March 9, 2022

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

SUBJECT: STONERIDGE COMMERCE CENTER SPECIFIC PLAN SUPPLEMENTAL NOISE ASSESSMENT

Dear Mr. Brian Hardy:

Urban Crossroads, Inc. is pleased to provide the following Supplemental Noise Assessment for the Stoneridge Commerce Center Specific Plan 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 August 2020, ECORP Consulting prepared the Noise Impact Assessment (NIA) for the Stoneridge Commerce Center Specific Plan. The NIA evaluated the existing noise conditions, as well as the Project construction and operational noise and vibration impacts. The purpose of this Supplemental Noise Assessment is evaluate the Project related off-site traffic noise levels consistent with the updated *Stoneridge Commerce Center Specific Plan Traffic Impact Analysis* (TIA) prepared by Urban Crossroads, Inc. on February 25, 2022.

PROJECT OVERVIEW

The Project is proposing to amend the Specific Plan with a mix of industrial and commercial uses, as described below:

- Without MCP With Project (Proposed Project Land Use): 8,476,776 square feet of light industrial uses, 1,069,398 square feet of business park uses, and 121,968 square feet of commercial retail uses
- With MCP With Project (Alternative Project Land Use): 8,476,776 square feet of light industrial uses, 936,540 square feet of business park uses, 126,542 square feet of commercial retail uses

The Riverside County Transportation Commission (RCTC) is currently planning the construction of a regional, grade-separated transportation facility referred to as the MCP between the I-215 Freeway (at Placentia Avenue) and SR-79. The MCP is a long-range transportation improvement as RCTC has not yet identified or secured funding of the MCP and the future proposed interchanges. As such, timing of the future MCP is currently unknown.

A portion of the MCP and future interchange is planned in the northwestern portion of the site, which would affect the development proposed within Planning Areas 6, 7, and 8A of the proposed Project. In order to accommodate both the potential for the future construction of the MCP while also providing for development of the site in the event that the MCP is not constructed as currently planned, two land use concept plans have been developed for the site (Without and With MCP).

Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, (10th Edition, 2017) and the High Cube Warehouse Trip Generation Study (WSP, January 2019) were used to estimate the trip generation. (3) (4) The proposed Project is anticipated to generate the following:

- Without MCP With Project (Proposed Project): 23,894 vehicle trip-ends per day with 1,720 AM peak hour trips and 2,212 PM peak hour trips (of which 3,916 trip-ends per day are associated with trucks with 236 AM peak hour truck trips and 234 PM peak hour truck trips)
- With MCP With Project (Alternative Project): 23,624 vehicle trip-ends per day with 1,681 AM peak hour trips and 2,180 PM peak hour trips (of which 3,850 trip-ends per day are associated with trucks with 231 AM peak hour truck trips and 230 PM peak hour truck trips)

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 82 off-site study area roadway segments, jurisdiction, surrounding land uses, number of lanes and vehicle speeds. These are the same segments identified in the original NIA. The ADT volumes used in this study area presented on Table 2 are based on the updated *Stoneridge Commerce Center Specific Plan Traffic Impact Analysis* (TIA) prepared by Urban Crossroads, Inc. on February 25, 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)
7. Horizon Year (2040) Without Project (With MCP)
8. Horizon Year (2040) With Project (With 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 from the updated TIA. 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 12 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 (2030) TRAFFIC NOISE LEVEL INCREASES

An analysis of existing plus ambient growth EA (2030) traffic noise levels plus traffic noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the existing traffic scenarios identified in the Traffic Study. Table 5 shows the EA without Project conditions CNEL noise levels. The EA without Project exterior noise levels range from 46.0 to 77.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 6 shows the EA with Project conditions ranging from 46.0 to 77.7 dBA CNEL. Table 13 shows that the Project off-site traffic noise level increases range from 0.0 to 2.2 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 EA conditions. Therefore, no mitigation measures are considered to reduce the EA Plus 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 46.0 to 78.4 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 46.0 to 78.5 dBA CNEL. Table 14 shows that the Project off-site traffic noise level increases range from 0.0 to 1.0 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 46.8 to 79.6 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 46.8 to 79.7 dBA CNEL. Table 15 shows that the Project off-site traffic noise level increases range from 0.0 to 2.4 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) With MCP Traffic Noise Level Increases

Table 11 presents the HY (2040) With MCP without Project conditions CNEL noise levels. The HY (2040) With MCP without Project exterior noise levels range from 45.9 to 79.8 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 12 shows that the HY (2040) With MCP with Project conditions will range from 45.9 to 79.8 dBA CNEL. Table 16 shows that the Project off-site traffic noise level increases range from 0.0 to 1.7 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.

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 82 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	Sanderson Av.	North of Ramona Expy.	City of San Jacinto	Residential and Agricultural	4	55
2	Sanderson Av.	South of Ramona Expy.	City of San Jacinto	Residential and Agricultural	4	55
3	Contour Av.	East of Hansen Av.	Riverside County	Residential and Agricultural	2	25
4	Contour Av.	West of Hansen Av.	Riverside County	Residential and Educational	2	25
5	Hansen Av.	North of Contour Av.	Riverside County	Residential and Agricultural	2	45
6	Hansen Av.	Between Contour Av. and Montgomery Av.	Riverside County	Residential	2	45
7	Nuevo Rd.	East of Montgomery Av.	Riverside County	Residential	2	55
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	Riverside County	Residential and Agricultural	2	55
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	Riverside County	Residential and Agricultural	2	55
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	Riverside County	Residential and Agricultural	2	55
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	Riverside County	Residential and Agricultural	2	55
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	City of Perris	Residential	2	55
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	City of Perris	Residential	4	40
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	City of Perris	Residential, Commercial and Educational	4	40
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	City of Perris	Residential	2	45
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	City of Perris	Residential	2	45
17	Orange Av.	Between Redlands Av. and Perris Blvd.	City of Perris	Residential	2	45
18	Orange Av.	West of Perris Blvd.	City of Perris	Residential and Agricultural	2	45
19	Placentia Av.	East of Redlands Av.	City of Perris	Residential and Agricultural	2	35
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	City of Perris	Residential and Industrial	2	35
21	Rider St.	Between Ramona Expy. and Bradley Rd.	City of Perris	Residential and Educational	4	45
22	Rider St.	Between Bradley Rd. and Evans Rd.	City of Perris	Residential	4	45
23	Rider St.	Between Evans Rd. and Redlands Av.	City of Perris	Residential	4	45
24	Rider St.	Between Redlands Av. and Perris Blvd.	City of Perris	Residential and Industrial	4	45
25	Ramona Exwy.	South of Rider St.	Riverside County	Residential	4	45
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	City of Perris	Residential	4	45
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	City of Perris	Residential	4	45
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	City of Perris	Residential	4	45
29	Ramona Exwy.	West of Redlands Av.	City of Perris	Residential and Agricultural	4	45
30	Ramona Exwy.	East of Sanderson Av.	City of San Jacinto	Residential and Agricultural	4	45

ID	Roadway	Segment	Jurisdiction	Receiving Land Use	Lanes	Vehicle Speed (mph)
31	Ramona Exwy.	West of Sanderson Av.	City of San Jacinto	Residential and Agricultural	4	45
32	Krameria	West of Perris Blvd.	City of Moreno Valley	Residential and Industrial	4	35
33	Krameria	Between Perris Blvd. and Lasselle St.	City of Moreno Valley	Residential	4	35
34	Krameria	East of Lasselle St.	City of Moreno Valley	Residential	4	35
35	Iris Av.	West of Perris Blvd.	City of Moreno Valley	Residential and Educational	4	50
36	Iris Av.	West of Perris Blvd. and Lasselle St.	City of Moreno Valley	Residential	4	50
37	Iris Av.	East of Lasselle St.	City of Moreno Valley	Residential and Commercial	4	50
38	San Jacinto Av.	East of Menifee Rd.	Riverside County	Residential and Agricultural	2	35
39	San Jacinto Av.	West of Menifee Rd.	Riverside County	Residential and Agricultural	4	35
40	Ellis Rd.	West of Menifee Rd.	Riverside County	Residential	2	35
41	Mapes Rd.	East of Menifee Rd.	Riverside County	Residential	2	35
42	Mapes Rd.	West of Menifee Rd.	Riverside County	Residential	2	35
43	Watson Rd.	East of Menifee Rd.	Riverside County	Residential	2	35
44	Watson Rd.	West of Menifee Rd.	Riverside County	Residential	2	35
45	State Route 74	East of Menifee Rd.	Riverside County	Residential	4	50
46	State Route 74	West of Menifee Rd.	Riverside County	Residential	4	50
47	Lakeview Av.	North of Nuevo Rd.	Riverside County	Residential and Agricultural	2	45
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	Riverside County	Residential	2	35
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	Riverside County	Residential	2	35
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	Riverside County	Residential	2	35
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	City of Menifee	Residential	2	35
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	City of Menifee	Residential	2	35
53	Reservoir Av./Menifee Rd.	South of SR-74	City of Menifee	Residential	2	35
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	Riverside County	Residential	2	45
55	Dunlap Dr.	South of Nuevo Rd.	City of Perris	Residential	2	45
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	City of Perris	Residential	2	35
57	Bradley Rd.	South of Rider St.	City of Perris	Residential	2	35
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	City of Perris	Residential	2	40
59	Evans Rd.	Between Orange Av. And Rider St.	City of Perris	Residential	2	40
60	Evans Rd.	Between Rider St. and Ramona Exwy.	City of Perris	Residential	4	40
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	City of Moreno Valley	Residential	4	40
62	Evans Rd.	Between Krameria Av. and Iris Av.	City of Moreno Valley	Residential	4	40
63	Murrieta Rd.	North of Nuevo Rd.	City of Perris	Residential	2	25

ID	Roadway	Segment	Jurisdiction	Receiving Land Use	Lanes	Vehicle Speed (mph)
64	Murrieta Rd.	South of Nuevo Rd.	City of Perris	Residential and Educational	2	25
65	Redlands Av.	South of Nuevo Rd.	City of Perris	Residential	2	45
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	City of Perris	Residential	2	45
67	Redlands Av.	Between Orange Av. and Placentia Av.	City of Perris	Residential	2	45
68	Perris Blvd.	North of Iris Av.	City of Moreno Valley	Residential and Industrial	4	40
69	Perris Blvd.	Between Iris Av. And Krameria Av.	City of Moreno Valley	Residential and Industrial	4	40
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	City of Moreno Valley	Residential and Industrial	4	40
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	City of Moreno Valley	Residential and Industrial	4	40
72	Perris Blvd.	Between Placentia Av. and Rider St.	City of Moreno Valley	Residential and Industrial	4	40
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	City of Moreno Valley	Residential and Industrial	4	40
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	City of Moreno Valley	Residential and Industrial	4	40
75	Indian Av.	South of Placentia Av.	City of Moreno Valley	Residential and Industrial	2	35
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	City of Moreno Valley	Residential and Industrial	2	35
77	Webster Av.	South of Ramona Exwy.	City of Moreno Valley	Residential and Industrial	2	35
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	City of Moreno Valley	Residential and Industrial	2	35
79	I-215 Fwy.	North of Ramona Exwy.	City of Perris	Residential and Industrial	6	65
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	City of Perris	Educational, Residential and Industrial	6	65
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	City of Perris	Educational, Residential and Industrial	6	65
82	I-215 Fwy.	South of Nuevo Rd.	City of Perris	Educational, Residential and Industrial	6	65

[1] Noise Impact Analysis for the Stoneridge Commerce Center Specific Plan, ECORP Consulting, Inc.

TABLE 2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes (PCE)[1]							
			Existing (2020)		EAC (2030)		HY (2040) (Without MCP)		HY (2040) (With MCP)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Sanderson Av.	North of Ramona Expy.	49,769	50,357	86,069	86,657	103,608	104,002	89,145	89,535
2	Sanderson Av.	South of Ramona Expy.	28,049	28,445	58,992	59,388	71,005	71,205	75,034	75,820
3	Contour Av.	East of Hansen Av.	3,520	3,916	6,191	6,587	7,876	8,076	4,209	4,407
4	Contour Av.	West of Hansen Av.	860	860	1,048	1,048	1,253	1,253	1,028	1,028
5	Hansen Av.	North of Contour Av.	4,164	4,164	7,476	7,476	8,938	9,138	4,978	5,176
6	Hansen Av.	Between Contour Av. and Montgomery Av.	3,545	3,941	5,522	5,918	7,075	7,475	4,239	4,635
7	Nuevo Rd.	East of Montgomery Av.	3,347	3,743	6,080	6,476	7,743	8,143	4,002	4,398
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	3,731	4,127	5,748	6,144	7,346	7,746	4,461	4,857
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	11,242	11,836	16,604	17,198	20,562	21,162	13,441	14,035
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	6,750	8,926	55,528	57,704	68,992	71,590	48,297	50,869
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	10,246	15,784	44,390	49,928	59,694	63,490	27,660	29,440
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	9,602	14,744	45,105	50,247	60,076	63,672	27,837	29,419
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	15,814	20,560	48,678	53,424	63,874	66,670	50,532	51,322
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	19,687	23,641	50,599	54,553	65,224	67,622	51,704	52,100
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	5,630	5,630	6,863	6,863	8,206	14,198	6,732	9,896
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	8,613	8,613	10,499	10,499	12,552	17,746	10,297	12,669
17	Orange Av.	Between Redlands Av. and Perris Blvd.	13,123	13,123	15,997	15,997	19,126	19,926	15,690	16,480
18	Orange Av.	West of Perris Blvd.	12,727	12,727	15,514	15,514	18,549	18,949	15,217	15,613
19	Placentia Av.	East of Redlands Av.	12,467	12,467	15,197	15,197	18,170	22,566	14,906	16,488
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	13,123	13,123	15,997	15,997	19,126	19,926	15,690	16,480
21	Rider St.	Between Ramona Expy. and Bradley Rd.	5,432	7,606	16,622	18,796	22,473	22,473	13,355	13,355
22	Rider St.	Between Bradley Rd. and Evans Rd.	7,152	8,536	25,319	26,703	31,926	31,926	18,973	18,973
23	Rider St.	Between Evans Rd. and Redlands Av.	14,880	15,670	19,935	20,725	24,779	24,779	17,791	17,791
24	Rider St.	Between Redlands Av. and Perris Blvd.	12,405	12,801	16,743	17,139	20,492	20,492	14,832	14,832
25	Ramona Exwy.	South of Rider St.	25,322	44,608	92,367	111,653	133,494	147,450	70,681	75,415
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	3,780	3,780	4,608	4,608	5,510	6,110	4,520	5,114
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	25,782	42,892	82,828	99,938	119,487	132,843	74,540	78,682
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	37,067	52,793	94,685	110,411	132,725	144,283	63,740	66,102

ID	Roadway	Segment	Average Daily Traffic Volumes (PCE)[1]							
			Existing (2020)		EAC (2030)		HY (2040) (Without MCP)		HY (2040) (With MCP)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
29	Ramona Exwy.	West of Redlands Av.	32,309	38,637	90,238	96,566	115,456	117,454	55,447	57,425
30	Ramona Exwy.	East of Sanderson Av.	27,892	28,288	43,400	43,796	52,363	52,763	33,348	33,744
31	Ramona Exwy.	West of Sanderson Av.	25,664	27,044	56,685	58,065	69,423	70,417	73,363	73,363
32	Krameria	West of Perris Blvd.	4,300	4,300	5,582	5,582	6,674	6,674	5,715	5,715
33	Krameria	Between Perris Blvd. and Lasselle St.	12,993	13,191	17,678	17,876	21,373	21,573	15,535	15,733
34	Krameria	East of Lasselle St.	12,362	12,362	16,738	16,738	20,012	20,012	14,780	14,780
35	Iris Av.	West of Perris Blvd.	18,920	18,920	25,337	25,337	30,293	30,293	22,621	22,621
36	Iris Av.	West of Perris Blvd. and Lasselle St.	20,486	20,486	27,553	27,553	32,943	32,943	24,493	24,493
37	Iris Av.	East of Lasselle St.	27,984	28,380	39,963	40,359	48,254	48,654	38,830	39,226
38	San Jacinto Av.	East of Menifee Rd.	668	866	815	1,013	1,211	1,411	1,090	1,288
39	San Jacinto Av.	West of Menifee Rd.	7,295	7,493	15,792	15,990	19,118	19,318	17,211	17,409
40	Ellis Rd.	West of Menifee Rd.	681	879	9,530	9,728	11,630	11,830	11,104	11,302
41	Mapes Rd.	East of Menifee Rd.	3,916	3,916	6,074	6,074	7,262	7,262	7,271	7,271
42	Mapes Rd.	West of Menifee Rd.	3,155	3,155	3,846	3,846	4,599	4,799	4,604	4,802
43	Watson Rd.	East of Menifee Rd.	5,154	5,352	6,283	6,481	7,748	7,948	7,921	8,119
44	Watson Rd.	West of Menifee Rd.	3,310	3,508	4,035	4,233	5,061	5,070	5,174	5,174
45	State Route 74	East of Menifee Rd.	18,493	18,691	22,543	22,741	27,190	27,590	50,812	51,208
46	State Route 74	West of Menifee Rd.	18,995	19,193	23,154	23,352	27,920	28,120	50,962	51,160
47	Lakeview Av.	North of Nuevo Rd.	7,808	8,006	10,418	10,616	12,693	12,893	9,336	9,534
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	9,800	11,382	33,247	34,829	41,642	43,640	37,488	39,466
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	8,056	9,242	32,420	33,606	40,180	41,778	38,362	39,944
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	8,390	9,378	36,227	37,215	44,495	45,893	44,546	45,930
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	6,101	7,091	34,737	35,727	42,715	43,913	43,670	44,856
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	7,636	8,230	36,608	37,202	44,480	45,480	38,320	39,310
53	Reservoir Av./Menifee Rd.	South of SR-74	9,881	10,079	39,345	39,543	47,278	47,678	40,731	41,127
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	3,954	4,350	8,219	8,615	10,301	10,301	4,727	4,727
55	Dunlap Dr.	South of Nuevo Rd.	910	910	1,109	1,109	1,326	1,526	2,402	2,600
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	2,617	3,407	3,190	3,980	4,759	4,759	3,129	3,129
57	Bradley Rd.	South of Rider St.	637	637	777	777	929	929	762	762
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	10,036	10,036	18,333	18,333	21,920	21,920	11,999	11,999

ID	Roadway	Segment	Average Daily Traffic Volumes (PCE)[1]							
			Existing (2020)		EAC (2030)		HY (2040) (Without MCP)		HY (2040) (With MCP)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
59	Evans Rd.	Between Orange Av. And Rider St.	10,778	10,778	13,138	13,138	15,708	16,108	24,683	25,079
60	Evans Rd.	Between Rider St. and Ramona Exwy.	14,577	14,775	19,329	19,527	17,956	17,956	23,809	23,809
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	25,027	26,411	42,402	43,786	52,351	53,949	32,658	34,240
62	Evans Rd.	Between Krameria Av. and Iris Av.	24,365	25,155	32,638	33,428	39,967	40,567	34,293	34,887
63	Murrieta Rd.	North of Nuevo Rd.	3,650	3,848	7,250	7,448	8,905	8,905	7,045	7,045
64	Murrieta Rd.	South of Nuevo Rd.	5,154	5,352	12,983	13,181	15,759	16,159	12,467	12,863
65	Redlands Av.	South of Nuevo Rd.	11,440	11,836	15,645	16,041	19,179	19,579	13,678	14,074
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	6,243	6,639	8,510	8,906	10,648	10,648	7,464	7,464
67	Redlands Av.	Between Orange Av. and Placentia Av.	5,834	5,834	7,112	7,112	8,503	11,699	17,102	17,498
68	Perris Blvd.	North of Iris Av.	21,834	22,032	26,822	27,020	32,306	32,506	27,778	28,168
69	Perris Blvd.	Between Iris Av. And Krameria Av.	24,315	24,909	29,938	30,532	36,505	36,905	32,000	32,588
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	27,291	28,081	33,350	34,140	40,818	41,418	32,630	33,416
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	21,104	21,104	30,344	30,344	36,280	36,280	28,668	28,668
72	Perris Blvd.	Between Placentia Av. and Rider St.	23,412	23,412	31,136	31,136	37,227	37,227	27,992	27,992
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	22,391	22,391	27,295	27,295	32,634	32,634	33,104	33,104
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	28,201	28,597	34,377	34,773	38,250	38,250	47,100	47,100
75	Indian Av.	South of Placentia Av.	4,096	4,096	6,573	6,573	7,859	7,859	5,930	5,930
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	8,031	8,031	11,072	11,072	13,237	13,437	13,392	13,590
77	Webster Av.	South of Ramona Exwy.	3,496	3,496	4,944	4,944	5,911	5,911	4,180	4,180
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	6,070	6,268	8,228	8,426	10,074	10,074	15,310	15,310
79	I-215 Fwy.	North of Ramona Exwy.	91,414	94,841	136,726	140,152	179,736	183,163	188,593	188,993
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	86,887	90,313	122,401	125,828	151,124	154,551	176,223	176,470
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	86,887	87,988	121,634	122,735	146,745	147,846	138,754	139,002
82	I-215 Fwy.	South of Nuevo Rd.	92,540	96,090	125,942	129,492	159,598	163,148	145,459	145,706

[1] Stoneridge Commerce Center Specific Plan Traffic Impact Analysis, 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 (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	Sanderson Av.	North of Ramona Expy.	72.1	138	297	639
2	Sanderson Av.	South of Ramona Expy.	69.6	94	202	436
3	Contour Av.	East of Hansen Av.	52.1	6	14	30
4	Contour Av.	West of Hansen Av.	46.0	3	5	12
5	Hansen Av.	North of Contour Av.	59.0	19	40	86
6	Hansen Av.	Between Contour Av. and Montgomery Av.	58.3	17	36	77
7	Nuevo Rd.	East of Montgomery Av.	60.3	22	48	104
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	60.7	24	52	112
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	65.5	50	108	234
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	63.3	36	77	166
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	65.1	47	102	220
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	64.8	45	98	210
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	63.6	38	81	175
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	64.6	44	94	202
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.3	23	49	105
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.2	30	65	140
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.0	40	86	185
18	Orange Av.	West of Perris Blvd.	63.9	39	84	181
19	Placentia Av.	East of Redlands Av.	61.1	25	55	118
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.3	26	57	122
21	Rider St.	Between Ramona Expy. and Bradley Rd.	60.3	22	48	104

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
22	Rider St.	Between Bradley Rd. and Evans Rd.	61.5	27	58	125
23	Rider St.	Between Evans Rd. and Redlands Av.	64.6	44	95	204
24	Rider St.	Between Redlands Av. and Perris Blvd.	63.9	39	84	181
25	Ramona Exwy.	South of Rider St.	66.9	63	135	291
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.7	18	38	82
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	67.0	63	137	294
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	68.6	81	174	375
29	Ramona Exwy.	West of Redlands Av.	68.0	74	159	342
30	Ramona Exwy.	East of Sanderson Av.	67.4	67	144	310
31	Ramona Exwy.	West of Sanderson Av.	67.0	63	136	293
32	Krameria	West of Perris Blvd.	56.6	13	27	59
33	Krameria	Between Perris Blvd. and Lasselle St.	61.4	27	57	123
34	Krameria	East of Lasselle St.	61.1	26	55	119
35	Iris Av.	West of Perris Blvd.	66.8	62	133	286
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.2	65	140	301
37	Iris Av.	East of Lasselle St.	68.5	80	172	371
38	San Jacinto Av.	East of Menifee Rd.	48.4	4	8	17
39	San Jacinto Av.	West of Menifee Rd.	58.9	18	39	84
40	Ellis Rd.	West of Menifee Rd.	48.5	4	8	17
41	Mapes Rd.	East of Menifee Rd.	56.1	12	25	55
42	Mapes Rd.	West of Menifee Rd.	55.1	10	22	47
43	Watson Rd.	East of Menifee Rd.	57.3	14	30	66
44	Watson Rd.	West of Menifee Rd.	55.3	11	23	49
45	State Route 74	East of Menifee Rd.	66.7	61	131	281
46	State Route 74	West of Menifee Rd.	66.9	62	133	286
47	Lakeview Av.	North of Nuevo Rd.	61.7	28	61	131
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	60.0	22	47	101
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	59.2	19	41	88
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	59.4	20	42	91
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	58.0	16	34	73
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	59.0	18	40	85
53	Reservoir Av./Menifee Rd.	South of SR-74	60.1	22	47	101
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	58.8	18	39	83
55	Dunlap Dr.	South of Nuevo Rd.	52.4	7	14	31
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.3	9	19	42
57	Bradley Rd.	South of Rider St.	48.2	4	8	16
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	61.6	27	59	127
59	Evans Rd.	Between Orange Av. And Rider St.	61.9	29	62	133
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.3	36	77	165
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	65.6	51	110	237
62	Evans Rd.	Between Krameria Av. and Iris Av.	65.5	50	108	233
63	Murrieta Rd.	North of Nuevo Rd.	52.3	7	14	31
64	Murrieta Rd.	South of Nuevo Rd.	53.8	8	18	39

