP and Dunlap Dr.	65.1	47	102	219
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	64.8	45	97	208
3	Dunlap Dr.	North of Nuevo Rd.	58.6	17	38	81
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	52.4	7	14	31
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.6	60	128	277
6	Redlands Av.	South of San Jacinto Av.	69.3	90	194	417

TABLE 6: EA WITH PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	67.1	64	137	295
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	66.4	57	124	266
3	Dunlap Dr.	North of Nuevo Rd.	59.0	18	40	85
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	56.1	12	25	55
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	67.0	63	136	292
6	Redlands Av.	South of San Jacinto Av.	69.6	93	201	433

TABLE 7: EAC (2030) WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	70.6	110	237	511
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	70.7	111	239	516
3	Dunlap Dr.	North of Nuevo Rd.	61.0	25	54	117
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	52.4	7	14	31
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.9	62	134	290
6	Redlands Av.	South of San Jacinto Av.	70.0	101	217	468

TABLE 8: EAC (2030) WITH PROJECT NOISE CONTOURS

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	71.3	121	262	564
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	71.2	119	257	554
3	Dunlap Dr.	North of Nuevo Rd.	61.2	26	56	121
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	56.1	12	25	55
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	67.3	66	141	305
6	Redlands Av.	South of San Jacinto Av.	70.3	104	224	483

TABLE 9: HORIZON YEAR (2040) WITHOUT PROJECT WITHOUT MCP NOISE CONTOURS

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	72.0	137	295	635
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	71.9	135	290	625
3	Dunlap Dr.	North of Nuevo Rd.	62.0	29	63	136
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	56.9	13	29	62
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.5	59	127	273
6	Redlands Av.	South of San Jacinto Av.	69.2	88	189	408

TABLE 10: HORIZON YEAR (2040) WITH PROJECT WITHOUT MCP NOISE CONTOURS

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	72.4	145	312	671
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	72.2	140	301	649
3	Dunlap Dr.	North of Nuevo Rd.	62.0	29	63	136
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	58.8	18	38	83
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.9	62	134	289
6	Redlands Av.	South of San Jacinto Av.	69.4	91	197	424

TABLE 11: EA WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	65.1	67.1	2.0	1.5	**Yes**
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	64.8	66.4	1.6	3.0	No
3	Dunlap Dr.	North of Nuevo Rd.	58.6	59.0	0.4	5.0	No
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	52.4	56.1	3.7	5.0	No
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.6	67.0	0.4	1.5	No
6	Redlands Av.	South of San Jacinto Av.	69.3	69.6	0.3	1.5	No

TABLE 12: EAC (2030) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	70.6	71.3	0.7	1.5	No
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	70.7	71.2	0.5	1.5	No
3	Dunlap Dr.	North of Nuevo Rd.	61.0	61.2	0.2	3.0	No
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	52.4	56.1	3.7	5.0	No
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.9	67.3	0.4	1.5	No
6	Redlands Av.	South of San Jacinto Av.	70.0	70.3	0.3	1.5	No

TABLE 13: HORIZON YEAR (2040) WITH PROJECT WITHOUT MCP TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Nuevo Rd.	Between Stoneridge Commerce Center SP and Dunlap Dr.	72.0	72.4	0.4	1.5	No
2	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	71.9	72.2	0.3	1.5	No
3	Dunlap Dr.	North of Nuevo Rd.	62.0	62.0	0.0	3.0	No
4	Dunlap Dr.	Between Nuevo Rd. and San Jacinto Av.	56.9	58.8	1.9	5.0	No
5	San Jacinto Av.	Between Murrieta Rd. and Redlands Av.	66.5	66.9	0.4	1.5	No
6	Redlands Av.	South of San Jacinto Av.	69.2	69.4	0.2	1.5	No

APPENDIX A

OFF-SITE TRAFFIC NOISE CONTOURS

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

Scenario: EA
Project Name: Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd.
Job Number: 13265
Road Segment: Between Stoneridge Commerce Cetner SP and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,444 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-20.04	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.99	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	56.6	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	56.6	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	64.7	63.9	61.0	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	439
CNEL:	47	102	219	472

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

Scenario: EAP
Project Name: Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd.
Job Number: 13265
Road Segment: Between Stoneridge Commerce Cetner SP and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,470 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,573 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.85	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.09	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.05	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.5	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	58.5	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	66.7	65.9	62.9	58.0	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	275	591
CNEL:	64	137	295	636

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

Scenario: EAC
Project Name: Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd.
Job Number: 13265
Road Segment: Between Stoneridge Commerce Cetner SP and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,344 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,583 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.72	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-14.52	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-18.47	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.0	62.3
Heavy Trucks:	62.1	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	70.3	69.4	66.5	61.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	102	221	475	1,024
CNEL:	110	237	511	1,101