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
65	Redlands Av.	South of Nuevo Rd.	63.4	36	78	169
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	60.8	24	52	113
67	Redlands Av.	Between Orange Av. and Placentia Av.	60.5	23	50	108
68	Perris Blvd.	North of Iris Av.	65.0	47	101	217
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.5	50	108	233
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.0	54	117	251
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	64.9	46	98	212
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.3	49	105	227
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.1	47	102	220
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.1	55	119	257
75	Indian Av.	South of Placentia Av.	56.3	12	26	56
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	59.2	19	41	88
77	Webster Av.	South of Ramona Exwy.	55.6	11	23	51
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	58.0	16	34	73
79	I-215 Fwy.	North of Ramona Exwy.	77.5	317	682	1469
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	77.3	306	659	1420
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	77.3	306	659	1420
82	I-215 Fwy.	South of Nuevo Rd.	77.6	319	688	1481

TABLE 6: EA (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	Sanderson Av.	North of Ramona Expy.	72.1	139	299	643
2	Sanderson Av.	South of Ramona Expy.	69.6	95	204	440
3	Contour Av.	East of Hansen Av.	52.5	7	15	32
4	Contour Av.	West of Hansen Av.	46.0	3	5	12
5	Hansen Av.	North of Contour Av.	59.0	19	40	86
6	Hansen Av.	Between Contour Av. and Montgomery Av.	58.7	18	38	82
7	Nuevo Rd.	East of Montgomery Av.	60.7	24	51	111
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	61.1	26	55	118
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	65.7	52	112	240
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	64.3	42	90	194
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	66.7	60	130	281
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	66.4	58	124	268
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	64.6	44	94	202
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	65.2	48	104	224
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.3	23	49	105
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.2	30	65	140
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.0	40	86	185
18	Orange Av.	West of Perris Blvd.	63.9	39	84	181
19	Placentia Av.	East of Redlands Av.	61.1	25	55	118
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.3	26	57	122
21	Rider St.	Between Ramona Expy. and Bradley Rd.	61.5	27	58	126
22	Rider St.	Between Bradley Rd. and Evans Rd.	62.1	30	64	138
23	Rider St.	Between Evans Rd. and Redlands Av.	64.8	45	97	210
24	Rider St.	Between Redlands Av. and Perris Blvd.	64.0	40	85	184
25	Ramona Exwy.	South of Rider St.	69.1	87	186	402
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.7	18	38	82
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	68.9	85	182	393
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	69.9	99	212	457
29	Ramona Exwy.	West of Redlands Av.	68.7	81	175	378
30	Ramona Exwy.	East of Sanderson Av.	67.4	67	145	312
31	Ramona Exwy.	West of Sanderson Av.	67.2	65	140	302
32	Krameria	West of Perris Blvd.	56.6	13	27	59
33	Krameria	Between Perris Blvd. and Lasselle St.	61.4	27	58	124
34	Krameria	East of Lasselle St.	61.1	26	55	119
35	Iris Av.	West of Perris Blvd.	66.8	62	133	286
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.2	65	140	301
37	Iris Av.	East of Lasselle St.	68.6	80	173	374
38	San Jacinto Av.	East of Menifee Rd.	49.3	4	9	19
39	San Jacinto Av.	West of Menifee Rd.	58.9	18	40	85
40	Ellis Rd.	West of Menifee Rd.	49.4	4	9	20
41	Mapes Rd.	East of Menifee Rd.	56.1	12	25	55

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
42	Mapes Rd.	West of Menifee Rd.	55.1	10	22	47
43	Watson Rd.	East of Menifee Rd.	57.4	14	31	67
44	Watson Rd.	West of Menifee Rd.	55.5	11	23	50
45	State Route 74	East of Menifee Rd.	66.8	61	131	283
46	State Route 74	West of Menifee Rd.	66.9	62	134	288
47	Lakeview Av.	North of Nuevo Rd.	61.8	29	62	133
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	60.6	24	51	109
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	59.7	21	44	95
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	59.8	21	45	96
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	58.5	17	37	80
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	59.2	19	41	89
53	Reservoir Av./Menifee Rd.	South of SR-74	60.1	22	47	102
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	59.1	19	41	88
55	Dunlap Dr.	South of Nuevo Rd.	52.4	7	14	31
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	55.3	10	22	48
57	Bradley Rd.	South of Rider St.	48.2	4	8	16
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	61.6	27	59	127
59	Evans Rd.	Between Orange Av. And Rider St.	61.9	29	62	133
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.3	36	77	167
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	65.8	53	113	244
62	Evans Rd.	Between Krameria Av. and Iris Av.	65.6	51	110	237
63	Murrieta Rd.	North of Nuevo Rd.	52.5	7	15	31
64	Murrieta Rd.	South of Nuevo Rd.	53.9	8	18	39
65	Redlands Av.	South of Nuevo Rd.	63.5	37	80	172
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	61.0	25	54	116
67	Redlands Av.	Between Orange Av. and Placentia Av.	60.5	23	50	108
68	Perris Blvd.	North of Iris Av.	65.1	47	101	218
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.6	51	109	236
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.1	55	119	255
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	64.9	46	98	212
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.3	49	105	227
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.1	47	102	220
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.2	56	120	259
75	Indian Av.	South of Placentia Av.	56.3	12	26	56
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	59.2	19	41	88
77	Webster Av.	South of Ramona Exwy.	55.6	11	23	51
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	58.1	16	35	74
79	I-215 Fwy.	North of Ramona Exwy.	77.6	323	696	1499
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	77.4	313	673	1451
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	77.3	308	664	1430
82	I-215 Fwy.	South of Nuevo Rd.	77.7	326	702	1512

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	Sanderson Av.	North of Ramona Expy.	73.6	174	375	807
2	Sanderson Av.	South of Ramona Expy.	72.0	135	291	627
3	Contour Av.	East of Hansen Av.	53.7	8	18	38
4	Contour Av.	West of Hansen Av.	46.0	3	5	12
5	Hansen Av.	North of Contour Av.	60.7	24	52	111
6	Hansen Av.	Between Contour Av. and Montgomery Av.	59.4	20	42	91
7	Nuevo Rd.	East of Montgomery Av.	62.0	29	63	136
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	61.8	28	61	131
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	66.4	57	123	266
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	71.6	128	276	594
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	70.6	110	237	512
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	70.7	111	240	517
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	67.7	70	150	324
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	67.8	72	154	332
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.3	23	49	105
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.2	30	65	140
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.0	40	86	185
18	Orange Av.	West of Perris Blvd.	63.9	39	84	181
19	Placentia Av.	East of Redlands Av.	61.1	25	55	118
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.3	26	57	122
21	Rider St.	Between Ramona Expy. and Bradley Rd.	64.3	41	89	192
22	Rider St.	Between Bradley Rd. and Evans Rd.	66.1	55	118	255
23	Rider St.	Between Evans Rd. and Redlands Av.	65.1	47	101	217
24	Rider St.	Between Redlands Av. and Perris Blvd.	64.3	42	90	193
25	Ramona Exwy.	South of Rider St.	71.7	130	280	603
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.7	18	38	82
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	71.2	121	260	561
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	71.8	132	285	614
29	Ramona Exwy.	West of Redlands Av.	71.6	128	276	594
30	Ramona Exwy.	East of Sanderson Av.	68.4	79	169	365
31	Ramona Exwy.	West of Sanderson Av.	69.6	94	202	436
32	Krameria	West of Perris Blvd.	56.8	13	29	61
33	Krameria	Between Perris Blvd. and Lasselle St.	61.8	29	62	133
34	Krameria	East of Lasselle St.	61.6	28	59	128
35	Iris Av.	West of Perris Blvd.	67.2	65	141	304
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.6	69	149	321
37	Iris Av.	East of Lasselle St.	69.2	89	191	412
38	San Jacinto Av.	East of Menifee Rd.	48.4	4	8	17
39	San Jacinto Av.	West of Menifee Rd.	61.3	26	57	123
40	Ellis Rd.	West of Menifee Rd.	59.1	19	40	87
41	Mapes Rd.	East of Menifee Rd.	57.1	14	30	64

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
42	Mapes Rd.	West of Menifee Rd.	55.1	10	22	47
43	Watson Rd.	East of Menifee Rd.	57.3	14	30	66
44	Watson Rd.	West of Menifee Rd.	55.3	11	23	49
45	State Route 74	East of Menifee Rd.	66.7	61	131	281
46	State Route 74	West of Menifee Rd.	66.9	62	133	286
47	Lakeview Av.	North of Nuevo Rd.	62.1	30	64	139
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	64.5	43	92	199
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	64.4	42	91	196
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	64.9	45	98	211
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	64.7	44	95	205
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	64.9	46	99	212
53	Reservoir Av./Menifee Rd.	South of SR-74	65.2	48	103	223
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	61.1	26	55	119
55	Dunlap Dr.	South of Nuevo Rd.	52.4	7	14	31
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.3	9	19	42
57	Bradley Rd.	South of Rider St.	48.2	4	8	16
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	63.3	36	77	166
59	Evans Rd.	Between Orange Av. And Rider St.	61.9	29	62	133
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.6	38	81	175
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	67.1	64	137	295
62	Evans Rd.	Between Krameria Av. and Iris Av.	65.9	53	115	248
63	Murrieta Rd.	North of Nuevo Rd.	54.4	9	20	42
64	Murrieta Rd.	South of Nuevo Rd.	56.9	13	29	62
65	Redlands Av.	South of Nuevo Rd.	63.9	39	85	182
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	61.3	26	56	121
67	Redlands Av.	Between Orange Av. and Placentia Av.	60.5	23	50	108
68	Perris Blvd.	North of Iris Av.	65.1	47	101	218
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.5	50	109	234
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.0	54	117	252
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	65.6	51	110	236
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.7	52	112	240
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.1	47	102	220
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.1	55	119	257
75	Indian Av.	South of Placentia Av.	57.4	15	31	68
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	59.7	21	44	96
77	Webster Av.	South of Ramona Exwy.	56.2	12	26	56
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	58.4	17	36	78
79	I-215 Fwy.	North of Ramona Exwy.	78.4	363	782	1684
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	77.9	337	726	1564
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	77.9	336	723	1558
82	I-215 Fwy.	South of Nuevo Rd.	78.0	343	740	1594

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	Sanderson Av.	North of Ramona Expy.	73.6	175	376	811
2	Sanderson Av.	South of Ramona Expy.	72.0	136	293	630
3	Contour Av.	East of Hansen Av.	54.0	9	18	40
4	Contour Av.	West of Hansen Av.	46.0	3	5	12
5	Hansen Av.	North of Contour Av.	60.7	24	52	111
6	Hansen Av.	Between Contour Av. and Montgomery Av.	59.7	21	44	95
7	Nuevo Rd.	East of Montgomery Av.	62.3	31	66	142
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	62.0	29	64	137
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	66.5	59	126	272
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	71.8	131	283	609
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	71.1	119	257	553
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	71.2	120	258	556
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	68.1	74	160	345
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	68.2	75	162	350
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.3	23	49	105
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.2	30	65	140
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.0	40	86	185
18	Orange Av.	West of Perris Blvd.	63.9	39	84	181
19	Placentia Av.	East of Redlands Av.	61.1	25	55	118
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.3	26	57	122
21	Rider St.	Between Ramona Expy. and Bradley Rd.	64.8	45	97	209
22	Rider St.	Between Bradley Rd. and Evans Rd.	66.3	57	122	264
23	Rider St.	Between Evans Rd. and Redlands Av.	65.2	48	103	223
24	Rider St.	Between Redlands Av. and Perris Blvd.	64.4	42	91	196
25	Ramona Exwy.	South of Rider St.	72.5	148	318	685
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.7	18	38	82
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	72.1	137	295	636
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	72.5	146	316	680
29	Ramona Exwy.	West of Redlands Av.	71.9	134	289	622
30	Ramona Exwy.	East of Sanderson Av.	68.5	79	170	367
31	Ramona Exwy.	West of Sanderson Av.	69.7	95	206	443
32	Krameria	West of Perris Blvd.	56.8	13	29	61
33	Krameria	Between Perris Blvd. and Lasselle St.	61.9	29	62	134
34	Krameria	East of Lasselle St.	61.6	28	59	128
35	Iris Av.	West of Perris Blvd.	67.2	65	141	304
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.6	69	149	321
37	Iris Av.	East of Lasselle St.	69.3	89	192	415
38	San Jacinto Av.	East of Menifee Rd.	49.3	4	9	19
39	San Jacinto Av.	West of Menifee Rd.	61.4	27	58	124
40	Ellis Rd.	West of Menifee Rd.	59.1	19	41	88
41	Mapes Rd.	East of Menifee Rd.	57.1	14	30	64

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
42	Mapes Rd.	West of Menifee Rd.	55.1	10	22	47
43	Watson Rd.	East of Menifee Rd.	57.4	14	31	67
44	Watson Rd.	West of Menifee Rd.	55.5	11	23	50
45	State Route 74	East of Menifee Rd.	66.8	61	131	283
46	State Route 74	West of Menifee Rd.	66.9	62	134	288
47	Lakeview Av.	North of Nuevo Rd.	62.2	30	65	141
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	64.7	44	95	205
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	64.5	43	93	201
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.0	46	100	215
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	64.8	45	97	209
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.0	46	100	215
53	Reservoir Av./Menifee Rd.	South of SR-74	65.2	48	104	224
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	61.3	26	57	122
55	Dunlap Dr.	South of Nuevo Rd.	52.4	7	14	31
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	55.3	10	22	48
57	Bradley Rd.	South of Rider St.	48.2	4	8	16
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	63.3	36	77	166
59	Evans Rd.	Between Orange Av. And Rider St.	61.9	29	62	133
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.7	38	82	176
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	67.2	65	140	302
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.0	54	117	252
63	Murrieta Rd.	North of Nuevo Rd.	54.5	9	20	43
64	Murrieta Rd.	South of Nuevo Rd.	57.0	14	29	63
65	Redlands Av.	South of Nuevo Rd.	64.0	40	86	185
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	61.5	27	58	125
67	Redlands Av.	Between Orange Av. and Placentia Av.	60.5	23	50	108
68	Perris Blvd.	North of Iris Av.	65.1	47	102	219
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.6	51	110	237
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.1	55	119	256
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	65.6	51	110	236
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.7	52	112	240
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.1	47	102	220
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.2	56	120	259
75	Indian Av.	South of Placentia Av.	57.4	15	31	68
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	59.7	21	44	96
77	Webster Av.	South of Ramona Exwy.	56.2	12	26	56
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	58.5	17	37	80
79	I-215 Fwy.	North of Ramona Exwy.	78.5	369	795	1712
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	78.0	343	740	1593
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	77.9	338	727	1567
82	I-215 Fwy.	South of Nuevo Rd.	78.2	350	754	1624

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	Sanderson Av.	North of Ramona Expy.	74.4	197	424	913
2	Sanderson Av.	South of Ramona Expy.	72.8	153	330	710
3	Contour Av.	East of Hansen Av.	54.8	10	21	45
4	Contour Av.	West of Hansen Av.	46.8	3	6	13
5	Hansen Av.	North of Contour Av.	61.5	27	58	125
6	Hansen Av.	Between Contour Av. and Montgomery Av.	60.5	23	50	107
7	Nuevo Rd.	East of Montgomery Av.	63.0	34	74	160
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	62.8	33	72	154
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	67.3	66	142	306
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	72.5	148	319	686
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	71.9	134	289	623
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	71.9	135	291	626
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	68.8	84	180	388
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	68.9	85	183	394
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	61.1	26	55	118
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.9	34	73	157
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.8	45	97	208
18	Orange Av.	West of Perris Blvd.	64.6	44	95	204
19	Placentia Av.	East of Redlands Av.	61.9	29	62	133
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	62.1	30	64	138
21	Rider St.	Between Ramona Expy. and Bradley Rd.	65.6	51	109	235
22	Rider St.	Between Bradley Rd. and Evans Rd.	67.1	64	138	297
23	Rider St.	Between Evans Rd. and Redlands Av.	66.0	54	117	251
24	Rider St.	Between Redlands Av. and Perris Blvd.	65.2	48	103	221
25	Ramona Exwy.	South of Rider St.	73.3	166	358	771
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	59.5	20	43	92
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	72.8	154	333	716
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	73.3	166	357	768
29	Ramona Exwy.	West of Redlands Av.	72.7	151	325	700
30	Ramona Exwy.	East of Sanderson Av.	69.2	89	192	413
31	Ramona Exwy.	West of Sanderson Av.	70.5	107	232	499
32	Krameria	West of Perris Blvd.	57.6	15	32	69
33	Krameria	Between Perris Blvd. and Lasselle St.	62.7	32	70	150
34	Krameria	East of Lasselle St.	62.4	31	67	144
35	Iris Av.	West of Perris Blvd.	68.0	74	159	342
36	Iris Av.	West of Perris Blvd. and Lasselle St.	68.4	78	168	362
37	Iris Av.	East of Lasselle St.	70.0	101	217	467
38	San Jacinto Av.	East of Menifee Rd.	50.1	5	10	22
39	San Jacinto Av.	West of Menifee Rd.	62.2	30	65	140
40	Ellis Rd.	West of Menifee Rd.	59.9	21	46	99
41	Mapes Rd.	East of Menifee Rd.	57.9	16	34	72

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
42	Mapes Rd.	West of Menifee Rd.	55.9	11	25	53
43	Watson Rd.	East of Menifee Rd.	58.2	16	35	75
44	Watson Rd.	West of Menifee Rd.	56.3	12	26	57
45	State Route 74	East of Menifee Rd.	67.5	69	148	319
46	State Route 74	West of Menifee Rd.	67.7	70	151	324
47	Lakeview Av.	North of Nuevo Rd.	63.0	34	74	158
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	65.5	50	107	231
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	65.3	49	105	226
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.8	52	112	242
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	65.6	51	109	235
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.8	52	112	242
53	Reservoir Av./Menifee Rd.	South of SR-74	66.0	54	117	252
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	62.1	30	64	138
55	Dunlap Dr.	South of Nuevo Rd.	53.2	8	16	35
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	56.0	12	25	54
57	Bradley Rd.	South of Rider St.	48.9	4	9	18
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	64.1	40	87	188
59	Evans Rd.	Between Orange Av. And Rider St.	62.6	32	70	150
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.3	36	77	167
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	68.0	73	158	340
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.8	61	132	284
63	Murrieta Rd.	North of Nuevo Rd.	55.3	10	23	49
64	Murrieta Rd.	South of Nuevo Rd.	57.8	15	33	71
65	Redlands Av.	South of Nuevo Rd.	64.8	45	97	209
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	62.2	30	65	141
67	Redlands Av.	Between Orange Av. and Placentia Av.	61.3	26	56	121
68	Perris Blvd.	North of Iris Av.	65.9	53	114	246
69	Perris Blvd.	Between Iris Av. And Krameria Av.	66.4	58	124	267
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.9	62	134	288
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	66.4	57	124	266
72	Perris Blvd.	Between Placentia Av. and Rider St.	66.5	58	126	271
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.9	53	115	248
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.6	59	128	276
75	Indian Av.	South of Placentia Av.	58.2	16	35	76
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	60.5	23	50	108
77	Webster Av.	South of Ramona Exwy.	57.0	14	29	63
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	59.3	19	42	90
79	I-215 Fwy.	North of Ramona Exwy.	79.6	435	938	2021
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	78.8	388	836	1800
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	78.7	380	819	1765
82	I-215 Fwy.	South of Nuevo Rd.	79.1	402	867	1867

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	Sanderson Av.	North of Ramona Expy.	74.4	197	425	916
2	Sanderson Av.	South of Ramona Expy.	72.8	153	330	711
3	Contour Av.	East of Hansen Av.	54.9	10	21	46
4	Contour Av.	West of Hansen Av.	46.8	3	6	13
5	Hansen Av.	North of Contour Av.	61.6	27	59	127
6	Hansen Av.	Between Contour Av. and Montgomery Av.	60.7	24	52	111
7	Nuevo Rd.	East of Montgomery Av.	63.3	36	77	165
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	63.1	34	74	160
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	67.4	67	145	312
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	72.7	152	327	704
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	72.2	140	301	649
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	72.2	140	302	651
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	69.0	86	185	400
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	69.1	87	187	403
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	63.5	37	79	171
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	64.5	43	92	198
17	Orange Av.	Between Redlands Av. and Perris Blvd.	65.0	46	99	214
18	Orange Av.	West of Perris Blvd.	64.7	45	96	207
19	Placentia Av.	East of Redlands Av.	62.8	33	71	154
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	62.3	30	66	142
21	Rider St.	Between Ramona Expy. and Bradley Rd.	65.6	51	109	235
22	Rider St.	Between Bradley Rd. and Evans Rd.	67.1	64	138	297
23	Rider St.	Between Evans Rd. and Redlands Av.	66.0	54	117	251
24	Rider St.	Between Redlands Av. and Perris Blvd.	65.2	48	103	221
25	Ramona Exwy.	South of Rider St.	73.7	178	383	824
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	59.9	21	46	99
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	73.3	166	357	769
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	73.6	175	377	812
29	Ramona Exwy.	West of Redlands Av.	72.8	153	329	708
30	Ramona Exwy.	East of Sanderson Av.	69.3	90	193	415
31	Ramona Exwy.	West of Sanderson Av.	70.5	109	234	504
32	Krameria	West of Perris Blvd.	57.6	15	32	69
33	Krameria	Between Perris Blvd. and Lasselle St.	62.7	33	70	151
34	Krameria	East of Lasselle St.	62.4	31	67	144
35	Iris Av.	West of Perris Blvd.	68.0	74	159	342
36	Iris Av.	West of Perris Blvd. and Lasselle St.	68.4	78	168	362
37	Iris Av.	East of Lasselle St.	70.1	101	218	470
38	San Jacinto Av.	East of Menifee Rd.	50.8	5	11	24
39	San Jacinto Av.	West of Menifee Rd.	62.2	30	65	141
40	Ellis Rd.	West of Menifee Rd.	60.0	22	46	100
41	Mapes Rd.	East of Menifee Rd.	57.9	16	34	72

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
42	Mapes Rd.	West of Menifee Rd.	56.1	12	25	55
43	Watson Rd.	East of Menifee Rd.	58.3	17	36	77
44	Watson Rd.	West of Menifee Rd.	56.3	12	26	57
45	State Route 74	East of Menifee Rd.	67.6	69	149	322
46	State Route 74	West of Menifee Rd.	67.7	70	151	326
47	Lakeview Av.	North of Nuevo Rd.	63.1	34	74	160
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	65.7	51	111	239
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	65.5	50	108	232
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.9	53	115	247
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	65.7	52	111	240
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.8	53	114	245
53	Reservoir Av./Menifee Rd.	South of SR-74	66.1	55	118	253
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	62.1	30	64	138
55	Dunlap Dr.	South of Nuevo Rd.	53.8	8	18	39
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	56.0	12	25	54
57	Bradley Rd.	South of Rider St.	48.9	4	9	18
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	64.1	40	87	188
59	Evans Rd.	Between Orange Av. And Rider St.	62.8	33	71	153
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.3	36	77	167
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	68.1	75	161	347
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.9	62	133	287
63	Murrieta Rd.	North of Nuevo Rd.	55.3	10	23	49
64	Murrieta Rd.	South of Nuevo Rd.	57.9	16	34	72
65	Redlands Av.	South of Nuevo Rd.	64.9	46	98	211
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	62.2	30	65	141
67	Redlands Av.	Between Orange Av. and Placentia Av.	62.6	32	70	150
68	Perris Blvd.	North of Iris Av.	65.9	53	115	247
69	Perris Blvd.	Between Iris Av. And Krameria Av.	66.5	58	125	269
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	67.0	63	135	291
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	66.4	57	124	266
72	Perris Blvd.	Between Placentia Av. and Rider St.	66.5	58	126	271
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.9	53	115	248
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.6	59	128	276
75	Indian Av.	South of Placentia Av.	58.2	16	35	76
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	60.6	23	51	109
77	Webster Av.	South of Ramona Exwy.	57.0	14	29	63
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	59.3	19	42	90
79	I-215 Fwy.	North of Ramona Exwy.	79.7	441	950	2046
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	78.9	394	848	1827
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	78.7	382	823	1774
82	I-215 Fwy.	South of Nuevo Rd.	79.2	408	879	1894

TABLE 11: HORIZON YEAR (2040) WITHOUT PROJECT WITH 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	Sanderson Av.	North of Ramona Expy.	73.8	178	384	826
2	Sanderson Av.	South of Ramona Expy.	73.0	159	342	737
3	Contour Av.	East of Hansen Av.	52.0	6	14	29
4	Contour Av.	West of Hansen Av.	45.9	2	5	12
5	Hansen Av.	North of Contour Av.	58.9	18	39	85
6	Hansen Av.	Between Contour Av. and Montgomery Av.	58.2	16	35	76
7	Nuevo Rd.	East of Montgomery Av.	60.2	22	48	103
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	60.7	24	51	111
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	65.4	50	107	231
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	71.0	117	251	541
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	68.6	80	173	373
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	68.6	81	174	375
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	67.8	72	154	332
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	67.9	73	157	337
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.2	22	48	104
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.1	30	64	138
17	Orange Av.	Between Redlands Av. and Perris Blvd.	63.9	39	85	182
18	Orange Av.	West of Perris Blvd.	63.8	39	83	179
19	Placentia Av.	East of Redlands Av.	61.0	25	54	117
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.2	26	56	121
21	Rider St.	Between Ramona Expy. and Bradley Rd.	63.3	36	77	166
22	Rider St.	Between Bradley Rd. and Evans Rd.	64.8	45	98	210
23	Rider St.	Between Evans Rd. and Redlands Av.	64.6	43	93	201
24	Rider St.	Between Redlands Av. and Perris Blvd.	63.8	38	83	178
25	Ramona Exwy.	South of Rider St.	70.5	109	234	505
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.6	17	37	81
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	70.8	113	243	523
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	70.1	102	219	471
29	Ramona Exwy.	West of Redlands Av.	69.5	93	199	429
30	Ramona Exwy.	East of Sanderson Av.	67.3	66	142	306
31	Ramona Exwy.	West of Sanderson Av.	70.7	112	240	518
32	Krameria	West of Perris Blvd.	56.9	13	29	62
33	Krameria	Between Perris Blvd. and Lasselle St.	61.3	26	56	122
34	Krameria	East of Lasselle St.	61.1	25	55	118
35	Iris Av.	West of Perris Blvd.	66.8	61	131	282
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.1	64	138	297
37	Iris Av.	East of Lasselle St.	69.1	87	188	404
38	San Jacinto Av.	East of Menifee Rd.	49.6	4	9	20
39	San Jacinto Av.	West of Menifee Rd.	61.7	28	60	130
40	Ellis Rd.	West of Menifee Rd.	59.7	21	44	96
41	Mapes Rd.	East of Menifee Rd.	57.9	16	34	72

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
42	Mapes Rd.	West of Menifee Rd.	55.9	11	25	53
43	Watson Rd.	East of Menifee Rd.	58.3	16	36	77
44	Watson Rd.	West of Menifee Rd.	56.4	12	27	58
45	State Route 74	East of Menifee Rd.	70.3	104	224	483
46	State Route 74	West of Menifee Rd.	70.3	104	225	484
47	Lakeview Av.	North of Nuevo Rd.	61.7	28	60	129
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	65.0	46	100	216
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	65.1	47	102	219
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.8	52	112	242
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	65.7	51	111	239
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.1	47	102	219
53	Reservoir Av./Menifee Rd.	South of SR-74	65.4	49	106	228
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	58.7	18	38	82
55	Dunlap Dr.	South of Nuevo Rd.	55.8	11	24	52
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.2	9	19	41
57	Bradley Rd.	South of Rider St.	48.1	3	7	16
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	61.5	27	58	126
59	Evans Rd.	Between Orange Av. And Rider St.	64.6	44	94	203
60	Evans Rd.	Between Rider St. and Ramona Exwy.	64.6	43	93	201
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	65.9	53	115	248
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.1	55	119	256
63	Murrieta Rd.	North of Nuevo Rd.	54.3	9	19	42
64	Murrieta Rd.	South of Nuevo Rd.	56.8	13	28	61
65	Redlands Av.	South of Nuevo Rd.	63.3	36	77	166
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	60.7	24	52	111
67	Redlands Av.	Between Orange Av. and Placentia Av.	64.3	42	90	193
68	Perris Blvd.	North of Iris Av.	65.2	48	103	223
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.8	53	114	245
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	65.9	53	115	248
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	65.4	49	106	228
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.3	48	104	224
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	66.0	54	116	251
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	67.5	68	147	317
75	Indian Av.	South of Placentia Av.	57.0	14	29	63
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	60.5	23	50	109
77	Webster Av.	South of Ramona Exwy.	55.5	11	23	50
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	61.1	26	55	119
79	I-215 Fwy.	North of Ramona Exwy.	79.8	450	969	2087
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	79.5	430	926	1994
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	78.5	366	789	1701
82	I-215 Fwy.	South of Nuevo Rd.	78.7	378	815	1755

TABLE 12: HORIZON YEAR (2040) WITH PROJECT WITH 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	Sanderson Av.	North of Ramona Expy.	73.8	179	385	829
2	Sanderson Av.	South of Ramona Expy.	73.1	160	344	742
3	Contour Av.	East of Hansen Av.	52.2	7	14	30
4	Contour Av.	West of Hansen Av.	45.9	2	5	12
5	Hansen Av.	North of Contour Av.	59.1	19	40	87
6	Hansen Av.	Between Contour Av. and Montgomery Av.	58.6	17	38	81
7	Nuevo Rd.	East of Montgomery Av.	60.6	24	51	110
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	61.0	25	54	117
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	65.6	51	110	237
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	71.2	121	260	560
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	68.9	84	181	389
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	68.8	84	180	389
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	67.9	72	156	336
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	68.0	73	157	339
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	61.9	29	62	134
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	63.0	34	73	158
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.1	41	87	188
18	Orange Av.	West of Perris Blvd.	63.9	39	84	182
19	Placentia Av.	East of Redlands Av.	61.4	27	58	125
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.4	27	58	125
21	Rider St.	Between Ramona Expy. and Bradley Rd.	63.3	36	77	166
22	Rider St.	Between Bradley Rd. and Evans Rd.	64.8	45	98	210
23	Rider St.	Between Evans Rd. and Redlands Av.	64.6	43	93	201
24	Rider St.	Between Redlands Av. and Perris Blvd.	63.8	38	83	178
25	Ramona Exwy.	South of Rider St.	70.8	114	245	527
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	59.1	19	41	88
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	71.0	117	252	542
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	70.3	104	224	483
29	Ramona Exwy.	West of Redlands Av.	69.6	95	204	440
30	Ramona Exwy.	East of Sanderson Av.	67.3	66	143	308
31	Ramona Exwy.	West of Sanderson Av.	70.7	112	240	518
32	Krameria	West of Perris Blvd.	56.9	13	29	62
33	Krameria	Between Perris Blvd. and Lasselle St.	61.3	26	57	123
34	Krameria	East of Lasselle St.	61.1	25	55	118
35	Iris Av.	West of Perris Blvd.	66.8	61	131	282
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.1	64	138	297
37	Iris Av.	East of Lasselle St.	69.1	88	189	407
38	San Jacinto Av.	East of Menifee Rd.	50.4	5	11	23
39	San Jacinto Av.	West of Menifee Rd.	61.8	28	61	131
40	Ellis Rd.	West of Menifee Rd.	59.8	21	45	97
41	Mapes Rd.	East of Menifee Rd.	57.9	16	34	72

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
42	Mapes Rd.	West of Menifee Rd.	56.1	12	25	55
43	Watson Rd.	East of Menifee Rd.	58.4	17	36	78
44	Watson Rd.	West of Menifee Rd.	56.4	12	27	58
45	State Route 74	East of Menifee Rd.	70.3	105	226	486
46	State Route 74	West of Menifee Rd.	70.3	105	225	486
47	Lakeview Av.	North of Nuevo Rd.	61.8	28	61	131
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	65.2	48	104	223
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	65.3	48	104	225
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.9	53	115	247
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	65.8	52	113	243
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.2	48	103	223
53	Reservoir Av./Menifee Rd.	South of SR-74	65.4	49	106	229
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	58.7	18	38	82
55	Dunlap Dr.	South of Nuevo Rd.	56.1	12	26	55
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.2	9	19	41
57	Bradley Rd.	South of Rider St.	48.1	3	7	16
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	61.5	27	58	126
59	Evans Rd.	Between Orange Av. And Rider St.	64.7	44	95	205
60	Evans Rd.	Between Rider St. and Ramona Exwy.	64.6	43	93	201
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	66.1	55	119	256
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.2	56	120	259
63	Murrieta Rd.	North of Nuevo Rd.	54.3	9	19	42
64	Murrieta Rd.	South of Nuevo Rd.	56.9	13	29	62
65	Redlands Av.	South of Nuevo Rd.	63.4	37	79	170
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	60.7	24	52	111
67	Redlands Av.	Between Orange Av. and Placentia Av.	64.4	42	91	196
68	Perris Blvd.	North of Iris Av.	65.3	48	104	225
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.9	53	115	248
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.0	54	117	252
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	65.4	49	106	228
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.3	48	104	224
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	66.0	54	116	251
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	67.5	68	147	317
75	Indian Av.	South of Placentia Av.	57.0	14	29	63
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	60.6	24	51	110
77	Webster Av.	South of Ramona Exwy.	55.5	11	23	50
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	61.1	26	55	119
79	I-215 Fwy.	North of Ramona Exwy.	79.8	450	970	2090
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	79.5	430	927	1996
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	78.5	367	790	1703
82	I-215 Fwy.	South of Nuevo Rd.	78.7	379	815	1757

TABLE 13: 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	Sanderson Av.	North of Ramona Expy.	72.1	72.1	0.0	1.5	No
2	Sanderson Av.	South of Ramona Expy.	69.6	69.6	0.0	1.5	No
3	Contour Av.	East of Hansen Av.	52.1	52.5	0.4	5.0	No
4	Contour Av.	West of Hansen Av.	46.0	46.0	0.0	5.0	No
5	Hansen Av.	North of Contour Av.	59.0	59.0	0.0	5.0	No
6	Hansen Av.	Between Contour Av. and Montgomery Av.	58.3	58.7	0.4	5.0	No
7	Nuevo Rd.	East of Montgomery Av.	60.3	60.7	0.4	3.0	No
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	60.7	61.1	0.4	3.0	No
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	65.5	65.7	0.2	1.5	No
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	63.3	64.3	1.0	3.0	No
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	65.1	66.7	1.6	1.5	**Yes**
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	64.8	66.4	1.6	3.0	No
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	63.6	64.6	1.0	3.0	No
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	64.6	65.2	0.6	3.0	No
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.3	60.3	0.0	3.0	No
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.2	62.2	0.0	3.0	No
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.0	64.0	0.0	3.0	No
18	Orange Av.	West of Perris Blvd.	63.9	63.9	0.0	3.0	No
19	Placentia Av.	East of Redlands Av.	61.1	61.1	0.0	3.0	No
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.3	61.3	0.0	3.0	No
21	Rider St.	Between Ramona Expy. and Bradley Rd.	60.3	61.5	1.2	3.0	No
22	Rider St.	Between Bradley Rd. and Evans Rd.	61.5	62.1	0.6	3.0	No
23	Rider St.	Between Evans Rd. and Redlands Av.	64.6	64.8	0.2	3.0	No
24	Rider St.	Between Redlands Av. and Perris Blvd.	63.9	64.0	0.1	3.0	No
25	Ramona Exwy.	South of Rider St.	66.9	69.1	2.2	1.5	**Yes**
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.7	58.7	0.0	5.0	No
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	67.0	68.9	1.9	1.5	**Yes**
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	68.6	69.9	1.3	1.5	No
29	Ramona Exwy.	West of Redlands Av.	68.0	68.7	0.7	1.5	No
30	Ramona Exwy.	East of Sanderson Av.	67.4	67.4	0.0	1.5	No
31	Ramona Exwy.	West of Sanderson Av.	67.0	67.2	0.2	1.5	No
32	Krameria	West of Perris Blvd.	56.6	56.6	0.0	5.0	No
33	Krameria	Between Perris Blvd. and Lasselle St.	61.4	61.4	0.0	3.0	No
34	Krameria	East of Lasselle St.	61.1	61.1	0.0	3.0	No
35	Iris Av.	West of Perris Blvd.	66.8	66.8	0.0	1.5	No
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.2	67.2	0.0	1.5	No
37	Iris Av.	East of Lasselle St.	68.5	68.6	0.1	1.5	No
38	San Jacinto Av.	East of Menifee Rd.	48.4	49.3	0.9	5.0	No
39	San Jacinto Av.	West of Menifee Rd.	58.9	58.9	0.0	5.0	No
40	Ellis Rd.	West of Menifee Rd.	48.5	49.4	0.9	5.0	No

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
41	Mapes Rd.	East of Menifee Rd.	56.1	56.1	0.0	5.0	No
42	Mapes Rd.	West of Menifee Rd.	55.1	55.1	0.0	5.0	No
43	Watson Rd.	East of Menifee Rd.	57.3	57.4	0.1	5.0	No
44	Watson Rd.	West of Menifee Rd.	55.3	55.5	0.2	5.0	No
45	State Route 74	East of Menifee Rd.	66.7	66.8	0.1	1.5	No
46	State Route 74	West of Menifee Rd.	66.9	66.9	0.0	1.5	No
47	Lakeview Av.	North of Nuevo Rd.	61.7	61.8	0.1	3.0	No
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	60.0	60.6	0.6	1.5	No
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	59.2	59.7	0.5	5.0	No
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	59.4	59.8	0.4	5.0	No
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	58.0	58.5	0.5	5.0	No
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	59.0	59.2	0.2	5.0	No
53	Reservoir Av./Menifee Rd.	South of SR-74	60.1	60.1	0.0	3.0	No
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	58.8	59.1	0.3	5.0	No
55	Dunlap Dr.	South of Nuevo Rd.	52.4	52.4	0.0	5.0	No
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.3	55.3	1.0	5.0	No
57	Bradley Rd.	South of Rider St.	48.2	48.2	0.0	5.0	No
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	61.6	61.6	0.0	3.0	No
59	Evans Rd.	Between Orange Av. And Rider St.	61.9	61.9	0.0	3.0	No
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.3	63.3	0.0	3.0	No
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	65.6	65.8	0.2	1.5	No
62	Evans Rd.	Between Krameria Av. and Iris Av.	65.5	65.6	0.1	1.5	No
63	Murrieta Rd.	North of Nuevo Rd.	52.3	52.5	0.2	5.0	No
64	Murrieta Rd.	South of Nuevo Rd.	53.8	53.9	0.1	5.0	No
65	Redlands Av.	South of Nuevo Rd.	63.4	63.5	0.1	3.0	No
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	60.8	61.0	0.2	3.0	No
67	Redlands Av.	Between Orange Av. and Placentia Av.	60.5	60.5	0.0	3.0	No
68	Perris Blvd.	North of Iris Av.	65.0	65.1	0.1	1.5	No
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.5	65.6	0.1	1.5	No
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.0	66.1	0.1	1.5	No
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	64.9	64.9	0.0	3.0	No
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.3	65.3	0.0	1.5	No
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.1	65.1	0.0	1.5	No
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.1	66.2	0.1	1.5	No
75	Indian Av.	South of Placentia Av.	56.3	56.3	0.0	5.0	No
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	59.2	59.2	0.0	5.0	No
77	Webster Av.	South of Ramona Exwy.	55.6	55.6	0.0	5.0	No
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	58.0	58.1	0.1	5.0	No
79	I-215 Fwy.	North of Ramona Exwy.	77.5	77.6	0.1	1.5	No
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	77.3	77.4	0.1	1.5	No
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	77.3	77.3	0.0	1.5	No
82	I-215 Fwy.	South of Nuevo Rd.	77.6	77.7	0.1	1.5	No

TABLE 14: 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	Sanderson Av.	North of Ramona Expy.	73.6	73.6	0.0	1.5	No
2	Sanderson Av.	South of Ramona Expy.	72.0	72.0	0.0	1.5	No
3	Contour Av.	East of Hansen Av.	53.7	54.0	0.3	5.0	No
4	Contour Av.	West of Hansen Av.	46.0	46.0	0.0	5.0	No
5	Hansen Av.	North of Contour Av.	60.7	60.7	0.0	3.0	No
6	Hansen Av.	Between Contour Av. and Montgomery Av.	59.4	59.7	0.3	5.0	No
7	Nuevo Rd.	East of Montgomery Av.	62.0	62.3	0.3	3.0	No
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	61.8	62.0	0.2	3.0	No
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	66.4	66.5	0.1	1.5	No
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	71.6	71.8	0.2	1.5	No
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	70.6	71.1	0.5	1.5	No
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	70.7	71.2	0.5	1.5	No
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	67.7	68.1	0.4	1.5	No
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	67.8	68.2	0.4	1.5	No
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.3	60.3	0.0	3.0	No
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.2	62.2	0.0	3.0	No
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.0	64.0	0.0	3.0	No
18	Orange Av.	West of Perris Blvd.	63.9	63.9	0.0	3.0	No
19	Placentia Av.	East of Redlands Av.	61.1	61.1	0.0	3.0	No
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.3	61.3	0.0	3.0	No
21	Rider St.	Between Ramona Expy. and Bradley Rd.	64.3	64.8	0.5	3.0	No
22	Rider St.	Between Bradley Rd. and Evans Rd.	66.1	66.3	0.2	1.5	No
23	Rider St.	Between Evans Rd. and Redlands Av.	65.1	65.2	0.1	1.5	No
24	Rider St.	Between Redlands Av. and Perris Blvd.	64.3	64.4	0.1	3.0	No
25	Ramona Exwy.	South of Rider St.	71.7	72.5	0.8	1.5	No
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.7	58.7	0.0	5.0	No
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	71.2	72.1	0.9	1.5	No
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	71.8	72.5	0.7	1.5	No
29	Ramona Exwy.	West of Redlands Av.	71.6	71.9	0.3	1.5	No
30	Ramona Exwy.	East of Sanderson Av.	68.4	68.5	0.1	1.5	No
31	Ramona Exwy.	West of Sanderson Av.	69.6	69.7	0.1	1.5	No
32	Krameria	West of Perris Blvd.	56.8	56.8	0.0	5.0	No
33	Krameria	Between Perris Blvd. and Lasselle St.	61.8	61.9	0.1	3.0	No
34	Krameria	East of Lasselle St.	61.6	61.6	0.0	3.0	No
35	Iris Av.	West of Perris Blvd.	67.2	67.2	0.0	1.5	No
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.6	67.6	0.0	1.5	No
37	Iris Av.	East of Lasselle St.	69.2	69.3	0.1	1.5	No
38	San Jacinto Av.	East of Menifee Rd.	48.4	49.3	0.9	5.0	No
39	San Jacinto Av.	West of Menifee Rd.	61.3	61.4	0.1	3.0	No
40	Ellis Rd.	West of Menifee Rd.	59.1	59.1	0.0	5.0	No

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
41	Mapes Rd.	East of Menifee Rd.	57.1	57.1	0.0	5.0	No
42	Mapes Rd.	West of Menifee Rd.	55.1	55.1	0.0	5.0	No
43	Watson Rd.	East of Menifee Rd.	57.3	57.4	0.1	5.0	No
44	Watson Rd.	West of Menifee Rd.	55.3	55.5	0.2	5.0	No
45	State Route 74	East of Menifee Rd.	66.7	66.8	0.1	1.5	No
46	State Route 74	West of Menifee Rd.	66.9	66.9	0.0	1.5	No
47	Lakeview Av.	North of Nuevo Rd.	62.1	62.2	0.1	3.0	No
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	64.5	64.7	0.2	3.0	No
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	64.4	64.5	0.1	3.0	No
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	64.9	65.0	0.1	3.0	No
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	64.7	64.8	0.1	3.0	No
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	64.9	65.0	0.1	3.0	No
53	Reservoir Av./Menifee Rd.	South of SR-74	65.2	65.2	0.0	1.5	No
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	61.1	61.3	0.2	3.0	No
55	Dunlap Dr.	South of Nuevo Rd.	52.4	52.4	0.0	5.0	No
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.3	55.3	1.0	5.0	No
57	Bradley Rd.	South of Rider St.	48.2	48.2	0.0	5.0	No
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	63.3	63.3	0.0	3.0	No
59	Evans Rd.	Between Orange Av. And Rider St.	61.9	61.9	0.0	3.0	No
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.6	63.7	0.1	3.0	No
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	67.1	67.2	0.1	1.5	No
62	Evans Rd.	Between Krameria Av. and Iris Av.	65.9	66.0	0.1	1.5	No
63	Murrieta Rd.	North of Nuevo Rd.	54.4	54.5	0.1	5.0	No
64	Murrieta Rd.	South of Nuevo Rd.	56.9	57.0	0.1	5.0	No
65	Redlands Av.	South of Nuevo Rd.	63.9	64.0	0.1	3.0	No
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	61.3	61.5	0.2	3.0	No
67	Redlands Av.	Between Orange Av. and Placentia Av.	60.5	60.5	0.0	3.0	No
68	Perris Blvd.	North of Iris Av.	65.1	65.1	0.0	1.5	No
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.5	65.6	0.1	1.5	No
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.0	66.1	0.1	1.5	No
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	65.6	65.6	0.0	1.5	No
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.7	65.7	0.0	1.5	No
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.1	65.1	0.0	1.5	No
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.1	66.2	0.1	1.5	No
75	Indian Av.	South of Placentia Av.	57.4	57.4	0.0	5.0	No
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	59.7	59.7	0.0	5.0	No
77	Webster Av.	South of Ramona Exwy.	56.2	56.2	0.0	5.0	No
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	58.4	58.5	0.1	5.0	No
79	I-215 Fwy.	North of Ramona Exwy.	78.4	78.5	0.1	1.5	No
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	77.9	78.0	0.1	1.5	No
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	77.9	77.9	0.0	1.5	No
82	I-215 Fwy.	South of Nuevo Rd.	78.0	78.2	0.2	1.5	No

TABLE 15: 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	Sanderson Av.	North of Ramona Expy.	74.4	74.4	0.0	1.5	No
2	Sanderson Av.	South of Ramona Expy.	72.8	72.8	0.0	1.5	No
3	Contour Av.	East of Hansen Av.	54.8	54.9	0.1	5.0	No
4	Contour Av.	West of Hansen Av.	46.8	46.8	0.0	5.0	No
5	Hansen Av.	North of Contour Av.	61.5	61.6	0.1	3.0	No
6	Hansen Av.	Between Contour Av. and Montgomery Av.	60.5	60.7	0.2	3.0	No
7	Nuevo Rd.	East of Montgomery Av.	63.0	63.3	0.3	3.0	No
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	62.8	63.1	0.3	3.0	No
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	67.3	67.4	0.1	1.5	No
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	72.5	72.7	0.2	1.5	No
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	71.9	72.2	0.3	1.5	No
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	71.9	72.2	0.3	1.5	No
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	68.8	69.0	0.2	1.5	No
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	68.9	69.1	0.2	1.5	No
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	61.1	63.5	2.4	3.0	No
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.9	64.5	1.6	3.0	No
17	Orange Av.	Between Redlands Av. and Perris Blvd.	64.8	65.0	0.2	3.0	No
18	Orange Av.	West of Perris Blvd.	64.6	64.7	0.1	3.0	No
19	Placentia Av.	East of Redlands Av.	61.9	62.8	0.9	3.0	No
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	62.1	62.3	0.2	3.0	No
21	Rider St.	Between Ramona Expy. and Bradley Rd.	65.6	65.6	0.0	1.5	No
22	Rider St.	Between Bradley Rd. and Evans Rd.	67.1	67.1	0.0	1.5	No
23	Rider St.	Between Evans Rd. and Redlands Av.	66.0	66.0	0.0	1.5	No
24	Rider St.	Between Redlands Av. and Perris Blvd.	65.2	65.2	0.0	1.5	No
25	Ramona Exwy.	South of Rider St.	73.3	73.7	0.4	1.5	No
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	59.5	59.9	0.4	5.0	No
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	72.8	73.3	0.5	1.5	No
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	73.3	73.6	0.3	1.5	No
29	Ramona Exwy.	West of Redlands Av.	72.7	72.8	0.1	1.5	No
30	Ramona Exwy.	East of Sanderson Av.	69.2	69.3	0.1	1.5	No
31	Ramona Exwy.	West of Sanderson Av.	70.5	70.5	0.0	1.5	No
32	Krameria	West of Perris Blvd.	57.6	57.6	0.0	5.0	No
33	Krameria	Between Perris Blvd. and Lasselle St.	62.7	62.7	0.0	3.0	No
34	Krameria	East of Lasselle St.	62.4	62.4	0.0	3.0	No
35	Iris Av.	West of Perris Blvd.	68.0	68.0	0.0	1.5	No
36	Iris Av.	West of Perris Blvd. and Lasselle St.	68.4	68.4	0.0	1.5	No
37	Iris Av.	East of Lasselle St.	70.0	70.1	0.1	1.5	No
38	San Jacinto Av.	East of Menifee Rd.	50.1	50.8	0.7	5.0	No
39	San Jacinto Av.	West of Menifee Rd.	62.2	62.2	0.0	3.0	No
40	Ellis Rd.	West of Menifee Rd.	59.9	60.0	0.1	5.0	No