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

Scenario: EAPC
Project Name: Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd.
Job Number: 13265
Road Segment: Between Stoneridge Commerce Cetner SP and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,370 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,151 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.36	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.88	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.84	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	62.7	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	62.8	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	70.9	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	524	1,129
CNEL:	121	262	564	1,215

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Stoneridge Commerce Cetner SP and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,419 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,963 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.13	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.10	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.06	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	63.5	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	63.5	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	71.7	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	127	274	590	1,272
CNEL:	137	295	635	1,369

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Stoneridge Commerce Cetner SP and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,703 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,390 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.49	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.75	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.70	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	63.8	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	63.9	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	72.0	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	134	290	624	1,344
CNEL:	145	312	671	1,446

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

Scenario: EA *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Dunlap Dr. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,539 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	932 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.13	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-20.37	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-24.32	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	56.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	64.4	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	194	417
CNEL:	45	97	208	449

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

Scenario: EAP *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Dunlap Dr. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,681 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.53	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.76	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.72	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.4	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	57.8	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	57.9	57.4	48.3	49.6	57.9	58.1
Vehicle Noise:	66.0	65.2	62.2	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	248	534
CNEL:	57	124	266	574

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,939 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,631 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.78	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-14.46	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-18.42	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.7	67.8	66.0	59.9	68.6	69.2
Medium Trucks:	62.1	61.6	55.2	53.6	62.1	62.3
Heavy Trucks:	62.2	61.7	52.6	53.9	62.2	62.4
Vehicle Noise:	70.3	69.5	66.5	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	103	223	479	1,033
CNEL:	111	239	516	1,111

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,081 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,047 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.95	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.2	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	62.6	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.6	62.1	53.1	54.4	62.7	62.8
Vehicle Noise:	70.8	70.0	67.0	62.1	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	515	1,110
CNEL:	119	257	554	1,194

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

Scenario: HY (Without MCP)
Road Name: Nuevo Rd.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,878 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,838 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.02	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.17	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.4	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	63.4	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	71.6	70.7	67.8	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	581	1,251
CNEL:	135	290	625	1,346

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

Scenario: HYP (Without MCP)
Road Name: Nuevo Rd.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,474 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,129 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.28	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.96	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.92	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	63.6	63.1	56.7	55.1	63.6	63.8
Heavy Trucks:	63.7	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	71.8	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	130	280	604	1,300
CNEL:	140	301	649	1,399

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

Scenario: EA
Road Name: Dunlap Dr.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,631 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	374 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.22	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-23.46	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-27.41	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	55.5	53.7	47.6	56.3	56.9
Medium Trucks:	50.2	49.6	43.2	41.7	50.2	50.4
Heavy Trucks:	51.0	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	58.3	57.4	54.3	49.6	58.2	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	35	75	162
CNEL:	17	38	81	174

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

Scenario: EAP
Road Name: Dunlap Dr.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,027 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	406 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.86	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-23.10	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-27.06	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.8	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	50.5	50.0	43.6	42.0	50.5	50.7
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	58.6	57.8	54.7	50.0	58.5	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	37	80	172
CNEL:	18	40	85	184

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

Scenario: EAC
Road Name: Dunlap Dr.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,031 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	649 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.83	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-21.07	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.02	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	57.8	56.1	50.0	58.6	59.3
Medium Trucks:	52.6	52.0	45.6	44.1	52.5	52.8
Heavy Trucks:	53.4	52.9	43.9	45.1	53.5	53.6
Vehicle Noise:	60.7	59.8	56.7	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	51	109	234
CNEL:	25	54	117	251

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

Scenario: EAPC
Road Name: Dunlap Dr.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,427 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.62	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.86	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.81	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.0	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	52.8	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	53.6	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	60.9	60.0	56.9	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	242
CNEL:	26	56	121	260

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,075 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.04	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.8	58.8	57.1	51.0	59.6	60.2
Medium Trucks:	53.6	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	54.4	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	61.6	60.8	57.7	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

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

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,075 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.04	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.8	58.8	57.1	51.0	59.6	60.2
Medium Trucks:	53.6	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	54.4	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	61.6	60.8	57.7	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

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

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

Scenario: EA | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | *Job Number:* 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,101 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	89 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-12.46	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-29.70	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-33.65	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	50.2	49.2	47.4	41.4	50.0	50.6
Medium Trucks:	43.9	43.4	37.0	35.5	43.9	44.1
Heavy Trucks:	44.8	44.3	35.3	36.5	44.9	45.0
Vehicle Noise:	52.0	51.2	48.1	43.4	51.9	52.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	31	67

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

Scenario: EAP | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | *Job Number:* 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,589 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	209 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-25.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-29.94	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.9	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	47.7	47.1	40.7	39.2	47.6	47.9
Heavy Trucks:	48.5	48.0	39.0	40.2	48.6	48.7
Vehicle Noise:	55.7	54.9	51.8	47.1	55.6	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	55	118

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

Scenario: EAC | Project Name: Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | Job Number: 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,101 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	89 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-12.46	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-29.70	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-33.65	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	49.2	47.4	41.4	50.0	50.6
Medium Trucks:	43.9	43.4	37.0	35.5	43.9	44.1
Heavy Trucks:	44.8	44.3	35.3	36.5	44.9	45.0
Vehicle Noise:	52.0	51.2	48.1	43.4	51.9	52.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	29	62
CNEL:	7	14	31	67

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

Scenario: EAPC | Project Name: Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | Job Number: 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,589 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	209 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-8.75	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-25.98	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-29.94	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.9	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	47.7	47.1	40.7	39.2	47.6	47.9
Heavy Trucks:	48.5	48.0	39.0	40.2	48.6	48.7
Vehicle Noise:	55.7	54.9	51.8	47.1	55.6	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	51	110
CNEL:	12	25	55	118

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

Scenario: HY (Without MCP) | Project Name: Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | Job Number: 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,096 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	250 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-7.97	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-25.21	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-29.16	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	48.4	47.9	41.5	39.9	48.4	48.6
Heavy Trucks:	49.3	48.8	39.7	41.0	49.4	49.5
Vehicle Noise:	56.5	55.7	52.5	47.9	56.4	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	27	58	124
CNEL:	13	29	62	133

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

Scenario: HYP (Without MCP) | Project Name: Stoneridge SP S. Truck Rt
Road Name: Dunlap Dr. | Job Number: 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,784 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	387 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.08	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-23.32	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-27.27	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	50.3	49.7	43.4	41.8	50.3	50.5
Heavy Trucks:	51.2	50.7	41.6	42.9	51.2	51.4
Vehicle Noise:	58.4	57.6	54.4	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	36	77	166
CNEL:	18	38	83	178

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

Scenario: EA
Road Name: San Jacinto Av.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,666 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,427 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.28	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.52	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.47	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.1	57.5	51.1	49.6	58.1	58.3
Heavy Trucks:	58.1	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	66.3	65.4	62.5	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	257	554
CNEL:	60	128	277	596

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

Scenario: EAP
Road Name: San Jacinto Av.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,154 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,548 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.16	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.12	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.4	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	58.5	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	66.6	65.8	62.8	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	126	272	585
CNEL:	63	136	292	629

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

Scenario: EAC
Road Name: San Jacinto Av.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,916 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,528 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.98	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.22	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.17	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.4	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.6	65.7	62.8	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	125	269	580
CNEL:	62	134	290	624

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

Scenario: EAPC
Road Name: San Jacinto Av.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,404 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,649 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.65	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.89	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.85	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	58.7	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	58.7	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	66.9	66.1	63.1	58.2	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	283	610
CNEL:	66	141	305	656

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: San Jacinto Av. | *Job Number:* 13265
Road Segment: Between Murrieta Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,328 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,400 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.36	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.56	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.0	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	58.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	66.2	65.3	62.4	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	127	273	589

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: San Jacinto Av. | *Job Number:* 13265
Road Segment: Between Murrieta Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,816 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,520 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.00	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.24	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.20	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.4	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.5	65.7	62.8	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	289	622

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

Scenario: EA | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Redlands Av. | *Job Number:* 13265
Road Segment: South of San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,718 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,644 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.40	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.84	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.79	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	60.8	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	68.9	68.1	65.2	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	84	180	388	836
CNEL:	90	194	417	899

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

Scenario: EAP | *Project Name:* Stoneridge SP S. Truck Rt
Road Name: Redlands Av. | *Job Number:* 13265
Road Segment: South of San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,606 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,796 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.64	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.55	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.6	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	61.0	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	61.0	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	69.2	68.4	65.4	60.5	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	187	403	868
CNEL:	93	201	433	934

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

Scenario: EAC
Road Name: Redlands Av.
Road Segment: South of San Jacinto Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,790 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,134 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.14	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.10	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.06	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.4	59.3	67.9	68.5
Medium Trucks:	61.5	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	61.5	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	69.7	68.8	65.9	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	202	435	936
CNEL:	101	217	468	1,007

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

Scenario: EAPC
Road Name: Redlands Av.
Road Segment: South of San Jacinto Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,678 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,287 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	2.35	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-14.89	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-18.85	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	61.7	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	61.7	61.2	52.2	53.5	61.8	61.9
Vehicle Noise:	69.9	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	208	449	967
CNEL:	104	224	483	1,040

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

Scenario: HY (Without MCP)
Road Name: Redlands Av.
Road Segment: South of San Jacinto Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,590 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,552 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.95	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	60.6	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	60.6	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	68.8	68.0	65.0	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	817
CNEL:	88	189	408	879

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

Scenario: HYP (Without MCP)
Road Name: Redlands Av.
Road Segment: South of San Jacinto Av.
Project Name: Stoneridge SP S. Truck Rt
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,478 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,705 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	12 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.50	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.74	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.69	-4.61	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	60.9	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	60.9	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.0	68.2	65.3	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	85	183	394	849
CNEL:	91	197	424	913