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
41	Mapes Rd.	East of Menifee Rd.	57.9	57.9	0.0	5.0	No
42	Mapes Rd.	West of Menifee Rd.	55.9	56.1	0.2	5.0	No
43	Watson Rd.	East of Menifee Rd.	58.2	58.3	0.1	5.0	No
44	Watson Rd.	West of Menifee Rd.	56.3	56.3	0.0	5.0	No
45	State Route 74	East of Menifee Rd.	67.5	67.6	0.1	1.5	No
46	State Route 74	West of Menifee Rd.	67.7	67.7	0.0	1.5	No
47	Lakeview Av.	North of Nuevo Rd.	63.0	63.1	0.1	3.0	No
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	65.5	65.7	0.2	1.5	No
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	65.3	65.5	0.2	1.5	No
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.8	65.9	0.1	1.5	No
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	65.6	65.7	0.1	1.5	No
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.8	65.8	0.0	1.5	No
53	Reservoir Av./Menifee Rd.	South of SR-74	66.0	66.1	0.1	1.5	No
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	62.1	62.1	0.0	3.0	No
55	Dunlap Dr.	South of Nuevo Rd.	53.2	53.8	0.6	5.0	No
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	56.0	56.0	0.0	5.0	No
57	Bradley Rd.	South of Rider St.	48.9	48.9	0.0	5.0	No
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	64.1	64.1	0.0	3.0	No
59	Evans Rd.	Between Orange Av. And Rider St.	62.6	62.8	0.2	3.0	No
60	Evans Rd.	Between Rider St. and Ramona Exwy.	63.3	63.3	0.0	3.0	No
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	68.0	68.1	0.1	1.5	No
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.8	66.9	0.1	1.5	No
63	Murrieta Rd.	North of Nuevo Rd.	55.3	55.3	0.0	5.0	No
64	Murrieta Rd.	South of Nuevo Rd.	57.8	57.9	0.1	5.0	No
65	Redlands Av.	South of Nuevo Rd.	64.8	64.9	0.1	3.0	No
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	62.2	62.2	0.0	3.0	No
67	Redlands Av.	Between Orange Av. and Placentia Av.	61.3	62.6	1.3	3.0	No
68	Perris Blvd.	North of Iris Av.	65.9	65.9	0.0	1.5	No
69	Perris Blvd.	Between Iris Av. And Krameria Av.	66.4	66.5	0.1	1.5	No
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	66.9	67.0	0.1	1.5	No
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	66.4	66.4	0.0	1.5	No
72	Perris Blvd.	Between Placentia Av. and Rider St.	66.5	66.5	0.0	1.5	No
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	65.9	65.9	0.0	1.5	No
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	66.6	66.6	0.0	1.5	No
75	Indian Av.	South of Placentia Av.	58.2	58.2	0.0	5.0	No
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	60.5	60.6	0.1	3.0	No
77	Webster Av.	South of Ramona Exwy.	57.0	57.0	0.0	5.0	No
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	59.3	59.3	0.0	5.0	No
79	I-215 Fwy.	North of Ramona Exwy.	79.6	79.7	0.1	1.5	No
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	78.8	78.9	0.1	1.5	No
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	78.7	78.7	0.0	1.5	No
82	I-215 Fwy.	South of Nuevo Rd.	79.1	79.2	0.1	1.5	No

TABLE 16: HORIZON YEAR (2040) WITH PROJECT WITH 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	Sanderson Av.	North of Ramona Expy.	73.8	73.8	0.0	1.5	No
2	Sanderson Av.	South of Ramona Expy.	73.0	73.1	0.1	1.5	No
3	Contour Av.	East of Hansen Av.	52.0	52.2	0.2	5.0	No
4	Contour Av.	West of Hansen Av.	45.9	45.9	0.0	5.0	No
5	Hansen Av.	North of Contour Av.	58.9	59.1	0.2	5.0	No
6	Hansen Av.	Between Contour Av. and Montgomery Av.	58.2	58.6	0.4	5.0	No
7	Nuevo Rd.	East of Montgomery Av.	60.2	60.6	0.4	3.0	No
8	Nuevo Rd.	Between Montgomery Av. and Lakeview Av.	60.7	61.0	0.3	3.0	No
9	Nuevo Rd.	Between Lakeview Av. and Reservoir Av.	65.4	65.6	0.2	1.5	No
10	Nuevo Rd.	Between Reservoir Av. and the Project Site	71.0	71.2	0.2	1.5	No
11	Nuevo Rd.	Between the Project Site and Dunlap Dr.	68.6	68.9	0.3	1.5	No
12	Nuevo Rd.	Between Dunlap Dr. and Evans Rd.	68.6	68.8	0.2	1.5	No
13	Nuevo Rd.	Between Murrieta Rd. and Redlands Av.	67.8	67.9	0.1	1.5	No
14	Nuevo Rd.	Between Redlands Av. and Perris Blvd.	67.9	68.0	0.1	1.5	No
15	Orange Av.	Between Dunlap Dr. and Evans Rd.	60.2	61.9	1.7	3.0	No
16	Orange Av.	Between Evans Rd. and Murrieta Rd.	62.1	63.0	0.9	3.0	No
17	Orange Av.	Between Redlands Av. and Perris Blvd.	63.9	64.1	0.2	3.0	No
18	Orange Av.	West of Perris Blvd.	63.8	63.9	0.1	3.0	No
19	Placentia Av.	East of Redlands Av.	61.0	61.4	0.4	3.0	No
20	Placentia Av.	Between Redlands Av. and Perris Blvd.	61.2	61.4	0.2	3.0	No
21	Rider St.	Between Ramona Expy. and Bradley Rd.	63.3	63.3	0.0	3.0	No
22	Rider St.	Between Bradley Rd. and Evans Rd.	64.8	64.8	0.0	3.0	No
23	Rider St.	Between Evans Rd. and Redlands Av.	64.6	64.6	0.0	3.0	No
24	Rider St.	Between Redlands Av. and Perris Blvd.	63.8	63.8	0.0	3.0	No
25	Ramona Exwy.	South of Rider St.	70.5	70.8	0.3	1.5	No
26	Ramona Exwy.	Between Rider St. and Bradley Rd.	58.6	59.1	0.5	5.0	No
27	Ramona Exwy.	Between Bradley Rd. and Evans Rd.	70.8	71.0	0.2	1.5	No
28	Ramona Exwy.	Between Evans Rd. and Redlands Av.	70.1	70.3	0.2	1.5	No
29	Ramona Exwy.	West of Redlands Av.	69.5	69.6	0.1	1.5	No
30	Ramona Exwy.	East of Sanderson Av.	67.3	67.3	0.0	1.5	No
31	Ramona Exwy.	West of Sanderson Av.	70.7	70.7	0.0	1.5	No
32	Krameria	West of Perris Blvd.	56.9	56.9	0.0	5.0	No
33	Krameria	Between Perris Blvd. and Lasselle St.	61.3	61.3	0.0	3.0	No
34	Krameria	East of Lasselle St.	61.1	61.1	0.0	3.0	No
35	Iris Av.	West of Perris Blvd.	66.8	66.8	0.0	1.5	No
36	Iris Av.	West of Perris Blvd. and Lasselle St.	67.1	67.1	0.0	1.5	No
37	Iris Av.	East of Lasselle St.	69.1	69.1	0.0	1.5	No
38	San Jacinto Av.	East of Menifee Rd.	49.6	50.4	0.8	5.0	No
39	San Jacinto Av.	West of Menifee Rd.	61.7	61.8	0.1	3.0	No
40	Ellis Rd.	West of Menifee Rd.	59.7	59.8	0.1	5.0	No

ID	Road	Segment	CNEL at 100 feet from Centerline (dBA)			Incremental Noise Level Increase Threshold	
			No Project	With Project	Project Addition	Limit	Exceeded?
41	Mapes Rd.	East of Menifee Rd.	57.9	57.9	0.0	5.0	No
42	Mapes Rd.	West of Menifee Rd.	55.9	56.1	0.2	5.0	No
43	Watson Rd.	East of Menifee Rd.	58.3	58.4	0.1	5.0	No
44	Watson Rd.	West of Menifee Rd.	56.4	56.4	0.0	5.0	No
45	State Route 74	East of Menifee Rd.	70.3	70.3	0.0	1.5	No
46	State Route 74	West of Menifee Rd.	70.3	70.3	0.0	1.5	No
47	Lakeview Av.	North of Nuevo Rd.	61.7	61.8	0.1	3.0	No
48	Reservoir Av./Menifee Rd.	Between Nuevo Rd. and San Jacinto Av.	65.0	65.2	0.2	1.5	No
49	Reservoir Av./Menifee Rd.	Between San Jacinto Av. And Ellis Av.	65.1	65.3	0.2	1.5	No
50	Reservoir Av./Menifee Rd.	Between Ellis Av. and Mapes Rd.	65.8	65.9	0.1	1.5	No
51	Reservoir Av./Menifee Rd.	Between Mapes Rd. and Watson Rd.	65.7	65.8	0.1	1.5	No
52	Reservoir Av./Menifee Rd.	Between Watson Rd. and SR-74	65.1	65.2	0.1	1.5	No
53	Reservoir Av./Menifee Rd.	South of SR-74	65.4	65.4	0.0	1.5	No
54	Dunlap Dr.	Between Nuevo Rd. and Orange Av.	58.7	58.7	0.0	5.0	No
55	Dunlap Dr.	South of Nuevo Rd.	55.8	56.1	0.3	5.0	No
56	Bradley Rd.	Between Ramona Exwy. and Rider St.	54.2	54.2	0.0	5.0	No
57	Bradley Rd.	South of Rider St.	48.1	48.1	0.0	5.0	No
58	Evans Rd.	Between Nuevo Rd. and Orange Av.	61.5	61.5	0.0	3.0	No
59	Evans Rd.	Between Orange Av. And Rider St.	64.6	64.7	0.1	3.0	No
60	Evans Rd.	Between Rider St. and Ramona Exwy.	64.6	64.6	0.0	3.0	No
61	Evans Rd.	Between Ramona Exwy. and Krameria Av.	65.9	66.1	0.2	1.5	No
62	Evans Rd.	Between Krameria Av. and Iris Av.	66.1	66.2	0.1	1.5	No
63	Murrieta Rd.	North of Nuevo Rd.	54.3	54.3	0.0	5.0	No
64	Murrieta Rd.	South of Nuevo Rd.	56.8	56.9	0.1	5.0	No
65	Redlands Av.	South of Nuevo Rd.	63.3	63.4	0.1	3.0	No
66	Redlands Av.	Between Nuevo Rd. and Orange Av.	60.7	60.7	0.0	3.0	No
67	Redlands Av.	Between Orange Av. and Placentia Av.	64.3	64.4	0.1	3.0	No
68	Perris Blvd.	North of Iris Av.	65.2	65.3	0.1	1.5	No
69	Perris Blvd.	Between Iris Av. And Krameria Av.	65.8	65.9	0.1	1.5	No
70	Perris Blvd.	Between Krameria Av. and San Michele Rd.	65.9	66.0	0.1	1.5	No
71	Perris Blvd.	Between Ramona Exwy. and Morgan St.	65.4	65.4	0.0	1.5	No
72	Perris Blvd.	Between Placentia Av. and Rider St.	65.3	65.3	0.0	1.5	No
73	Perris Blvd.	Between Placentia Av. and Orange Ave.	66.0	66.0	0.0	1.5	No
74	Perris Blvd.	Between Orange Av. and Nuevo Rd.	67.5	67.5	0.0	1.5	No
75	Indian Av.	South of Placentia Av.	57.0	57.0	0.0	5.0	No
76	Indian Av.	Between Placentia Av. and Ramona Exwy.	60.5	60.6	0.1	3.0	No
77	Webster Av.	South of Ramona Exwy.	55.5	55.5	0.0	5.0	No
78	Webster Av.	Between Ramona Exwy. and Harley Knox Av.	61.1	61.1	0.0	3.0	No
79	I-215 Fwy.	North of Ramona Exwy.	79.8	79.8	0.0	1.5	No
80	I-215 Fwy.	Between Ramona Exwy. and Placentia Av.	79.5	79.5	0.0	1.5	No
81	I-215 Fwy.	Between Placentia Av. and Nuevo Rd.	78.5	78.5	0.0	1.5	No
82	I-215 Fwy.	South of Nuevo Rd.	78.7	78.7	0.0	1.5	No

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APPENDIX A

OFF-SITE TRAFFIC NOISE CONTOURS

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

Scenario: EA
Road Name: Sanderson Av.
Road Segment: North of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,669 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,902 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.08	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.16	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.11	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.1	69.2	67.4	61.3	70.0	70.6
Medium Trucks:	63.5	63.0	56.6	55.0	63.5	63.7
Heavy Trucks:	63.6	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	71.7	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	276	594	1,280
CNEL:	138	297	639	1,377

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

Scenario: EAP
Road Name: Sanderson Av.
Road Segment: North of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,257 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,950 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.12	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.12	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.07	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	63.6	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	63.6	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	71.8	70.9	68.0	63.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	278	598	1,289
CNEL:	139	299	643	1,386

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

Scenario: EAC
Road Name: Sanderson Av.
Road Segment: North of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,069 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,954 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.60	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-11.64	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-15.59	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	68.9	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.0	65.3
Heavy Trucks:	65.1	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.2	72.4	69.4	64.6	73.1	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	162	348	750	1,616
CNEL:	174	375	807	1,739

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

Scenario: EAPC
Road Name: Sanderson Av.
Road Segment: North of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	86,657 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,002 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.63	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-11.61	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-15.56	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.7	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	65.1	64.5	58.1	56.6	65.1	65.3
Heavy Trucks:	65.1	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	73.3	72.4	69.5	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	162	350	754	1,624
CNEL:	175	376	811	1,747

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. | *Job Number:* 13265
Road Segment: North of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	103,608 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,372 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	6.41	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-10.83	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-14.79	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	65.9	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	65.9	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	74.0	73.2	70.3	65.4	73.9	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	183	394	849	1,829
CNEL:	197	424	913	1,968

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. | *Job Number:* 13265
Road Segment: North of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	104,002 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,403 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	6.42	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-10.82	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-14.77	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.5	71.5	69.7	63.7	72.3	72.9
Medium Trucks:	65.9	65.3	58.9	57.4	65.8	66.1
Heavy Trucks:	65.9	65.4	56.4	57.6	66.0	66.1
Vehicle Noise:	74.1	73.2	70.3	65.4	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	183	395	851	1,834
CNEL:	197	425	916	1,973

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. | *Job Number:* 13265
Road Segment: North of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	89,145 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,203 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.75	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-11.49	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-15.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.8	69.1	63.0	71.6	72.2
Medium Trucks:	65.2	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	65.2	64.7	55.7	57.0	65.3	65.4
Vehicle Noise:	73.4	72.6	69.6	64.7	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	165	357	768	1,655
CNEL:	178	384	826	1,780

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. | *Job Number:* 13265
Road Segment: North of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	89,535 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,234 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.77	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-11.47	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-15.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.8	70.9	69.1	63.0	71.7	72.3
Medium Trucks:	65.2	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	65.3	64.8	55.7	57.0	65.3	65.5
Vehicle Noise:	73.4	72.6	69.6	64.7	73.3	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	166	358	770	1,660
CNEL:	179	385	829	1,785

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

Scenario: EA
Road Name: Sanderson Av.
Road Segment: South of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,192 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,763 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.59	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.65	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.60	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	61.0	60.5	54.1	52.6	61.0	61.2
Heavy Trucks:	61.1	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	69.2	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	87	188	405	874
CNEL:	94	202	436	940

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

Scenario: EAP
Road Name: Sanderson Av.
Road Segment: South of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,588 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,795 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	1.64	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-15.60	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-19.55	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.1	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	61.1	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.3	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	409	880
CNEL:	95	204	440	947

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

Scenario: EAC
Road Name: Sanderson Av.
Road Segment: South of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,992 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,767 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.96	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.28	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.23	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.0	67.3	61.2	69.8	70.5
Medium Trucks:	63.4	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	63.4	63.0	53.9	55.2	63.5	63.6
Vehicle Noise:	71.6	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	126	271	583	1,257
CNEL:	135	291	627	1,352

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

Scenario: EAPC
Road Name: Sanderson Av.
Road Segment: South of Ramona Expy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,388 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,799 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	3.99	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.25	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.21	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	63.4	62.9	56.5	55.0	63.4	63.6
Heavy Trucks:	63.5	63.0	53.9	55.2	63.5	63.7
Vehicle Noise:	71.6	70.8	67.8	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	126	272	586	1,262
CNEL:	136	293	630	1,358

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. *Job Number:* 13265
Road Segment: South of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,005 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,737 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.76	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.47	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.43	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.2	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	72.4	71.6	68.6	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	660	1,422
CNEL:	153	330	710	1,530

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. *Job Number:* 13265
Road Segment: South of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,205 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,753 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	4.78	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.8	69.9	68.1	62.0	70.7	71.3
Medium Trucks:	64.2	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	64.3	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	72.4	71.6	68.6	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	307	661	1,425
CNEL:	153	330	711	1,533

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. *Job Number:* 13265
Road Segment: South of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	75,034 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,063 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.00	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.23	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.19	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	64.5	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	72.6	71.8	68.9	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	148	318	685	1,475
CNEL:	159	342	737	1,587

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Sanderson Av. *Job Number:* 13265
Road Segment: South of Ramona Expy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	75,820 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,126 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	5.05	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.14	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.5	63.9	57.6	56.0	64.5	64.7
Heavy Trucks:	64.5	64.0	55.0	56.3	64.6	64.7
Vehicle Noise:	72.7	71.9	68.9	64.0	72.6	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	320	689	1,485
CNEL:	160	344	742	1,598

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

Scenario: EA
Road Name: Contour Av.
Road Segment: East of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,291 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	347 vehicles
Vehicle Speed:	25 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:	58.73	-4.00	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-21.24	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-25.19	-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:	48.9	47.9	46.2	40.1	48.7	49.4
Medium Trucks:	43.7	43.2	36.8	35.3	43.7	44.0
Heavy Trucks:	47.0	46.5	37.4	38.7	47.0	47.2
Vehicle Noise:	51.8	51.1	47.1	43.2	51.7	52.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	61
CNEL:	6	14	30	64

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

Scenario: EAP
Road Name: Contour Av.
Road Segment: East of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,687 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	379 vehicles
Vehicle Speed:	25 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:	58.73	-3.61	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-20.85	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-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:	49.3	48.3	46.6	40.5	49.1	49.7
Medium Trucks:	44.1	43.6	37.2	35.6	44.1	44.3
Heavy Trucks:	47.4	46.9	37.8	39.1	47.4	47.6
Vehicle Noise:	52.2	51.4	47.5	43.6	52.1	52.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	14	30	64
CNEL:	7	15	32	68

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

Scenario: EAC
Road Name: Contour Av.
Road Segment: East of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,191 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	500 vehicles
Vehicle Speed:	25 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:	58.73	-2.41	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-19.64	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-23.60	-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:	50.5	49.5	47.8	41.7	50.3	50.9
Medium Trucks:	45.3	44.8	38.4	36.9	45.3	45.5
Heavy Trucks:	48.6	48.1	39.0	40.3	48.6	48.8
Vehicle Noise:	53.4	52.6	48.7	44.8	53.3	53.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	38	82

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

Scenario: EAPC
Road Name: Contour Av.
Road Segment: East of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,587 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	532 vehicles
Vehicle Speed:	25 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:	58.73	-2.14	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-19.38	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-23.33	-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:	50.8	49.8	48.0	42.0	50.6	51.2
Medium Trucks:	45.6	45.0	38.7	37.1	45.6	45.8
Heavy Trucks:	48.8	48.3	39.3	40.5	48.9	49.0
Vehicle Noise:	53.7	52.9	49.0	45.1	53.6	54.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	81
CNEL:	9	18	40	86

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: East of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,876 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	636 vehicles
Vehicle Speed:	25 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:	58.73	-1.36	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-18.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-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:	51.6	50.6	48.8	42.8	51.4	52.0
Medium Trucks:	46.4	45.8	39.4	37.9	46.4	46.6
Heavy Trucks:	49.6	49.1	40.1	41.3	49.7	49.8
Vehicle Noise:	54.4	53.7	49.8	45.9	54.4	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	42	91
CNEL:	10	21	45	96

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: East of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,076 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	653 vehicles
Vehicle Speed:	25 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:	58.73	-1.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-18.49	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-22.45	-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:	51.7	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	46.5	45.9	39.6	38.0	46.5	46.7
Heavy Trucks:	49.7	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	54.6	53.8	49.9	46.0	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	43	92
CNEL:	10	21	46	98

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: East of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,209 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	340 vehicles
Vehicle Speed:	25 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:	58.73	-4.08	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-21.32	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-25.28	-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:	48.8	47.9	46.1	40.0	48.7	49.3
Medium Trucks:	43.7	43.1	36.7	35.2	43.6	43.9
Heavy Trucks:	46.9	46.4	37.4	38.6	47.0	47.1
Vehicle Noise:	51.7	51.0	47.1	43.1	51.7	52.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	28	60
CNEL:	6	14	29	64

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: East of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,407 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	356 vehicles
Vehicle Speed:	25 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:	58.73	-3.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-21.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-25.08	-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:	49.0	48.1	46.3	40.2	48.9	49.5
Medium Trucks:	43.9	43.3	36.9	35.4	43.8	44.1
Heavy Trucks:	47.1	46.6	37.6	38.8	47.2	47.3
Vehicle Noise:	51.9	51.2	47.3	43.3	51.9	52.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	62
CNEL:	7	14	30	65

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

Scenario: EA
Road Name: Contour Av.
Road Segment: West of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,048 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	25 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:	58.73	-10.12	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-27.36	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-31.31	-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:	42.8	41.8	40.1	34.0	42.6	43.2
Medium Trucks:	37.6	37.0	30.7	29.1	37.6	37.8
Heavy Trucks:	40.8	40.4	31.3	32.6	40.9	41.0
Vehicle Noise:	45.7	44.9	41.0	37.1	45.6	46.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	24
CNEL:	3	5	12	25

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

Scenario: EAP
Road Name: Contour Av.
Road Segment: West of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,048 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	25 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:	58.73	-10.12	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-27.36	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-31.31	-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:	42.8	41.8	40.1	34.0	42.6	43.2
Medium Trucks:	37.6	37.0	30.7	29.1	37.6	37.8
Heavy Trucks:	40.8	40.4	31.3	32.6	40.9	41.0
Vehicle Noise:	45.7	44.9	41.0	37.1	45.6	46.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	24
CNEL:	3	5	12	25

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

Scenario: EAC
Road Name: Contour Av.
Road Segment: West of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,048 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	25 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:	58.73	-10.12	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-27.36	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-31.31	-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:	42.8	41.8	40.1	34.0	42.6	43.2
Medium Trucks:	37.6	37.0	30.7	29.1	37.6	37.8
Heavy Trucks:	40.8	40.4	31.3	32.6	40.9	41.0
Vehicle Noise:	45.7	44.9	41.0	37.1	45.6	46.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	24
CNEL:	3	5	12	25

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

Scenario: EAPC
Road Name: Contour Av.
Road Segment: West of Hansen Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,048 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	25 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:	58.73	-10.12	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-27.36	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-31.31	-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:	42.8	41.8	40.1	34.0	42.6	43.2
Medium Trucks:	37.6	37.0	30.7	29.1	37.6	37.8
Heavy Trucks:	40.8	40.4	31.3	32.6	40.9	41.0
Vehicle Noise:	45.7	44.9	41.0	37.1	45.6	46.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	24
CNEL:	3	5	12	25

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: West of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,253 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	101 vehicles
Vehicle Speed:	25 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:	58.73	-9.34	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-26.58	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-30.54	-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:	43.6	42.6	40.8	34.8	43.4	44.0
Medium Trucks:	38.4	37.8	31.5	29.9	38.4	38.6
Heavy Trucks:	41.6	41.1	32.1	33.3	41.7	41.8
Vehicle Noise:	46.5	45.7	41.8	37.9	46.4	46.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	28

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: West of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,253 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	101 vehicles
Vehicle Speed:	25 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:	58.73	-9.34	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-26.58	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-30.54	-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:	43.6	42.6	40.8	34.8	43.4	44.0
Medium Trucks:	38.4	37.8	31.5	29.9	38.4	38.6
Heavy Trucks:	41.6	41.1	32.1	33.3	41.7	41.8
Vehicle Noise:	46.5	45.7	41.8	37.9	46.4	46.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	6	12	27
CNEL:	3	6	13	28

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: West of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,028 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	83 vehicles
Vehicle Speed:	25 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:	58.73	-10.20	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-27.44	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-31.40	-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:	42.7	41.7	40.0	33.9	42.5	43.2
Medium Trucks:	37.5	37.0	30.6	29.1	37.5	37.7
Heavy Trucks:	40.8	40.3	31.2	32.5	40.8	41.0
Vehicle Noise:	45.6	44.9	40.9	37.0	45.5	45.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	23
CNEL:	2	5	12	25

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Contour Av. *Job Number:* 13265
Road Segment: West of Hansen Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,028 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	83 vehicles
Vehicle Speed:	25 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:	58.73	-10.20	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-27.44	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-31.40	-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:	42.7	41.7	40.0	33.9	42.5	43.2
Medium Trucks:	37.5	37.0	30.6	29.1	37.5	37.7
Heavy Trucks:	40.8	40.3	31.2	32.5	40.8	41.0
Vehicle Noise:	45.6	44.9	40.9	37.0	45.5	45.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	2	5	11	23
CNEL:	2	5	12	25

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

Scenario: EA
Road Name: Hansen Av.
Road Segment: North of Contour Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,076 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	410 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	-5.82	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.06	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.02	-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:	56.8	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	50.6	50.0	43.6	42.1	50.6	50.8
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	58.7	57.8	54.7	50.0	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	19	40	86	185

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

Scenario: EAP
Road Name: Hansen Av.
Road Segment: North of Contour Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,076 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	410 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	-5.82	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.06	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.02	-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:	56.8	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	50.6	50.0	43.6	42.1	50.6	50.8
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	58.7	57.8	54.7	50.0	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	19	40	86	185

Wednesday, March 9, 2022

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

Scenario: EAC
Road Name: Hansen Av.
Road Segment: North of Contour Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,476 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	604 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	-4.14	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.38	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.33	-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:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	53.1	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.3	59.5	56.4	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	240

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

Scenario: EAPC
Road Name: Hansen Av.
Road Segment: North of Contour Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,476 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	604 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	-4.14	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.38	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.33	-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:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	53.1	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.3	59.5	56.4	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	240

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. | *Job Number:* 13265
Road Segment: North of Contour Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,938 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	722 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	-3.36	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.56	-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:	59.3	58.3	56.5	50.5	59.1	59.7
Medium Trucks:	53.0	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	53.9	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	61.1	60.3	57.2	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	125	270

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. | *Job Number:* 13265
Road Segment: North of Contour Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,138 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	738 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	-3.27	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.51	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.46	-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:	59.4	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	53.1	52.6	46.2	44.6	53.1	53.3
Heavy Trucks:	54.0	53.5	44.4	45.7	54.1	54.2
Vehicle Noise:	61.2	60.4	57.2	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. | *Job Number:* 13265
Road Segment: North of Contour Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,978 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	402 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	-5.91	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.14	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.10	-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:	56.7	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	50.5	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	51.3	50.8	41.8	43.1	51.4	51.5
Vehicle Noise:	58.6	57.8	54.6	49.9	58.5	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	79	170
CNEL:	18	39	85	183

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. | *Job Number:* 13265
Road Segment: North of Contour Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,176 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	418 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	-5.74	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.93	-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:	56.9	55.9	54.2	48.1	56.7	57.3
Medium Trucks:	50.7	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	51.5	51.0	42.0	43.2	51.6	51.7
Vehicle Noise:	58.7	57.9	54.8	50.1	58.6	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	38	81	175
CNEL:	19	40	87	188

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

Scenario: EA
Road Name: Hansen Av.
Road Segment: Between Contour Av. and Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,322 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	349 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	-6.52	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.76	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.71	-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:	56.1	55.2	53.4	47.3	56.0	56.6
Medium Trucks:	49.9	49.3	42.9	41.4	49.9	50.1
Heavy Trucks:	50.7	50.2	41.2	42.4	50.8	50.9
Vehicle Noise:	58.0	57.1	54.0	49.3	57.9	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	33	72	155
CNEL:	17	36	77	166

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

Scenario: EAP
Road Name: Hansen Av.
Road Segment: Between Contour Av. and Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,718 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	381 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	-6.14	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.38	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.33	-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:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.3	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	82	176

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

Scenario: EAC
Road Name: Hansen Av.
Road Segment: Between Contour Av. and Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,522 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	446 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	-5.46	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.69	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.65	-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:	57.2	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	50.9	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	51.8	51.3	42.3	43.5	51.9	52.0
Vehicle Noise:	59.0	58.2	55.1	50.4	58.9	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

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

Scenario: EAPC
Road Name: Hansen Av.
Road Segment: Between Contour Av. and Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,918 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	478 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	-5.16	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.39	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.35	-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:	57.5	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	51.2	50.7	44.3	42.8	51.2	51.5
Heavy Trucks:	52.1	51.6	42.6	43.8	52.2	52.3
Vehicle Noise:	59.3	58.5	55.4	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	89	191
CNEL:	21	44	95	205

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. *Job Number:* 13265
Road Segment: Between Contour Av. and Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,075 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	572 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	-4.38	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.62	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.57	-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:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.0	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	52.9	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	60.1	59.3	56.1	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	46	100	215
CNEL:	23	50	107	231

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. *Job Number:* 13265
Road Segment: Between Contour Av. and Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,475 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	604 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	-4.14	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.38	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.33	-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:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	53.1	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.3	59.5	56.4	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	240

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. *Job Number:* 13265
Road Segment: Between Contour Av. and Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,239 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	342 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	-6.60	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.84	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.80	-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:	56.0	55.1	53.3	47.2	55.9	56.5
Medium Trucks:	49.8	49.2	42.9	41.3	49.8	50.0
Heavy Trucks:	50.6	50.1	41.1	42.4	50.7	50.8
Vehicle Noise:	57.9	57.1	53.9	49.2	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	71	153
CNEL:	16	35	76	164

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Hansen Av. *Job Number:* 13265
Road Segment: Between Contour Av. and Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,635 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	-23.45	-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: EA
Road Name: Nuevo Rd.
Road Segment: East of Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,080 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	330 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	-7.64	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.88	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-28.84	-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:	58.3	57.4	55.6	49.5	58.2	58.8
Medium Trucks:	51.7	51.1	44.8	43.2	51.7	51.9
Heavy Trucks:	51.8	51.3	42.2	43.5	51.8	52.0
Vehicle Noise:	59.9	59.1	56.1	51.2	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	22	48	104	224

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: East of Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,476 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	362 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	-7.24	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.48	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-28.43	-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:	58.7	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	52.1	51.5	45.2	43.6	52.1	52.3
Heavy Trucks:	52.2	51.7	42.6	43.9	52.2	52.4
Vehicle Noise:	60.3	59.5	56.5	51.6	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	103	222
CNEL:	24	51	111	239

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: East of Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,080 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	491 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	-5.91	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-23.15	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-27.10	-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:	60.1	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	53.4	52.9	46.5	45.0	53.4	53.7
Heavy Trucks:	53.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.6	60.8	57.8	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	59	126	272
CNEL:	29	63	136	293

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: East of Montgomery Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,476 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	523 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	-5.64	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.87	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.83	-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:	60.3	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	53.7	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	53.8	53.3	44.2	45.5	53.8	54.0
Vehicle Noise:	61.9	61.1	58.1	53.2	61.8	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	132	284
CNEL:	31	66	142	305

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: East of Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,743 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	626 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	-4.86	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-22.10	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-26.05	-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:	61.1	60.1	58.4	52.3	60.9	61.5
Medium Trucks:	54.5	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	54.5	54.0	45.0	46.3	54.6	54.7
Vehicle Noise:	62.7	61.8	58.9	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	320
CNEL:	34	74	160	344

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: East of Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,143 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	658 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	-4.64	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-21.88	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-25.83	-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:	61.3	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	54.7	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	54.8	54.3	45.2	46.5	54.8	55.0
Vehicle Noise:	62.9	62.1	59.1	54.2	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	154	331
CNEL:	36	77	165	356

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: East of Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,002 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	323 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	-7.73	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-24.96	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-28.92	-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:	58.2	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	51.6	51.0	44.7	43.1	51.6	51.8
Heavy Trucks:	51.7	51.2	42.1	43.4	51.7	51.9
Vehicle Noise:	59.8	59.0	56.0	51.2	59.7	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	44	96	206
CNEL:	22	48	103	222

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: East of Montgomery Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,398 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	355 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	-7.32	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-24.55	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-28.51	-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:	58.7	57.7	55.9	49.9	58.5	59.1
Medium Trucks:	52.0	51.5	45.1	43.6	52.0	52.2
Heavy Trucks:	52.1	51.6	42.5	43.8	52.1	52.3
Vehicle Noise:	60.2	59.4	56.4	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	24	51	110	236

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between Montgomery Av. and Lakeview Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,548 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	367 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	-7.17	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-24.41	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-28.36	-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	59.2
Medium Trucks:	52.2	51.6	45.2	43.7	52.2	52.4
Heavy Trucks:	52.2	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	60.4	59.5	56.6	51.7	60.3	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	224
CNEL:	24	52	112	241

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between Montgomery Av. and Lakeview Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,944 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	399 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	-6.81	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-24.05	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-28.00	-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:	59.2	58.2	56.4	50.4	59.0	59.6
Medium Trucks:	52.5	52.0	45.6	44.1	52.5	52.8
Heavy Trucks:	52.6	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	60.7	59.9	56.9	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	26	55	118	255

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between Montgomery Av. and Lakeview Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,748 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	464 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	-6.15	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-23.39	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-27.35	-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:	53.2	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	53.2	52.7	43.7	45.0	53.3	53.4
Vehicle Noise:	61.4	60.6	57.6	52.7	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	122	262
CNEL:	28	61	131	282

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between Montgomery Av. and Lakeview Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,144 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	496 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	-5.86	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-23.10	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-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:	60.1	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	53.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.7	60.8	57.9	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	274
CNEL:	29	64	137	295

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Montgomery Av. and Lakeview Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,346 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	594 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	-5.09	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-22.33	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-26.28	-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:	60.9	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.3	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	54.3	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	62.5	61.6	58.7	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	143	309
CNEL:	33	72	154	332

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Montgomery Av. and Lakeview Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,746 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	626 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	-4.86	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-22.10	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-26.05	-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:	61.1	60.1	58.4	52.3	60.9	61.5
Medium Trucks:	54.5	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	54.5	54.0	45.0	46.3	54.6	54.7
Vehicle Noise:	62.7	61.9	58.9	54.0	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	148	320
CNEL:	34	74	160	344

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Montgomery Av. and Lakeview Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,461 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	360 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	-7.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-24.49	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-28.45	-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:	58.7	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	52.1	51.5	45.2	43.6	52.1	52.3
Heavy Trucks:	52.1	51.6	42.6	43.9	52.2	52.3
Vehicle Noise:	60.3	59.5	56.5	51.6	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	221
CNEL:	24	51	111	238

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Montgomery Av. and Lakeview Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,857 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	392 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	-6.89	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-24.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-28.08	-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:	59.1	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	52.5	51.9	45.5	44.0	52.4	52.7
Heavy Trucks:	52.5	52.0	43.0	44.2	52.6	52.7
Vehicle Noise:	60.7	59.8	56.9	52.0	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	109	234
CNEL:	25	54	117	252

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between Lakeview Av. and Reservoir Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,704 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,107 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	-2.38	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-19.62	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.57	-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:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	57.0	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	64.3	61.4	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	234	503

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between Lakeview Av. and Reservoir Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,298 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,155 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	-2.20	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-19.43	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.39	-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:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	57.2	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	65.3	64.5	61.6	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	52	112	240	518

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between Lakeview Av. and Reservoir Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,604 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,342 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	-1.55	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.78	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.74	-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	63.4	61.7	55.6	64.2	64.9
Medium Trucks:	57.8	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	57.8	57.4	48.3	49.6	57.9	58.0
Vehicle Noise:	66.0	65.2	62.2	57.3	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	115	247	532
CNEL:	57	123	266	572

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between Lakeview Av. and Reservoir Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,198 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,390 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	-1.39	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.63	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.59	-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	61.8	55.8	64.4	65.0
Medium Trucks:	58.0	57.4	51.0	49.5	57.9	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	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	544
CNEL:	59	126	272	586

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Lakeview Av. and Reservoir Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,562 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,661 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	-0.62	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-17.86	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-21.81	-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:	65.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	58.7	58.2	51.8	50.3	58.7	58.9
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.9	66.1	63.1	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	613
CNEL:	66	142	306	660

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Lakeview Av. and Reservoir Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,162 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,710 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	-0.49	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-17.73	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-21.69	-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:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	58.9	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	67.1	66.2	63.3	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	290	625
CNEL:	67	145	312	673

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Lakeview Av. and Reservoir Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,441 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,086 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	-2.46	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-19.70	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.66	-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:	63.5	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	56.9	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	56.9	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	65.1	64.2	61.3	56.4	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	214	462
CNEL:	50	107	231	497

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Lakeview Av. and Reservoir Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,035 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,134 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	-2.28	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-19.51	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.47	-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:	63.7	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	57.1	56.5	50.1	48.6	57.1	57.3
Heavy Trucks:	57.1	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	65.3	64.4	61.5	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	102	221	475
CNEL:	51	110	237	512

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between Reservoir Av. and the Project Site
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,228 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	665 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	-4.60	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-21.83	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-25.79	-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:	61.4	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	54.8	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	62.9	62.1	59.2	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	333
CNEL:	36	77	166	358

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between Reservoir Av. and the Project Site
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,404 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	841 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	-3.58	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-20.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-24.77	-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:	62.4	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	55.8	55.2	48.8	47.3	55.8	56.0
Heavy Trucks:	55.8	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	64.0	63.1	60.2	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	181	389
CNEL:	42	90	194	419

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between Reservoir Av. and the Project Site
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,528 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,487 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	3.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.54	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.50	-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:	69.7	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	63.1	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	63.1	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.2	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	256	552	1,189
CNEL:	128	276	594	1,280

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between Reservoir Av. and the Project Site
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,704 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,663 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	3.86	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.37	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.33	-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:	69.8	68.9	67.1	61.0	69.7	70.3
Medium Trucks:	63.2	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	63.3	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	71.4	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	122	263	566	1,220
CNEL:	131	283	609	1,313

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Reservoir Av. and the Project Site

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,992 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,575 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	4.64	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.55	-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:	70.6	69.6	67.9	61.8	70.4	71.0
Medium Trucks:	64.0	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.0	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	72.2	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	296	638	1,375
CNEL:	148	319	686	1,479

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Reservoir Av. and the Project Site

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	71,590 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,784 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	4.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.44	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.39	-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:	70.8	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	64.2	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	64.2	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	72.3	71.5	68.6	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	304	654	1,409
CNEL:	152	327	704	1,516

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Reservoir Av. and the Project Site

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,297 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,902 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	3.09	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-14.15	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-18.10	-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:	69.1	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.4	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	62.5	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	70.6	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	108	233	503	1,084
CNEL:	117	251	541	1,166

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Reservoir Av. and the Project Site

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,869 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,110 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	3.32	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.92	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.88	-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	68.3	66.5	60.5	69.1	69.7
Medium Trucks:	62.7	62.1	55.7	54.2	62.6	62.9
Heavy Trucks:	62.7	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	70.9	70.0	67.1	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	112	242	521	1,122
CNEL:	121	260	560	1,207

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between the Project Site and Dunlap Dr.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,490 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,009 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	-20.02	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.98	-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:	64.8	63.9	61.0	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	204	440
CNEL:	47	102	220	473

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between the Project Site and Dunlap Dr.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,028 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,457 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	-1.19	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.43	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.38	-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:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.2	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	66.4	65.5	62.6	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	562
CNEL:	60	130	281	604

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between the Project Site and Dunlap Dr.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,390 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,587 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	-14.51	-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	66.0	59.9	68.5	69.1
Medium Trucks:	62.1	61.5	55.1	53.6	62.1	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	476	1,024
CNEL:	110	237	512	1,102

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between the Project Site and Dunlap Dr.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,928 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,034 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	3.24	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-14.00	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.96	-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	55.6	54.1	62.6	62.8
Heavy Trucks:	62.6	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	70.8	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	111	239	514	1,108
CNEL:	119	257	553	1,192

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between the Project Site and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	59,694 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,823 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	4.01	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.23	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.18	-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	67.2	61.2	69.8	70.4
Medium Trucks:	63.4	62.8	56.4	54.9	63.3	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	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	579	1,248
CNEL:	134	289	623	1,343

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between the Project Site and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,490 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,130 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	61.5	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	1,301
CNEL:	140	301	649	1,399

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between the Project Site and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,660 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,235 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	0.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-16.57	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-20.52	-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:	66.6	65.7	63.9	57.8	66.5	67.1
Medium Trucks:	60.0	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.1	59.6	50.5	51.8	60.1	60.3
Vehicle Noise:	68.2	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	347	747
CNEL:	80	173	373	804

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between the Project Site and Dunlap Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,440 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,379 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	0.94	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-16.30	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-20.25	-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:	66.9	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.3	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.3	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	68.5	67.6	64.7	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	779
CNEL:	84	181	389	838

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,705 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	946 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	-3.06	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-20.30	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-24.26	-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:	62.9	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	56.3	55.7	49.3	47.8	56.3	56.5
Heavy Trucks:	56.3	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.5	63.6	60.7	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	421
CNEL:	45	98	210	453

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,847 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,361 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	-1.48	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.72	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.68	-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:	64.5	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	57.9	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	57.9	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	66.1	65.2	62.3	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	249	537
CNEL:	58	124	268	578

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 Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,105 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,645 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	2.79	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-14.44	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-18.40	-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:	68.8	67.8	66.0	60.0	68.6	69.2
Medium Trucks:	62.1	61.6	55.2	53.7	62.1	62.4
Heavy Trucks:	62.2	61.7	52.7	53.9	62.3	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:	104	223	481	1,035
CNEL:	111	240	517	1,114

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 Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,247 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,060 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	3.26	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.93	-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	68.3	66.5	60.4	69.1	69.7
Medium Trucks:	62.6	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
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	240	516	1,113
CNEL:	120	258	556	1,197

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
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):	60,076 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,854 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	4.04	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-13.20	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-17.16	-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:	70.0	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	63.4	62.8	56.5	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	270	582	1,253
CNEL:	135	291	626	1,349

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
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):	63,672 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,145 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	4.29	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-12.95	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-16.90	-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:	70.3	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	63.6	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	63.7	63.2	54.2	55.4	63.8	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	281	605	1,303
CNEL:	140	302	651	1,402

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
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):	27,837 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,249 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	0.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-16.54	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-20.50	-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:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.1	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	60.1	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.2	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	348	751
CNEL:	81	174	375	807

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
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):	29,419 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,377 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	0.94	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-16.30	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-20.26	-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:	66.9	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	60.3	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	60.3	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.5	67.6	64.7	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	361	779
CNEL:	84	180	389	838

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,278 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,558 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.49	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.75	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.71	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.2	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.6	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	63.3	62.5	59.2	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	163	352
CNEL:	38	81	175	376

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,024 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,941 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.44	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.80	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.75	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	56.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.5	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.2	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	189	407
CNEL:	44	94	202	436

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,678 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,933 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.51	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-12.73	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-16.69	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	59.3	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.6	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	67.3	66.5	63.2	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	303	652
CNEL:	70	150	324	698

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between Murrieta Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,424 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,317 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.91	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-12.33	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-16.28	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	59.7	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	61.0	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	67.7	66.9	63.6	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	149	322	694
CNEL:	74	160	345	743

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Murrieta Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,874 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,161 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	5.69	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-11.55	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-15.51	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.5	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.8	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	68.5	67.7	64.4	59.9	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	363	781
CNEL:	84	180	388	837

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Murrieta Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,670 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,387 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	5.87	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-11.36	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-15.32	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	60.6	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	68.7	67.9	64.6	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	80	173	373	804
CNEL:	86	185	400	861

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Murrieta Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,532 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,083 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.67	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.57	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.52	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.4	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	67.5	66.7	63.4	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	668
CNEL:	72	154	332	716

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Murrieta Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,322 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,147 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.74	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.50	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.46	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.5	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.8	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	67.5	66.7	63.5	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	145	313	675
CNEL:	72	156	336	723

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

Scenario: EA
Road Name: Nuevo Rd.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,999 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,939 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	1.44	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.80	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.76	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	56.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.5	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.2	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	407
CNEL:	44	94	202	436

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

Scenario: EAP
Road Name: Nuevo Rd.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,953 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,259 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.10	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.14	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.10	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	64.9	64.1	60.8	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	224	482

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

Scenario: EAC
Road Name: Nuevo Rd.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,599 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,088 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.68	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.56	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.52	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.4	58.9	52.5	51.0	59.4	59.6
Heavy Trucks:	60.8	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	67.5	66.7	63.4	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	67	144	310	669
CNEL:	72	154	332	716

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

Scenario: EAPC
Road Name: Nuevo Rd.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,553 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,408 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	5.00	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.24	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.19	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	59.8	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.1	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	67.8	67.0	63.7	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	152	326	703
CNEL:	75	162	350	753

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,224 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,270 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	5.78	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-11.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-15.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.5	60.0	53.6	52.1	60.5	60.7
Heavy Trucks:	61.9	61.4	52.3	53.6	61.9	62.1
Vehicle Noise:	68.6	67.8	64.5	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	171	368	792
CNEL:	85	183	394	848

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,622 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,464 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	5.94	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-11.30	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-15.26	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	60.7	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	62.0	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	68.7	67.9	64.7	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	377	812
CNEL:	87	187	403	869

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,704 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,178 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.77	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.47	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.5	59.0	52.6	51.0	59.5	59.7
Heavy Trucks:	60.9	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	67.6	66.8	63.5	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	146	315	679
CNEL:	73	157	337	727

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Nuevo Rd. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,100 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,210 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.80	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.44	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.39	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.9	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	67.6	66.8	63.5	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	317	682
CNEL:	73	157	339	730

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

Scenario: EA
Road Name: Orange Av.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,863 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	555 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	-4.51	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.75	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.71	-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:	58.1	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	51.9	51.3	44.9	43.4	51.9	52.1
Heavy Trucks:	52.7	52.2	43.2	44.5	52.8	52.9
Vehicle Noise:	60.0	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

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

Scenario: EAP
Road Name: Orange Av.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,863 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	555 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	-4.51	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.75	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.71	-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:	58.1	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	51.9	51.3	44.9	43.4	51.9	52.1
Heavy Trucks:	52.7	52.2	43.2	44.5	52.8	52.9
Vehicle Noise:	60.0	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

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

Scenario: EAC
Road Name: Orange Av.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,863 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	555 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	-4.51	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.75	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.71	-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:	58.1	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	51.9	51.3	44.9	43.4	51.9	52.1
Heavy Trucks:	52.7	52.2	43.2	44.5	52.8	52.9
Vehicle Noise:	60.0	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

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

Scenario: EAPC
Road Name: Orange Av.
Road Segment: Between Dunlap Dr. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,863 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	555 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	-4.51	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.75	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.71	-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:	58.1	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	51.9	51.3	44.9	43.4	51.9	52.1
Heavy Trucks:	52.7	52.2	43.2	44.5	52.8	52.9
Vehicle Noise:	60.0	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	98	211
CNEL:	23	49	105	226

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Dunlap Dr. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,206 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	663 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	-3.74	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.93	-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:	58.9	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	52.7	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	53.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	60.7	59.9	56.8	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	238
CNEL:	26	55	118	255

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Dunlap Dr. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,198 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,147 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	-1.35	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.59	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.55	-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:	61.3	60.3	58.6	52.5	61.1	61.7
Medium Trucks:	55.0	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	55.9	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	63.1	62.3	59.2	54.5	63.0	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	74	159	343
CNEL:	37	79	171	368

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Dunlap Dr. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,732 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	544 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	-4.60	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.83	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.79	-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:	58.0	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	51.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	52.7	52.2	43.1	44.4	52.7	52.9
Vehicle Noise:	59.9	59.1	55.9	51.2	59.8	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	208
CNEL:	22	48	104	224

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Dunlap Dr. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,896 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	800 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	-2.92	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.16	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.12	-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:	59.7	58.8	57.0	50.9	59.6	60.2
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	54.3	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	61.6	60.7	57.6	52.9	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	269
CNEL:	29	62	134	289

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

Scenario: EA
Road Name: Orange Av.
Road Segment: Between Evans Rd. and Murrieta Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,499 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	848 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	-2.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.90	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.86	-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:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	53.7	53.2	46.8	45.2	53.7	53.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.8	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	280
CNEL:	30	65	140	301

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

Scenario: EAP
Road Name: Orange Av.
Road Segment: Between Evans Rd. and Murrieta Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,499 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	848 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	-2.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.90	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.86	-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:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	53.7	53.2	46.8	45.2	53.7	53.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.8	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	280
CNEL:	30	65	140	301

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

Scenario: EAC
Road Name: Orange Av.
Road Segment: Between Evans Rd. and Murrieta Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,499 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	848 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	-2.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.90	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.86	-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:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	53.7	53.2	46.8	45.2	53.7	53.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.8	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	280
CNEL:	30	65	140	301

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

Scenario: EAPC
Road Name: Orange Av.
Road Segment: Between Evans Rd. and Murrieta Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,499 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	848 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	-2.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.90	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.86	-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:	60.0	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	53.7	53.2	46.8	45.2	53.7	53.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.8	61.0	57.8	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	130	280
CNEL:	30	65	140	301

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Murrieta Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,552 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,014 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	-1.89	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.13	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.08	-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:	60.8	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	54.5	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	62.6	61.8	58.6	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	147	316
CNEL:	34	73	157	339

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Murrieta Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,746 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,434 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	-0.39	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.62	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.58	-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:	62.3	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.0	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	56.9	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	64.1	63.3	60.1	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	86	185	398
CNEL:	43	92	198	427

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Murrieta Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,297 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	832 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	-2.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.94	-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:	59.9	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	53.7	53.1	46.7	45.2	53.6	53.9
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	61.7	60.9	57.8	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	277
CNEL:	30	64	138	297

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Murrieta Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,669 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,024 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	-1.85	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.09	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.04	-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:	60.8	59.8	58.1	52.0	60.6	61.2
Medium Trucks:	54.6	54.0	47.6	46.1	54.5	54.8
Heavy Trucks:	55.4	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	62.6	61.8	58.7	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	147	318
CNEL:	34	73	158	341

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

Scenario: EA
Road Name: Orange Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 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	-0.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.03	-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:	61.8	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.6	62.8	59.7	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

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

Scenario: EAP
Road Name: Orange Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 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	-0.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.03	-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:	61.8	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.6	62.8	59.7	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

Wednesday, March 9, 2022

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

Scenario: EAC
Road Name: Orange Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 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	-0.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.03	-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:	61.8	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.6	62.8	59.7	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

Wednesday, March 9, 2022

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

Scenario: EAPC
Road Name: Orange Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 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	-0.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.03	-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:	61.8	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.6	62.8	59.7	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	172	371
CNEL:	40	86	185	398

Wednesday, March 9, 2022

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,126 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,545 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	-0.06	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.30	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.25	-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:	62.6	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.3	55.8	49.4	47.9	56.3	56.5
Heavy Trucks:	57.2	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.4	63.6	60.5	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	418
CNEL:	45	97	208	448

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,926 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,610 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	0.12	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.08	-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	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.5	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.4	56.9	47.8	49.1	57.4	57.6
Vehicle Noise:	64.6	63.8	60.6	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	199	430
CNEL:	46	99	214	461

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,690 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,268 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	-0.92	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.16	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.11	-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:	61.7	60.8	59.0	52.9	61.6	62.2
Medium Trucks:	55.5	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.3	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	63.6	62.7	59.6	54.9	63.5	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	85	182	393

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,480 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,332 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	-0.71	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.95	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.90	-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:	61.9	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	55.7	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.5	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	63.8	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	379
CNEL:	41	87	188	406

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

Scenario: EA
Road Name: Orange Av.
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,514 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,254 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	-0.97	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.21	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.16	-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:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.4	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.4	56.5
Vehicle Noise:	63.5	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	169	364
CNEL:	39	84	181	390

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

Scenario: EAP
Road Name: Orange Av.
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,514 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,254 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	-0.97	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.21	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.16	-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:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.4	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.4	56.5
Vehicle Noise:	63.5	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	169	364
CNEL:	39	84	181	390

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

Scenario: EAC
Road Name: Orange Av.
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,514 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,254 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	-0.97	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.21	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.16	-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:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.4	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.4	56.5
Vehicle Noise:	63.5	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	169	364
CNEL:	39	84	181	390

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

Scenario: EAPC
Road Name: Orange Av.
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,514 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,254 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	-0.97	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.21	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.16	-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:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.4	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.4	56.5
Vehicle Noise:	63.5	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	169	364
CNEL:	39	84	181	390

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,549 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,499 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	-0.19	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.43	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.39	-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:	62.5	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.1	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	64.3	63.5	60.3	55.6	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	410
CNEL:	44	95	204	439

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,949 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,531 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	-0.10	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.34	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.30	-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:	62.5	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	56.3	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	57.1	56.7	47.6	48.9	57.2	57.3
Vehicle Noise:	64.4	63.6	60.4	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	415
CNEL:	45	96	207	446

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,217 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,229 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	-1.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.29	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.25	-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:	61.6	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	55.3	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.4	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	39	83	179	385

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Orange Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,613 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,261 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	-0.94	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.18	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.14	-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:	61.7	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.5	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.3	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	63.5	62.7	59.6	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	169	365
CNEL:	39	84	182	392

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

Scenario: EA
Road Name: Placentia Av.
Road Segment: East of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,197 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,228 vehicles
Vehicle Speed:	35 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:	64.30	0.03	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.16	-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:	58.5	57.5	55.8	49.7	58.3	59.0
Medium Trucks:	52.7	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	60.7	60.0	56.5	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	25	55	118	255

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

Scenario: EAP
Road Name: Placentia Av.
Road Segment: East of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,197 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,228 vehicles
Vehicle Speed:	35 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:	64.30	0.03	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.16	-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:	58.5	57.5	55.8	49.7	58.3	59.0
Medium Trucks:	52.7	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	60.7	60.0	56.5	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	25	55	118	255

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

Scenario: EAC
Road Name: Placentia Av.
Road Segment: East of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,197 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,228 vehicles
Vehicle Speed:	35 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:	64.30	0.03	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.16	-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:	58.5	57.5	55.8	49.7	58.3	59.0
Medium Trucks:	52.7	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	60.7	60.0	56.5	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	25	55	118	255

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

Scenario: EAPC
Road Name: Placentia Av.
Road Segment: East of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,197 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,228 vehicles
Vehicle Speed:	35 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:	64.30	0.03	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.16	-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:	58.5	57.5	55.8	49.7	58.3	59.0
Medium Trucks:	52.7	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	60.7	60.0	56.5	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	25	55	118	255

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. | *Job Number:* 13265
Road Segment: East of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,170 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,468 vehicles
Vehicle Speed:	35 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:	64.30	0.81	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.43	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.39	-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:	59.3	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	53.5	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.4	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	61.5	60.7	57.3	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	125	268
CNEL:	29	62	133	287

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. | *Job Number:* 13265
Road Segment: East of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,566 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,823 vehicles
Vehicle Speed:	35 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:	64.30	1.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-15.49	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-19.45	-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:	60.2	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	54.5	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	56.3	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	62.5	61.7	58.2	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	71	154	331

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. | *Job Number:* 13265
Road Segment: East of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,906 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	35 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:	64.30	-0.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.29	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.25	-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:	58.4	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	52.6	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	60.7	59.9	56.4	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	109	235
CNEL:	25	54	117	251

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. | *Job Number:* 13265
Road Segment: East of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,488 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,332 vehicles
Vehicle Speed:	35 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:	64.30	0.39	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.85	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.81	-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:	58.9	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.1	52.5	46.1	44.6	53.1	53.3
Heavy Trucks:	54.9	54.5	45.4	46.7	55.0	55.1
Vehicle Noise:	61.1	60.3	56.9	52.5	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	252
CNEL:	27	58	125	269

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

Scenario: EA
Road Name: Placentia Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 vehicles
Vehicle Speed:	35 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:	64.30	0.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.94	-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:	58.7	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	53.0	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.0	60.2	56.7	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	247
CNEL:	26	57	122	263

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

Scenario: EAP
Road Name: Placentia Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 vehicles
Vehicle Speed:	35 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:	64.30	0.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.94	-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:	58.7	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	53.0	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.0	60.2	56.7	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	247
CNEL:	26	57	122	263

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

Scenario: EAC
Road Name: Placentia Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 vehicles
Vehicle Speed:	35 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:	64.30	0.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.94	-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:	58.7	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	53.0	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.0	60.2	56.7	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	247
CNEL:	26	57	122	263

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

Scenario: EAPC
Road Name: Placentia Av.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,997 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,293 vehicles
Vehicle Speed:	35 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:	64.30	0.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.94	-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:	58.7	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	53.0	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.0	60.2	56.7	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	247
CNEL:	26	57	122	263

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,126 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,545 vehicles
Vehicle Speed:	35 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:	64.30	1.03	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.16	-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:	59.5	58.5	56.8	50.7	59.3	60.0
Medium Trucks:	53.7	53.2	46.8	45.2	53.7	53.9
Heavy Trucks:	55.6	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	61.7	61.0	57.5	53.1	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	278
CNEL:	30	64	138	297

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,926 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,610 vehicles
Vehicle Speed:	35 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:	64.30	1.21	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.03	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-19.99	-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:	59.7	58.7	57.0	50.9	59.5	60.1
Medium Trucks:	53.9	53.3	47.0	45.4	53.9	54.1
Heavy Trucks:	55.8	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	61.9	61.1	57.7	53.3	61.8	62.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	61	132	285
CNEL:	30	66	142	305

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,690 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,268 vehicles
Vehicle Speed:	35 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:	64.30	0.17	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.02	-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:	58.7	57.7	55.9	49.9	58.5	59.1
Medium Trucks:	52.9	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	54.7	54.2	45.2	46.5	54.8	54.9
Vehicle Noise:	60.9	60.1	56.7	52.3	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	243
CNEL:	26	56	121	260

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Placentia Av. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,480 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,332 vehicles
Vehicle Speed:	35 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:	64.30	0.38	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.85	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.81	-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:	58.9	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.1	52.5	46.1	44.6	53.1	53.3
Heavy Trucks:	54.9	54.5	45.4	46.7	55.0	55.1
Vehicle Noise:	61.1	60.3	56.9	52.5	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	269

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

Scenario: EA
Road Name: Rider St.
Road Segment: Between Ramona Expy. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,622 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	535 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.67	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.91	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.86	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.1	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	51.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	52.7	52.2	43.1	44.4	52.7	52.9
Vehicle Noise:	59.9	59.1	55.9	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	45	97	209
CNEL:	22	48	104	224

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

Scenario: EAP
Road Name: Rider St.
Road Segment: Between Ramona Expy. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,796 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	711 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.43	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.67	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.63	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	53.1	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	53.9	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	61.1	60.3	57.2	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	253
CNEL:	27	58	126	271

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

Scenario: EAC
Road Name: Rider St.
Road Segment: Between Ramona Expy. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,622 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,343 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.67	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.91	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.86	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.1	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	55.8	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	56.7	56.2	47.1	48.4	56.7	56.9
Vehicle Noise:	63.9	63.1	59.9	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	179	386
CNEL:	41	89	192	414

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

Scenario: EAPC
Road Name: Rider St.
Road Segment: Between Ramona Expy. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,796 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,519 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.14	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.37	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.33	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.6	59.9	53.8	62.4	63.0
Medium Trucks:	56.4	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	57.2	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.4	63.6	60.5	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	195	419
CNEL:	45	97	209	450

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Ramona Expy. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,473 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,816 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.64	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.60	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.55	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.1	56.6	50.2	48.6	57.1	57.3
Heavy Trucks:	58.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.2	64.4	61.3	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	507

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Ramona Expy. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,473 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,816 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.64	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.60	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.55	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.4	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.1	56.6	50.2	48.6	57.1	57.3
Heavy Trucks:	58.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	65.2	64.4	61.3	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	507

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Ramona Expy. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,355 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,079 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.62	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.86	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.81	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.1	58.4	52.3	60.9	61.6
Medium Trucks:	54.9	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.7	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	63.0	62.1	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Ramona Expy. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,355 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,079 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.62	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.86	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.81	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.1	60.1	58.4	52.3	60.9	61.6
Medium Trucks:	54.9	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.7	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	63.0	62.1	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

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

Scenario: EA
Road Name: Rider St.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,719 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	704 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.47	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.71	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.67	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.3	58.3	56.5	50.5	59.1	59.7
Medium Trucks:	53.0	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	61.1	60.3	57.1	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	270

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

Scenario: EAP
Road Name: Rider St.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,103 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	816 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.83	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.07	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.03	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.9	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	53.7	53.1	46.7	45.2	53.6	53.9
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	61.7	60.9	57.8	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	277
CNEL:	30	64	138	297

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

Scenario: EAC
Road Name: Rider St.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,319 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,046 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.16	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.08	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.04	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	57.7	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	58.5	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.7	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	255	549

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

Scenario: EAPC
Road Name: Rider St.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,703 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,158 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.39	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.85	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.81	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	57.9	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.7	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	66.0	65.1	62.0	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	114	246	530
CNEL:	57	122	264	568

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,926 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.16	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.07	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.03	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.5	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.7	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	297	640

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,926 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.16	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.07	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.03	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.5	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	66.7	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	129	277	597
CNEL:	64	138	297	640

Wednesday, March 9, 2022

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,973 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,533 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.10	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.33	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.29	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.4	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	57.2	56.8	47.7	49.0	57.3	57.4
Vehicle Noise:	64.5	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	422
CNEL:	45	98	210	453

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,973 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,533 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.10	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.33	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.29	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.4	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	57.2	56.8	47.7	49.0	57.3	57.4
Vehicle Noise:	64.5	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	422
CNEL:	45	98	210	453

Wednesday, March 9, 2022

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

Scenario: EA
Road Name: Rider St.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,139 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,466 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.29	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.53	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.49	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.1	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	64.3	63.5	60.3	55.6	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	409
CNEL:	44	95	204	439

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

Scenario: EAP
Road Name: Rider St.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,929 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,529 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.11	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.34	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.30	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	56.4	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	57.2	56.7	47.7	49.0	57.3	57.4
Vehicle Noise:	64.5	63.7	60.5	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	91	196	421
CNEL:	45	97	210	452

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

Scenario: EAC
Road Name: Rider St.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,935 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,611 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.12	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.12	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.07	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.6	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	57.5	57.0	47.9	49.2	57.5	57.7
Vehicle Noise:	64.7	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

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

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

Scenario: EAPC
Road Name: Rider St.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,725 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,675 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.29	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.95	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.91	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	56.8	56.2	49.8	48.3	56.8	57.0
Heavy Trucks:	57.6	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	64.9	64.0	60.9	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	208	448
CNEL:	48	103	223	480

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,779 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.06	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.13	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.4	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.6	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	541

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,779 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,002 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.06	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.13	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	57.6	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.4	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	65.6	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	54	117	251	541

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,791 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,438 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.37	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.61	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.57	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.1	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	64.2	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	188	404
CNEL:	43	93	201	434

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,791 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,438 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.37	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.61	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.57	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.4	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.1	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.0	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	64.2	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	40	87	188	404
CNEL:	43	93	201	434

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

Scenario: EA
Road Name: Rider St.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,122 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,222 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.08	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.32	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.28	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.7	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	55.4	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.5	62.7	59.5	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	168	363
CNEL:	39	84	181	389

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

Scenario: EAP
Road Name: Rider St.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,518 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,254 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.97	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.21	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.16	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	55.5	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.4	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	63.6	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	171	369
CNEL:	40	85	184	396

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

Scenario: EAC
Road Name: Rider St.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,743 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,353 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.64	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.88	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.83	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	55.9	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	56.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	63.9	63.1	60.0	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	180	388
CNEL:	42	90	193	416

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

Scenario: EAPC
Road Name: Rider St.
Road Segment: Between Redlands Av. and Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,139 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,385 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.73	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.0	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.8	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.0	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	85	183	394
CNEL:	42	91	196	423

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,492 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,656 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.00	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.96	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.7	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	64.8	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	96	206	444
CNEL:	48	103	221	476

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,492 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,656 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.00	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.96	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	56.7	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	57.6	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	64.8	64.0	60.8	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	96	206	444
CNEL:	48	103	221	476

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,832 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,198 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.40	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.36	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.3	54.8	48.4	46.8	55.3	55.5
Heavy Trucks:	56.2	55.7	46.6	47.9	56.3	56.4
Vehicle Noise:	63.4	62.6	59.4	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	384

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Rider St. *Job Number:* 13265
Road Segment: Between Redlands Av. and Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,832 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,198 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.40	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.36	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	61.6	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	55.3	54.8	48.4	46.8	55.3	55.5
Heavy Trucks:	56.2	55.7	46.6	47.9	56.3	56.4
Vehicle Noise:	63.4	62.6	59.4	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	166	358
CNEL:	38	83	178	384

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,867 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.02	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.22	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.18	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.5	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	66.6	65.8	62.6	58.0	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	126	271	584
CNEL:	63	135	291	626

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,153 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,052 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.13	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.11	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.07	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	60.6	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.5	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	68.7	67.9	64.7	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	174	374	807
CNEL:	87	186	402	865

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	92,367 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,463 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	6.78	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-10.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.5	68.5	66.8	60.7	69.3	70.0
Medium Trucks:	63.3	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	64.1	63.6	54.6	55.8	64.2	64.3
Vehicle Noise:	71.4	70.5	67.4	62.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	121	261	563	1,212
CNEL:	130	280	603	1,300

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	111,653 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,022 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	7.60	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-9.64	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.59	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	64.1	63.5	57.2	55.6	64.1	64.3
Heavy Trucks:	64.9	64.4	55.4	56.7	65.0	65.1
Vehicle Noise:	72.2	71.4	68.2	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	138	296	638	1,375
CNEL:	148	318	685	1,475

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	133,494 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	10,786 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	8.38	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-8.86	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.82	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.4	62.3	70.9	71.6
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.1
Heavy Trucks:	65.7	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	73.0	72.1	69.0	64.3	72.9	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	155	334	719	1,549
CNEL:	166	358	771	1,662

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	147,450 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,914 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	8.81	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-8.43	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.38	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.6	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	65.3	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	66.2	65.7	56.6	57.9	66.2	66.4
Vehicle Noise:	73.4	72.6	69.4	64.7	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	166	357	768	1,656
CNEL:	178	383	824	1,776

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,681 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,711 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.62	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.62	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.58	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.4	67.4	65.6	59.6	68.2	68.8
Medium Trucks:	62.1	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	63.0	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	70.2	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	471	1,014
CNEL:	109	234	505	1,088

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	75,415 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,094 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.90	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.34	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.30	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.4	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.2	62.7	53.7	55.0	63.3	63.4
Vehicle Noise:	70.5	69.7	66.5	61.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	106	228	491	1,059
CNEL:	114	245	527	1,136

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: Between Rider St. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,608 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	372 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.3	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	82	176

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: Between Rider St. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,608 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	372 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.3	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	82	176

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: Between Rider St. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,608 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	372 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.3	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	82	176

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: Between Rider St. and Bradley Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,608 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	372 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.24	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.3	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	82	176

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. *Job Number:* 13265
Road Segment: Between Rider St. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,510 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	445 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.47	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.70	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.66	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.3	56.3	54.5	48.5	57.1	57.7
Medium Trucks:	51.0	50.4	44.1	42.5	51.0	51.2
Heavy Trucks:	51.9	51.4	42.3	43.6	52.0	52.1
Vehicle Noise:	59.1	58.3	55.1	50.5	59.0	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	40	86	185
CNEL:	20	43	92	198

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. *Job Number:* 13265
Road Segment: Between Rider St. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,110 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	494 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.02	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.26	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.21	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.7	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	51.5	50.9	44.5	43.0	51.5	51.7
Heavy Trucks:	52.3	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	59.6	58.7	55.6	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	99	213

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. *Job Number:* 13265
Road Segment: Between Rider St. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,520 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	365 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.33	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.56	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.52	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	56.4	55.4	53.7	47.6	56.2	56.8
Medium Trucks:	50.2	49.6	43.2	41.7	50.1	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	58.1	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	162
CNEL:	17	37	81	174

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. *Job Number:* 13265
Road Segment: Between Rider St. and Bradley Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,114 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	413 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.79	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.03	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.98	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.0	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	50.7	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	51.6	51.1	42.0	43.3	51.6	51.8
Vehicle Noise:	58.8	58.0	54.8	50.1	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	88	189

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,428 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,539 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.10	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.14	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.10	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.6	58.0	51.6	50.1	58.6	58.8
Heavy Trucks:	59.4	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	66.7	65.9	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	274	591
CNEL:	63	137	294	634

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,538 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,922 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.98	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.25	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.21	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	60.5	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.3	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	68.6	67.7	64.6	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	366	789
CNEL:	85	182	393	847

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,828 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,692 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	6.30	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-10.93	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.89	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	62.8	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.6	63.2	54.1	55.4	63.7	63.8
Vehicle Noise:	70.9	70.1	66.9	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	113	243	523	1,127
CNEL:	121	260	561	1,209

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: Between Bradley Rd. and Evans Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	99,938 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,075 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	7.12	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-10.12	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.07	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.9	68.9	67.1	61.1	69.7	70.3
Medium Trucks:	63.6	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.5	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	71.7	70.9	67.7	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	128	275	593	1,277
CNEL:	137	295	636	1,370

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	119,487 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,655 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	7.90	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-9.34	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.30	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.7	67.9	61.8	70.5	71.1
Medium Trucks:	64.4	63.8	57.4	55.9	64.4	64.6
Heavy Trucks:	65.2	64.7	55.7	57.0	65.3	65.4
Vehicle Noise:	72.5	71.7	68.5	63.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	144	310	668	1,439
CNEL:	154	333	716	1,544

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	132,843 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	10,734 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	8.36	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-8.88	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.84	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.9	64.3	57.9	56.4	64.8	65.1
Heavy Trucks:	65.7	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	72.9	72.1	69.0	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	154	333	717	1,544
CNEL:	166	357	769	1,657

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	74,540 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,023 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.85	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.39	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.35	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.6	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.3	61.8	55.4	53.9	62.3	62.5
Heavy Trucks:	63.2	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	70.4	69.6	66.5	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	105	226	488	1,051
CNEL:	113	243	523	1,127

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Bradley Rd. and Evans Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	78,682 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	6,358 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	6.08	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.16	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.11	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.8	67.8	66.1	60.0	68.7	69.3
Medium Trucks:	62.6	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	63.4	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	70.7	69.8	66.7	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	109	235	506	1,089
CNEL:	117	252	542	1,168

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,185 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,651 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.67	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.57	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.52	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.2	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.0	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.2	67.4	64.3	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	162	349	753
CNEL:	81	174	375	807

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,911 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,922 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.97	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.27	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.22	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.7	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	61.5	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.3	61.8	52.8	54.0	62.4	62.5
Vehicle Noise:	69.5	68.7	65.6	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	92	198	426	918
CNEL:	99	212	457	985

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	94,685 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,651 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	6.89	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-10.35	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.31	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.6	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.4	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	64.2	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	71.5	70.6	67.5	62.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	572	1,232
CNEL:	132	285	614	1,322

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: Between Evans Rd. and Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	110,411 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,921 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	7.55	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-9.69	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.64	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.3	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	64.1	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.9	64.4	55.4	56.6	65.0	65.1
Vehicle Noise:	72.1	71.3	68.2	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	137	294	634	1,365
CNEL:	146	316	680	1,464

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	132,725 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	10,724 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	8.35	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-8.89	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.84	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.1	70.1	68.4	62.3	70.9	71.5
Medium Trucks:	64.8	64.3	57.9	56.4	64.8	65.1
Heavy Trucks:	65.7	65.2	56.2	57.4	65.8	65.9
Vehicle Noise:	72.9	72.1	69.0	64.3	72.8	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	154	333	716	1,543
CNEL:	166	357	768	1,656

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	144,283 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,658 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	8.72	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-8.52	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-12.48	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.5	70.5	68.7	62.7	71.3	71.9
Medium Trucks:	65.2	64.6	58.3	56.7	65.2	65.4
Heavy Trucks:	66.1	65.6	56.5	57.8	66.1	66.3
Vehicle Noise:	73.3	72.5	69.3	64.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	163	352	757	1,632
CNEL:	175	377	812	1,750

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,740 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,150 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.17	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.07	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.03	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.9	66.9	65.2	59.1	67.7	68.3
Medium Trucks:	61.7	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.5	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	69.7	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	95	204	439	947
CNEL:	102	219	471	1,015

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: Between Evans Rd. and Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,102 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,341 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.33	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.91	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.87	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	61.8	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.7	62.2	53.1	54.4	62.7	62.9
Vehicle Noise:	69.9	69.1	65.9	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	970
CNEL:	104	224	483	1,040

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: West of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,385 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,182 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.08	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.16	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.12	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.8	64.8	63.1	57.0	65.6	66.3
Medium Trucks:	59.6	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.4	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	67.7	66.8	63.7	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	342	737

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: West of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,713 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,694 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.72	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.51	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.47	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.2	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.3	67.5	64.3	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	76	163	352	758
CNEL:	81	175	378	813

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: West of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	90,238 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,291 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	6.68	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-10.56	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.52	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.4	68.4	66.7	60.6	69.2	69.9
Medium Trucks:	63.2	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	64.0	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	71.3	70.4	67.3	62.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	119	257	554	1,193
CNEL:	128	276	594	1,280

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: West of Redlands Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	96,566 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	7,803 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	6.97	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-10.27	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-14.22	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.7	67.0	60.9	69.5	70.1
Medium Trucks:	63.5	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.3	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	71.5	70.7	67.6	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	125	269	580	1,249
CNEL:	134	289	622	1,339

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	115,456 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,329 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	7.75	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-9.49	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.45	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.2	63.7	57.3	55.8	64.2	64.4
Heavy Trucks:	65.1	64.6	55.6	56.8	65.2	65.3
Vehicle Noise:	72.3	71.5	68.4	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	141	303	653	1,406
CNEL:	151	325	700	1,509

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	117,454 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,490 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	7.82	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-9.42	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-13.37	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.6	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.3	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	65.2	64.7	55.6	56.9	65.2	65.4
Vehicle Noise:	72.4	71.6	68.4	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	142	306	660	1,423
CNEL:	153	329	708	1,526

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,447 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,480 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.56	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.63	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.3	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.1	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.9	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	69.1	68.3	65.2	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	86	186	400	863
CNEL:	93	199	429	925

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Redlands Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,425 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,640 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.71	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.52	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.48	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.2	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.1	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	69.3	68.5	65.3	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	190	410	883
CNEL:	95	204	440	947

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: East of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,000 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,747 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.44	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.80	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.76	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	58.9	58.4	52.0	50.4	58.9	59.1
Heavy Trucks:	59.8	59.3	50.2	51.5	59.9	60.0
Vehicle Noise:	67.0	66.2	63.0	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	623
CNEL:	67	144	310	668

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: East of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,396 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,779 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.49	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.75	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.71	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.0	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.8	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	67.1	66.2	63.1	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	291	627
CNEL:	67	145	312	673

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: East of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,400 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,507 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.50	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.74	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.70	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.2	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.0	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	60.8	60.3	51.3	52.6	60.9	61.0
Vehicle Noise:	68.1	67.3	64.1	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	158	340	733
CNEL:	79	169	365	786

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: East of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,796 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,539 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.54	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-13.70	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.66	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.0	59.5	53.1	51.5	60.0	60.2
Heavy Trucks:	60.9	60.4	51.3	52.6	61.0	61.1
Vehicle Noise:	68.1	67.3	64.1	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	159	342	737
CNEL:	79	170	367	791

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: East of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,363 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,231 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.31	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.92	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.88	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.8	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.7	61.2	52.1	53.4	61.7	61.9
Vehicle Noise:	68.9	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	385	830
CNEL:	89	192	413	891

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: East of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,763 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,263 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.35	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.89	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.85	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.8	60.3	53.9	52.4	60.8	61.0
Heavy Trucks:	61.7	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	68.9	68.1	65.0	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	180	387	834
CNEL:	90	193	415	895

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: East of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,348 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,694 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.35	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.88	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.84	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	58.9	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.7	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	66.9	66.1	63.0	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	132	285	615
CNEL:	66	142	306	659

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: East of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,744 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,726 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.83	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.79	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	58.9	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.7	59.3	50.2	51.5	59.8	59.9
Vehicle Noise:	67.0	66.2	63.0	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	288	619
CNEL:	66	143	308	664

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

Scenario: EA
Road Name: Ramona Exwy.
Road Segment: West of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,285 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,528 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.08	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.16	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.12	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.8	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.7	65.8	62.7	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	59	127	273	589
CNEL:	63	136	293	632

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

Scenario: EAP
Road Name: Ramona Exwy.
Road Segment: West of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,665 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,639 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.26	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.97	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.93	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.6	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	66.8	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	61	131	281	606
CNEL:	65	140	302	650

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

Scenario: EAC
Road Name: Ramona Exwy.
Road Segment: West of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,685 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.66	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.58	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.54	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.4	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.2	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.0	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.2	68.4	65.3	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	88	189	406	875
CNEL:	94	202	436	939

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

Scenario: EAPC
Road Name: Ramona Exwy.
Road Segment: West of Sanderson Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,065 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,692 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.76	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-12.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.43	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.5	66.5	64.8	58.7	67.3	67.9
Medium Trucks:	61.3	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.1	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	69.3	68.5	65.4	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	89	192	413	889
CNEL:	95	206	443	954

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,423 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,609 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.54	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.70	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.66	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.0	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	62.9	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	70.1	69.3	66.1	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	100	216	465	1,002
CNEL:	107	232	499	1,075

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,417 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,690 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.60	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.64	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.59	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.3	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.1	61.5	55.2	53.6	62.1	62.3
Heavy Trucks:	62.9	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	70.2	69.4	66.2	61.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	101	218	469	1,011
CNEL:	109	234	504	1,085

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,363 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,928 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.78	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.1	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,040
CNEL:	112	240	518	1,115

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Ramona Exwy. | *Job Number:* 13265
Road Segment: West of Sanderson Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,363 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	5,928 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	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:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.78	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-11.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-15.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.5	67.5	65.8	59.7	68.3	69.0
Medium Trucks:	62.3	61.7	55.3	53.8	62.2	62.5
Heavy Trucks:	63.1	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	70.4	69.5	66.4	61.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	104	224	483	1,040
CNEL:	112	240	518	1,115

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

Scenario: EA
Road Name: Krameria
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,242 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	424 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.59	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-21.83	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-25.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.0	53.0	51.3	45.2	53.8	54.4
Medium Trucks:	48.2	47.6	41.3	39.7	48.2	48.4
Heavy Trucks:	50.1	49.6	40.5	41.8	50.1	50.3
Vehicle Noise:	56.2	55.4	52.0	47.6	56.1	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	26	55	119
CNEL:	13	27	59	127

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

Scenario: EAP
Road Name: Krameria
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,242 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	424 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.59	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-21.83	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-25.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.0	53.0	51.3	45.2	53.8	54.4
Medium Trucks:	48.2	47.6	41.3	39.7	48.2	48.4
Heavy Trucks:	50.1	49.6	40.5	41.8	50.1	50.3
Vehicle Noise:	56.2	55.4	52.0	47.6	56.1	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	26	55	119
CNEL:	13	27	59	127

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

Scenario: EAC
Road Name: Krameria
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,582 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	451 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.32	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-21.56	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-25.51	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	53.3	51.5	45.5	54.1	54.7
Medium Trucks:	48.5	47.9	41.5	40.0	48.5	48.7
Heavy Trucks:	50.3	49.8	40.8	42.1	50.4	50.5
Vehicle Noise:	56.5	55.7	52.3	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	27	58	124
CNEL:	13	29	61	132

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

Scenario: EAPC
Road Name: Krameria
Road Segment: West of Perris Blvd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,582 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	451 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-4.32	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-21.56	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-25.51	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	53.3	51.5	45.5	54.1	54.7
Medium Trucks:	48.5	47.9	41.5	40.0	48.5	48.7
Heavy Trucks:	50.3	49.8	40.8	42.1	50.4	50.5
Vehicle Noise:	56.5	55.7	52.3	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	27	58	124
CNEL:	13	29	61	132

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria | *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,674 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	539 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.54	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.78	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.74	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.0	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	57.3	56.5	53.0	48.6	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	69	149

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria | *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,674 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	539 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-3.54	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.78	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.74	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	55.0	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.3	48.7	42.3	40.8	49.2	49.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	57.3	56.5	53.0	48.6	57.2	57.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	30	65	140
CNEL:	15	32	69	149

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria | *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,715 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	462 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.22	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.45	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.41	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	48.6	48.0	41.6	40.1	48.6	48.8
Heavy Trucks:	50.4	49.9	40.9	42.2	50.5	50.6
Vehicle Noise:	56.6	55.8	52.4	48.0	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	126
CNEL:	13	29	62	135

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria | *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,715 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	462 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-4.22	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.45	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.41	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	54.4	53.4	51.6	45.6	54.2	54.8
Medium Trucks:	48.6	48.0	41.6	40.1	48.6	48.8
Heavy Trucks:	50.4	49.9	40.9	42.2	50.5	50.6
Vehicle Noise:	56.6	55.8	52.4	48.0	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	126
CNEL:	13	29	62	135

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

Scenario: EA
Road Name: Krameria
Road Segment: Between Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,838 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,280 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	0.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-17.03	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-20.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	57.8	56.1	50.0	58.6	59.2
Medium Trucks:	53.0	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	54.9	54.4	45.3	46.6	54.9	55.1
Vehicle Noise:	61.0	60.2	56.8	52.4	60.9	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	115	249
CNEL:	27	57	123	266

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

Scenario: EAP
Road Name: Krameria
Road Segment: Between Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,036 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,296 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	0.27	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-16.97	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-20.93	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.1	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.9	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	61.1	60.3	56.8	52.5	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	116	251
CNEL:	27	58	124	268

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

Scenario: EAC
Road Name: Krameria
Road Segment: Between Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,678 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,428 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	0.69	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-16.55	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-20.51	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	58.3	56.5	50.5	59.1	59.7
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	55.3	54.9	45.8	47.1	55.4	55.5
Vehicle Noise:	61.5	60.7	57.3	52.9	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	124	267
CNEL:	29	62	133	286

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

Scenario: EAPC
Road Name: Krameria
Road Segment: Between Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,876 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,444 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	0.74	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-16.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-20.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	58.3	56.6	50.5	59.1	59.8
Medium Trucks:	53.5	53.0	46.6	45.0	53.5	53.7
Heavy Trucks:	55.4	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	61.5	60.8	57.3	52.9	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	269
CNEL:	29	62	134	288

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: Between Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,373 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,727 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	1.51	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-15.73	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-19.68	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	54.3	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	56.2	55.7	46.6	47.9	56.2	56.4
Vehicle Noise:	62.3	61.5	58.1	53.7	62.2	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	141	303
CNEL:	32	70	150	324

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: Between Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,573 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,743 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	1.55	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-15.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-19.64	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.1	59.2	57.4	51.3	60.0	60.6
Medium Trucks:	54.4	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	56.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	62.4	61.6	58.1	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	142	305
CNEL:	33	70	151	326

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: Between Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,535 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,255 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.13	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.11	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.07	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.7	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	52.9	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	60.9	60.1	56.7	52.3	60.8	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	245
CNEL:	26	56	122	262

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: Between Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,733 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,271 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.18	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.06	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.01	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.8	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.0	52.4	46.0	44.5	53.0	53.2
Heavy Trucks:	54.8	54.3	45.3	46.6	54.9	55.0
Vehicle Noise:	61.0	60.2	56.8	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	115	247
CNEL:	26	57	123	264

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

Scenario: EA
Road Name: Krameria
Road Segment: East of Lasselle St.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,069 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.00	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.24	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.20	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	52.8	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	54.7	54.2	45.1	46.4	54.7	54.9
Vehicle Noise:	60.8	60.0	56.6	52.2	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	240
CNEL:	26	55	119	257

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

Scenario: EAP
Road Name: Krameria
Road Segment: East of Lasselle St.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,069 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.00	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.24	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.20	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.6	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	52.8	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	54.7	54.2	45.1	46.4	54.7	54.9
Vehicle Noise:	60.8	60.0	56.6	52.2	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	112	240
CNEL:	26	55	119	257

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

Scenario: EAC
Road Name: Krameria
Road Segment: East of Lasselle St.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,738 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,352 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.45	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.79	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.74	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	53.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.1	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.3	60.5	57.0	52.6	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	258
CNEL:	28	59	128	275

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

Scenario: EAPC
Road Name: Krameria
Road Segment: East of Lasselle St.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,738 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,352 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.45	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.79	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.74	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.0	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	53.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.1	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	61.3	60.5	57.0	52.6	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	258
CNEL:	28	59	128	275

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,012 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,617 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	1.23	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.01	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-19.97	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.8	58.8	57.1	51.0	59.6	60.2
Medium Trucks:	54.0	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.9	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	62.0	61.2	57.8	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	290
CNEL:	31	67	144	310

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,012 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,617 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	1.23	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.01	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-19.97	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.8	58.8	57.1	51.0	59.6	60.2
Medium Trucks:	54.0	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.9	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	62.0	61.2	57.8	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	290
CNEL:	31	67	144	310

Wednesday, March 9, 2022

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,780 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,194 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.09	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.33	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.28	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.7	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	54.1	45.0	46.3	54.6	54.8
Vehicle Noise:	60.7	59.9	56.5	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	25	55	118	254

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Krameria *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,780 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,194 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	-0.09	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.33	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.28	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.7	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	54.1	45.0	46.3	54.6	54.8
Vehicle Noise:	60.7	59.9	56.5	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	237
CNEL:	25	55	118	254

Wednesday, March 9, 2022

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

Scenario: EA
Road Name: Iris Av.
Road Segment: West of Perris Blvd.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,064 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,864 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.29	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.94	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.90	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.3	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.5	65.6	62.6	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	266	573
CNEL:	62	133	286	615

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

Scenario: EAP
Road Name: Iris Av.
Road Segment: West of Perris Blvd.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,064 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,864 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.29	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.94	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.90	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	58.3	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.5	65.6	62.6	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	266	573
CNEL:	62	133	286	615

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

Scenario: EAC
Road Name: Iris Av.
Road Segment: West of Perris Blvd.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,337 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,047 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.70	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.54	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.9	66.1	63.0	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	283	610
CNEL:	65	141	304	655

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

Scenario: EAPC
Road Name: Iris Av.
Road Segment: West of Perris Blvd.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,337 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,047 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.70	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.54	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	58.8	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	66.9	66.1	63.0	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	283	610
CNEL:	65	141	304	655

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,293 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.76	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.5	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	59.9	59.5	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	342	738

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,293 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,448 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.48	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.76	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.72	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.0	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	59.5	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	59.9	59.5	50.4	51.7	60.0	60.1
Vehicle Noise:	67.7	66.8	63.8	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	69	148	319	687
CNEL:	74	159	342	738

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,621 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,828 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.21	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-17.03	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.98	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	58.7	58.2	49.1	50.4	58.8	58.9
Vehicle Noise:	66.4	65.6	62.5	57.7	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	565
CNEL:	61	131	282	607

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,621 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,828 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.21	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-17.03	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.98	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.3	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	58.7	58.2	49.1	50.4	58.8	58.9
Vehicle Noise:	66.4	65.6	62.5	57.7	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	565
CNEL:	61	131	282	607

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

Scenario: EA
Road Name: Iris Av.
Road Segment: West of Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,972 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,018 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.64	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.60	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.55	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	58.7	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.1	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.8	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	649

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

Scenario: EAP
Road Name: Iris Av.
Road Segment: West of Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,972 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,018 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.64	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.60	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.55	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.1	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	58.7	58.1	51.7	50.2	58.7	58.9
Heavy Trucks:	59.1	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	66.8	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	130	280	604
CNEL:	65	140	301	649

Wednesday, March 9, 2022

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

Scenario: EAC
Road Name: Iris Av.
Road Segment: West of Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,553 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,226 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.07	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.13	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.5	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	67.2	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	645
CNEL:	69	149	321	693

Wednesday, March 9, 2022

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

Scenario: EAPC
Road Name: Iris Av.
Road Segment: West of Perris Blvd. and Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,553 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,226 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.07	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.13	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.5	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	67.2	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	139	299	645
CNEL:	69	149	321	693

Wednesday, March 9, 2022

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,943 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,662 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.40	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	59.9	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	60.3	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.0	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	156	337	726
CNEL:	78	168	362	780

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,943 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,662 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.84	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.40	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.35	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	59.9	59.3	52.9	51.4	59.9	60.1
Heavy Trucks:	60.3	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.0	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	73	156	337	726
CNEL:	78	168	362	780

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,493 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,979 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.64	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.6	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.0	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.7	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	128	277	596
CNEL:	64	138	297	640

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. *Job Number:* 13265
Road Segment: West of Perris Blvd. and Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,493 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,979 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.56	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.64	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.0	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	58.6	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.0	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	66.7	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	60	128	277	596
CNEL:	64	138	297	640

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

Scenario: EA
Road Name: Iris Av.
Road Segment: East of Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,113 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,756 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.99	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.24	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.20	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.0	59.5	53.1	51.6	60.0	60.2
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	68.2	67.3	64.3	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	160	345	743
CNEL:	80	172	371	799

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

Scenario: EAP
Road Name: Iris Av.
Road Segment: East of Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,509 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,788 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.04	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-15.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-19.15	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.1	59.5	53.1	51.6	60.1	60.3
Heavy Trucks:	60.5	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	68.2	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	75	161	348	749
CNEL:	80	173	374	805

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

Scenario: EAC
Road Name: Iris Av.
Road Segment: East of Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,963 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,229 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.68	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.56	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.51	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	60.7	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.2	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	68.9	68.0	65.0	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	178	383	826
CNEL:	89	191	412	887

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

Scenario: EAPC
Road Name: Iris Av.
Road Segment: East of Lasselle St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,359 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,261 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.72	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.51	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.47	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.2	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	60.8	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.2	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	68.9	68.1	65.0	60.2	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	83	179	386	831
CNEL:	89	192	415	893

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. | *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,254 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,899 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.50	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.74	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.69	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	61.5	61.0	54.6	53.1	61.5	61.8
Heavy Trucks:	62.0	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	69.7	68.9	65.8	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	937
CNEL:	101	217	467	1,006

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. | *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,654 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,931 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.54	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.70	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.66	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	67.0	65.3	59.2	67.8	68.5
Medium Trucks:	61.6	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	62.0	61.5	52.5	53.7	62.1	62.2
Vehicle Noise:	69.7	68.9	65.8	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	94	203	437	942
CNEL:	101	218	470	1,012

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. | *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,830 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,137 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.56	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.68	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.64	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.0	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	60.6	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.0	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	68.7	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	81	175	376	810
CNEL:	87	188	404	871

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Iris Av. | *Job Number:* 13265
Road Segment: East of Lasselle St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,226 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,169 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.60	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.64	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.59	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	60.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.1	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	68.8	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	82	176	379	816
CNEL:	88	189	407	876

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

Scenario: EA
Road Name: San Jacinto Av.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	815 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	66 vehicles
Vehicle Speed:	35 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:	64.30	-12.68	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-29.91	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-33.87	-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:	45.8	44.8	43.1	37.0	45.6	46.2
Medium Trucks:	40.0	39.4	33.1	31.5	40.0	40.2
Heavy Trucks:	41.9	41.4	32.4	33.6	42.0	42.1
Vehicle Noise:	48.0	47.2	43.8	39.4	47.9	48.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	3	7	16	34
CNEL:	4	8	17	36

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

Scenario: EAP
Road Name: San Jacinto Av.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,013 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	82 vehicles
Vehicle Speed:	35 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:	64.30	-11.73	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-28.97	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-32.93	-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:	46.8	45.8	44.0	38.0	46.6	47.2
Medium Trucks:	41.0	40.4	34.0	32.5	40.9	41.2
Heavy Trucks:	42.8	42.3	33.3	34.5	42.9	43.0
Vehicle Noise:	49.0	48.2	44.8	40.4	48.9	49.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	4	8	18	39
CNEL:	4	9	19	42

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

Scenario: EAC
Road Name: San Jacinto Av.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	815 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	66 vehicles
Vehicle Speed:	35 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:	64.30	-12.68	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-29.91	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-33.87	-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:	45.8	44.8	43.1	37.0	45.6	46.2
Medium Trucks:	40.0	39.4	33.1	31.5	40.0	40.2
Heavy Trucks:	41.9	41.4	32.4	33.6	42.0	42.1
Vehicle Noise:	48.0	47.2	43.8	39.4	47.9	48.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	3	7	16	34
CNEL:	4	8	17	36

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

Scenario: EAPC
Road Name: San Jacinto Av.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,013 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	82 vehicles
Vehicle Speed:	35 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:	64.30	-11.73	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-28.97	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-32.93	-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:	46.8	45.8	44.0	38.0	46.6	47.2
Medium Trucks:	41.0	40.4	34.0	32.5	40.9	41.2
Heavy Trucks:	42.8	42.3	33.3	34.5	42.9	43.0
Vehicle Noise:	49.0	48.2	44.8	40.4	48.9	49.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	4	8	18	39
CNEL:	4	9	19	42

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: San Jacinto Av. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,211 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	98 vehicles
Vehicle Speed:	35 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:	64.30	-10.96	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-28.19	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-32.15	-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:	47.5	46.6	44.8	38.7	47.4	48.0
Medium Trucks:	41.7	41.2	34.8	33.3	41.7	42.0
Heavy Trucks:	43.6	43.1	34.1	35.3	43.7	43.8
Vehicle Noise:	49.8	49.0	45.5	41.1	49.7	50.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	10	20	44
CNEL:	5	10	22	47

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: San Jacinto Av. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,411 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	114 vehicles
Vehicle Speed:	35 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:	64.30	-10.29	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-27.53	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-31.49	-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:	48.2	47.2	45.5	39.4	48.0	48.6
Medium Trucks:	42.4	41.8	35.5	33.9	42.4	42.6
Heavy Trucks:	44.3	43.8	34.7	36.0	44.3	44.5
Vehicle Noise:	50.4	49.6	46.2	41.8	50.3	50.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	11	23	49
CNEL:	5	11	24	52

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: San Jacinto Av. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,090 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	88 vehicles
Vehicle Speed:	35 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:	64.30	-11.41	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-28.65	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-32.61	-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:	47.1	46.1	44.3	38.3	46.9	47.5
Medium Trucks:	41.3	40.7	34.3	32.8	41.3	41.5
Heavy Trucks:	43.2	42.7	33.6	34.9	43.2	43.4
Vehicle Noise:	49.3	48.5	45.1	40.7	49.2	49.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	19	41
CNEL:	4	9	20	44

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: San Jacinto Av. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,288 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	104 vehicles
Vehicle Speed:	35 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:	64.30	-10.69	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-27.93	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-31.88	-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:	47.8	46.8	45.1	39.0	47.6	48.2
Medium Trucks:	42.0	41.4	35.1	33.5	42.0	42.2
Heavy Trucks:	43.9	43.4	34.3	35.6	43.9	44.1
Vehicle Noise:	50.0	49.2	45.8	41.4	49.9	50.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	5	10	21	46
CNEL:	5	11	23	49

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

Scenario: EA
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,892 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	718 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-2.30	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.53	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	55.3	53.5	47.5	56.1	56.7
Medium Trucks:	50.5	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	52.4	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	58.5	57.7	54.3	49.9	58.4	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	36	79	169
CNEL:	18	39	84	181

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

Scenario: EAP
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,090 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	734 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	-2.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.44	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.39	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	50.6	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	52.5	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	58.6	57.8	54.4	50.0	58.5	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	37	80	172
CNEL:	18	40	85	183

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

Scenario: EAC
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,792 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,276 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	0.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-17.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-21.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.0	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	54.9	54.4	45.3	46.6	54.9	55.1
Vehicle Noise:	61.0	60.2	56.8	52.4	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	53	115	248
CNEL:	26	57	123	265

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

Scenario: EAPC
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,990 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,292 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	64.30	0.25	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-16.99	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-20.94	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	53.1	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.9	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	61.1	60.3	56.8	52.4	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	116	250
CNEL:	27	58	124	267

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

Scenario: HY (Without MCP)
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,118 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,545 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	1.03	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.21	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.17	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.6	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	53.8	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	55.7	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	61.8	61.0	57.6	53.2	61.7	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	140	301

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

Scenario: HYP (Without MCP)
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,318 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,561 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	1.07	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.16	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.12	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.7	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	53.9	53.3	46.9	45.4	53.8	54.1
Heavy Trucks:	55.7	55.2	46.2	47.5	55.8	55.9
Vehicle Noise:	61.9	61.1	57.7	53.3	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	132	284
CNEL:	30	65	141	303

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

Scenario: HY (With MCP)
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,211 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,391 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.57	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.67	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.62	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.4	50.4	59.0	59.6
Medium Trucks:	53.4	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.2	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	61.4	60.6	57.2	52.8	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	60	130	281

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

Scenario: HYP (With MCP)
Road Name: San Jacinto Av.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,409 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,407 vehicles
Vehicle Speed:	35 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	64.30	0.62	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-16.62	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-20.57	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.2	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.4	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	55.3	54.8	45.7	47.0	55.4	55.5
Vehicle Noise:	61.4	60.6	57.2	52.8	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	123	265
CNEL:	28	61	131	283

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

Scenario: EA
Road Name: Ellis Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	830 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	67 vehicles
Vehicle Speed:	35 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:	64.30	-12.60	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-29.83	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-33.79	-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:	45.9	44.9	43.2	37.1	45.7	46.3
Medium Trucks:	40.1	39.5	33.2	31.6	40.1	40.3
Heavy Trucks:	42.0	41.5	32.4	33.7	42.0	42.2
Vehicle Noise:	48.1	47.3	43.9	39.5	48.0	48.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	3	7	16	34
CNEL:	4	8	17	37

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

Scenario: EAP
Road Name: Ellis Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,028 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	83 vehicles
Vehicle Speed:	35 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:	64.30	-11.67	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-28.91	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-32.86	-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:	46.8	45.8	44.1	38.0	46.6	47.3
Medium Trucks:	41.0	40.5	34.1	32.5	41.0	41.2
Heavy Trucks:	42.9	42.4	33.4	34.6	43.0	43.1
Vehicle Noise:	49.0	48.3	44.8	40.4	49.0	49.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	4	9	18	40
CNEL:	4	9	20	42

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

Scenario: EAC
Road Name: Ellis Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,530 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	770 vehicles
Vehicle Speed:	35 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:	64.30	-1.99	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.23	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.19	-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:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.7	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	52.6	52.1	43.0	44.3	52.6	52.8
Vehicle Noise:	58.7	57.9	54.5	50.1	58.6	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	38	81	175
CNEL:	19	40	87	186

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

Scenario: EAPC
Road Name: Ellis Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,728 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	786 vehicles
Vehicle Speed:	35 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:	64.30	-1.91	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.14	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.10	-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:	50.8	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	52.7	52.2	43.1	44.4	52.7	52.9
Vehicle Noise:	58.8	58.0	54.6	50.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	38	82	177
CNEL:	19	41	88	189

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

Scenario: HY (Without MCP) | Project Name: Stoneridge Commerce Ce
Road Name: Ellis Rd. | Job Number: 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,630 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	940 vehicles
Vehicle Speed:	35 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:	64.30	-1.13	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.37	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.32	-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:	57.4	56.4	54.6	48.6	57.2	57.8
Medium Trucks:	51.6	51.0	44.6	43.1	51.5	51.8
Heavy Trucks:	53.4	52.9	43.9	45.2	53.5	53.6
Vehicle Noise:	59.6	58.8	55.4	51.0	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	93	199
CNEL:	21	46	99	213

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

Scenario: HYP (Without MCP) | Project Name: Stoneridge Commerce Ce
Road Name: Ellis Rd. | Job Number: 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,830 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	956 vehicles
Vehicle Speed:	35 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:	64.30	-1.06	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.29	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.25	-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:	57.4	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	51.6	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	59.7	58.9	55.4	51.0	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	94	202
CNEL:	22	46	100	215

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

Scenario: HY (With MCP) | Project Name: Stoneridge Commerce Ce
Road Name: Ellis Rd. | Job Number: 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,104 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	897 vehicles
Vehicle Speed:	35 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:	64.30	-1.33	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.57	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.52	-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:	57.2	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	53.2	52.7	43.7	45.0	53.3	53.4
Vehicle Noise:	59.4	58.6	55.2	50.8	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	42	90	193
CNEL:	21	44	96	206

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

Scenario: HYP (With MCP) | Project Name: Stoneridge Commerce Ce
Road Name: Ellis Rd. | Job Number: 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,302 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	913 vehicles
Vehicle Speed:	35 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:	64.30	-1.25	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.49	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.45	-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:	57.2	56.3	54.5	48.4	57.1	57.7
Medium Trucks:	51.4	50.9	44.5	43.0	51.4	51.7
Heavy Trucks:	53.3	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	59.5	58.7	55.2	50.8	59.4	59.8

Centerline Distance to Noise Contour (in feet)

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

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

Scenario: EA
Road Name: Mapes Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,774 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	386 vehicles
Vehicle Speed:	35 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:	64.30	-5.00	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.23	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.19	-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:	53.5	52.5	50.8	44.7	53.3	53.9
Medium Trucks:	47.7	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	49.6	49.1	40.0	41.3	49.6	49.8
Vehicle Noise:	55.7	54.9	51.5	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: EAP
Road Name: Mapes Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,774 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	386 vehicles
Vehicle Speed:	35 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:	64.30	-5.00	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.23	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.19	-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:	53.5	52.5	50.8	44.7	53.3	53.9
Medium Trucks:	47.7	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	49.6	49.1	40.0	41.3	49.6	49.8
Vehicle Noise:	55.7	54.9	51.5	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
Road Name: Mapes Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,074 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	491 vehicles
Vehicle Speed:	35 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:	64.30	-3.95	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.19	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.14	-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:	54.5	53.6	51.8	45.7	54.4	55.0
Medium Trucks:	48.8	48.2	41.8	40.3	48.7	49.0
Heavy Trucks:	50.6	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.8	56.0	52.5	48.1	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	138

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

Scenario: EAPC
Road Name: Mapes Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,074 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	491 vehicles
Vehicle Speed:	35 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:	64.30	-3.95	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.19	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.14	-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:	54.5	53.6	51.8	45.7	54.4	55.0
Medium Trucks:	48.8	48.2	41.8	40.3	48.7	49.0
Heavy Trucks:	50.6	50.1	41.1	42.3	50.7	50.8
Vehicle Noise:	56.8	56.0	52.5	48.1	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	60	129
CNEL:	14	30	64	138

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,262 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	587 vehicles
Vehicle Speed:	35 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:	64.30	-3.17	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.41	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.37	-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:	55.3	54.3	52.6	46.5	55.1	55.7
Medium Trucks:	49.5	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	57.5	56.7	53.3	48.9	57.4	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	31	68	146
CNEL:	16	34	72	156

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,262 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	587 vehicles
Vehicle Speed:	35 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:	64.30	-3.17	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.41	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.37	-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:	55.3	54.3	52.6	46.5	55.1	55.7
Medium Trucks:	49.5	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	57.5	56.7	53.3	48.9	57.4	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	31	68	146
CNEL:	16	34	72	156

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,271 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	587 vehicles
Vehicle Speed:	35 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:	64.30	-3.17	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.41	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.36	-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:	55.3	54.3	52.6	46.5	55.1	55.8
Medium Trucks:	49.5	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	57.5	56.8	53.3	48.9	57.5	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	31	68	146
CNEL:	16	34	72	156

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,271 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	587 vehicles
Vehicle Speed:	35 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:	64.30	-3.17	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.41	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.36	-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:	55.3	54.3	52.6	46.5	55.1	55.8
Medium Trucks:	49.5	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	51.4	50.9	41.9	43.1	51.5	51.6
Vehicle Noise:	57.5	56.8	53.3	48.9	57.5	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	31	68	146
CNEL:	16	34	72	156

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

Scenario: EA
Road Name: Mapes Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,846 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	35 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:	64.30	-5.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.17	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-27.13	-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:	52.6	51.6	49.8	43.8	52.4	53.0
Medium Trucks:	46.8	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	48.6	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	54.8	54.0	50.6	46.2	54.7	55.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	44	95
CNEL:	10	22	47	102

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

Scenario: EAP
Road Name: Mapes Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,846 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	35 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:	64.30	-5.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.17	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-27.13	-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:	52.6	51.6	49.8	43.8	52.4	53.0
Medium Trucks:	46.8	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	48.6	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	54.8	54.0	50.6	46.2	54.7	55.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	44	95
CNEL:	10	22	47	102

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

Scenario: EAC
Road Name: Mapes Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,846 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	35 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:	64.30	-5.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.17	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-27.13	-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:	52.6	51.6	49.8	43.8	52.4	53.0
Medium Trucks:	46.8	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	48.6	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	54.8	54.0	50.6	46.2	54.7	55.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	44	95
CNEL:	10	22	47	102

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

Scenario: EAPC
Road Name: Mapes Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,846 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	311 vehicles
Vehicle Speed:	35 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:	64.30	-5.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.17	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-27.13	-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:	52.6	51.6	49.8	43.8	52.4	53.0
Medium Trucks:	46.8	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	48.6	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	54.8	54.0	50.6	46.2	54.7	55.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	44	95
CNEL:	10	22	47	102

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,599 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	372 vehicles
Vehicle Speed:	35 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:	64.30	-5.16	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.40	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.35	-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:	53.3	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	47.5	47.0	40.6	39.1	47.5	47.7
Heavy Trucks:	49.4	48.9	39.9	41.1	49.5	49.6
Vehicle Noise:	55.6	54.8	51.3	46.9	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	11	25	53	115

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,799 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	388 vehicles
Vehicle Speed:	35 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:	64.30	-4.97	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.17	-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:	53.5	52.5	50.8	44.7	53.3	53.9
Medium Trucks:	47.7	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	49.6	49.1	40.1	41.3	49.7	49.8
Vehicle Noise:	55.7	54.9	51.5	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 (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,604 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	372 vehicles
Vehicle Speed:	35 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:	64.30	-5.15	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.39	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.35	-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:	53.3	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	47.5	47.0	40.6	39.1	47.5	47.8
Heavy Trucks:	49.4	48.9	39.9	41.1	49.5	49.6
Vehicle Noise:	55.6	54.8	51.3	46.9	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	23	50	107
CNEL:	11	25	53	115

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Mapes Rd. *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,802 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	388 vehicles
Vehicle Speed:	35 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:	64.30	-4.97	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.21	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.17	-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:	53.5	52.5	50.8	44.7	53.3	53.9
Medium Trucks:	47.7	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	49.6	49.1	40.1	41.3	49.7	49.8
Vehicle Noise:	55.7	55.0	51.5	47.1	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	111
CNEL:	12	25	55	118

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

Scenario: EA
Road Name: Watson Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,283 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	508 vehicles
Vehicle Speed:	35 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:	64.30	-3.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.04	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.00	-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:	48.9	48.3	42.0	40.4	48.9	49.1
Heavy Trucks:	50.8	50.3	41.2	42.5	50.8	51.0
Vehicle Noise:	56.9	56.1	52.7	48.3	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	66	141

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

Scenario: EAP
Road Name: Watson Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,481 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	35 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:	64.30	-3.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.91	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.86	-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:	54.8	53.8	52.1	46.0	54.6	55.3
Medium Trucks:	49.0	48.5	42.1	40.5	49.0	49.2
Heavy Trucks:	50.9	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	57.0	56.3	52.8	48.4	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	29	63	135
CNEL:	14	31	67	144

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

Scenario: EAC
Road Name: Watson Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,283 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	508 vehicles
Vehicle Speed:	35 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:	64.30	-3.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.04	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.00	-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:	48.9	48.3	42.0	40.4	48.9	49.1
Heavy Trucks:	50.8	50.3	41.2	42.5	50.8	51.0
Vehicle Noise:	56.9	56.1	52.7	48.3	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	61	132
CNEL:	14	30	66	141

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

Scenario: EAPC
Road Name: Watson Rd.
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,481 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	35 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:	64.30	-3.67	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.91	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.86	-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:	54.8	53.8	52.1	46.0	54.6	55.3
Medium Trucks:	49.0	48.5	42.1	40.5	49.0	49.2
Heavy Trucks:	50.9	50.4	41.4	42.6	51.0	51.1
Vehicle Noise:	57.0	56.3	52.8	48.4	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	29	63	135
CNEL:	14	31	67	144

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,748 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	626 vehicles
Vehicle Speed:	35 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:	64.30	-2.89	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.13	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.09	-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:	55.6	54.6	52.9	46.8	55.4	56.0
Medium Trucks:	49.8	49.2	42.9	41.3	49.8	50.0
Heavy Trucks:	51.7	51.2	42.1	43.4	51.7	51.9
Vehicle Noise:	57.8	57.0	53.6	49.2	57.7	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	71	152
CNEL:	16	35	75	162

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,948 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	642 vehicles
Vehicle Speed:	35 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:	64.30	-2.78	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.02	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-23.98	-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:	55.7	54.7	53.0	46.9	55.5	56.1
Medium Trucks:	49.9	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	51.8	51.3	42.2	43.5	51.9	52.0
Vehicle Noise:	57.9	57.1	53.7	49.3	57.8	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	72	155
CNEL:	17	36	77	165

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,921 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	640 vehicles
Vehicle Speed:	35 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:	64.30	-2.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.04	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-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:	55.7	54.7	53.0	46.9	55.5	56.1
Medium Trucks:	49.9	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	51.8	51.3	42.2	43.5	51.8	52.0
Vehicle Noise:	57.9	57.1	53.7	49.3	57.8	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	72	154
CNEL:	16	36	77	165

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,119 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	656 vehicles
Vehicle Speed:	35 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:	64.30	-2.69	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-19.93	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-23.88	-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:	55.8	54.8	53.1	47.0	55.6	56.2
Medium Trucks:	50.0	49.4	43.1	41.5	50.0	50.2
Heavy Trucks:	51.9	51.4	42.3	43.6	51.9	52.1
Vehicle Noise:	58.0	57.2	53.8	49.4	57.9	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	73	157
CNEL:	17	36	78	168

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

Scenario: EA
Road Name: Watson Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,035 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	326 vehicles
Vehicle Speed:	35 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:	64.30	-5.73	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.92	-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:	52.8	51.8	50.0	44.0	52.6	53.2
Medium Trucks:	47.0	46.4	40.0	38.5	46.9	47.2
Heavy Trucks:	48.8	48.3	39.3	40.6	48.9	49.0
Vehicle Noise:	55.0	54.2	50.8	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	98
CNEL:	11	23	49	105

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

Scenario: EAP
Road Name: Watson Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,233 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	342 vehicles
Vehicle Speed:	35 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:	64.30	-5.52	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.76	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.71	-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:	53.0	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.2	46.6	40.2	38.7	47.2	47.4
Heavy Trucks:	49.0	48.5	39.5	40.8	49.1	49.2
Vehicle Noise:	55.2	54.4	51.0	46.6	55.1	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	102
CNEL:	11	23	50	109

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

Scenario: EAC
Road Name: Watson Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,035 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	326 vehicles
Vehicle Speed:	35 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:	64.30	-5.73	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.92	-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:	52.8	51.8	50.0	44.0	52.6	53.2
Medium Trucks:	47.0	46.4	40.0	38.5	46.9	47.2
Heavy Trucks:	48.8	48.3	39.3	40.6	48.9	49.0
Vehicle Noise:	55.0	54.2	50.8	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	98
CNEL:	11	23	49	105

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

Scenario: EAPC
Road Name: Watson Rd.
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,233 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	342 vehicles
Vehicle Speed:	35 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:	64.30	-5.52	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.76	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.71	-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:	53.0	52.0	50.2	44.2	52.8	53.4
Medium Trucks:	47.2	46.6	40.2	38.7	47.2	47.4
Heavy Trucks:	49.0	48.5	39.5	40.8	49.1	49.2
Vehicle Noise:	55.2	54.4	51.0	46.6	55.1	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	102
CNEL:	11	23	50	109

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,061 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	409 vehicles
Vehicle Speed:	35 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:	64.30	-4.74	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.94	-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:	53.7	52.8	51.0	45.0	53.6	54.2
Medium Trucks:	48.0	47.4	41.0	39.5	47.9	48.2
Heavy Trucks:	49.8	49.3	40.3	41.5	49.9	50.0
Vehicle Noise:	56.0	55.2	51.7	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	25	53	114
CNEL:	12	26	57	122

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,070 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	410 vehicles
Vehicle Speed:	35 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:	64.30	-4.74	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.93	-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:	53.8	52.8	51.0	45.0	53.6	54.2
Medium Trucks:	48.0	47.4	41.0	39.5	47.9	48.2
Heavy Trucks:	49.8	49.3	40.3	41.5	49.9	50.0
Vehicle Noise:	56.0	55.2	51.7	47.4	55.9	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	25	53	115
CNEL:	12	26	57	122

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,174 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	418 vehicles
Vehicle Speed:	35 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:	64.30	-4.65	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.89	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.84	-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:	53.8	52.9	51.1	45.0	53.7	54.3
Medium Trucks:	48.1	47.5	41.1	39.6	48.0	48.3
Heavy Trucks:	49.9	49.4	40.4	41.6	50.0	50.1
Vehicle Noise:	56.1	55.3	51.8	47.4	56.0	56.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	116
CNEL:	12	27	58	124

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Watson Rd. | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,174 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	418 vehicles
Vehicle Speed:	35 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:	64.30	-4.65	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.89	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.84	-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:	53.8	52.9	51.1	45.0	53.7	54.3
Medium Trucks:	48.1	47.5	41.1	39.6	48.0	48.3
Heavy Trucks:	49.9	49.4	40.4	41.6	50.0	50.1
Vehicle Noise:	56.1	55.3	51.8	47.4	56.0	56.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	25	54	116
CNEL:	12	27	58	124

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

Scenario: EA
Road Name: State Route 74
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,543 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,821 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.2	57.7	51.3	49.8	58.2	58.4
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	66.4	65.5	62.5	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	262	564
CNEL:	61	131	281	606

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

Scenario: EAP
Road Name: State Route 74
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,741 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,837 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.00	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	63.7	62.0	55.9	64.5	65.2
Medium Trucks:	58.3	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	58.7	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.4	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	122	263	567
CNEL:	61	131	283	609

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

Scenario: EAC
Road Name: State Route 74
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,543 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,822 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	58.2	57.7	51.3	49.8	58.2	58.4
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	66.4	65.5	62.5	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	262	564
CNEL:	61	131	281	606

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

Scenario: EAPC
Road Name: State Route 74
Road Segment: East of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,741 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,837 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.00	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	63.7	62.0	55.9	64.5	65.2
Medium Trucks:	58.3	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	58.7	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.4	65.6	62.5	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	122	263	567
CNEL:	61	131	283	609

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,190 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,197 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.01	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.23	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.18	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.1	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	59.5	59.0	49.9	51.2	59.6	59.7
Vehicle Noise:	67.2	66.4	63.3	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	138	297	639
CNEL:	69	148	319	686

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,590 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,229 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	1.07	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.12	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.1	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	59.5	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	67.3	66.4	63.4	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	65	139	299	645
CNEL:	69	149	322	693

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,812 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,106 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.73	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.51	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.47	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	61.8	61.2	54.8	53.3	61.7	62.0
Heavy Trucks:	62.2	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.9	69.1	66.0	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	209	450	969
CNEL:	104	224	483	1,042

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 *Job Number:* 13265
Road Segment: East of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,208 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,138 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	3.76	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-13.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-17.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.8	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.2	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.9	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	97	210	452	974
CNEL:	105	226	486	1,047

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

Scenario: EA
Road Name: State Route 74
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,154 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.31	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.93	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.88	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.8	58.3	49.2	50.5	58.9	59.0
Vehicle Noise:	66.5	65.7	62.6	57.8	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	124	266	574
CNEL:	62	133	286	617

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

Scenario: EAP
Road Name: State Route 74
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,352 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,887 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.35	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.89	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.85	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.4	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	58.8	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.5	65.7	62.7	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	268	577
CNEL:	62	134	288	620

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

Scenario: EAC
Road Name: State Route 74
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,154 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,871 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.31	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.93	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.88	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	58.4	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	58.8	58.3	49.2	50.5	58.9	59.0
Vehicle Noise:	66.5	65.7	62.6	57.8	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	124	266	574
CNEL:	62	133	286	617

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

Scenario: EAPC
Road Name: State Route 74
Road Segment: West of Menifee Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,352 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,887 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.35	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.89	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.85	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.4	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	58.8	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	66.5	65.7	62.7	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	268	577
CNEL:	62	134	288	620

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

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,920 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,256 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.12	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.2	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	59.6	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.3	66.5	63.4	58.6	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	302	650
CNEL:	70	151	324	699

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

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,120 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,272 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.16	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.08	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.04	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.2	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	59.6	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.3	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	141	303	653
CNEL:	70	151	326	702

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

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,962 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,118 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.74	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-17.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	67.2	65.5	59.4	68.1	68.7
Medium Trucks:	61.8	61.2	54.8	53.3	61.8	62.0
Heavy Trucks:	62.2	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.9	69.1	66.0	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	97	209	451	971
CNEL:	104	225	484	1,044

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

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: State Route 74 | *Job Number:* 13265
Road Segment: West of Menifee Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,160 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,134 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	36 feet

Site Data

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

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

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

Vehicle Mix

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

Noise Source Elevations (in feet)

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

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.75	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-17.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	67.3	65.5	59.4	68.1	68.7
Medium Trucks:	61.8	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.2	61.7	52.7	53.9	62.3	62.4
Vehicle Noise:	69.9	69.1	66.1	61.3	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	97	210	452	974
CNEL:	105	225	486	1,046

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

Scenario: EA
Road Name: Lakeview Av.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,518 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	769 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	-3.09	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.33	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.29	-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:	59.6	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	53.3	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	54.2	53.7	44.6	45.9	54.2	54.4
Vehicle Noise:	61.4	60.6	57.4	52.7	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	263
CNEL:	28	61	131	282

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

Scenario: EAP
Road Name: Lakeview Av.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,716 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	785 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	-3.00	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.24	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.20	-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:	59.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	53.4	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.2	53.8	44.7	46.0	54.3	54.4
Vehicle Noise:	61.5	60.7	57.5	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	124	266
CNEL:	29	62	133	286

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

Scenario: EAC
Road Name: Lakeview Av.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,418 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	842 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	-2.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.94	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.89	-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:	59.9	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	53.7	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	54.5	54.1	45.0	46.3	54.6	54.7
Vehicle Noise:	61.8	61.0	57.8	53.1	61.7	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	279
CNEL:	30	64	139	299

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

Scenario: EAPC
Road Name: Lakeview Av.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,616 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	858 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	-2.62	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.86	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.81	-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:	60.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	53.8	53.2	46.8	45.3	53.8	54.0
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	61.9	61.0	57.9	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	282
CNEL:	30	65	141	303

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Lakeview Av. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,693 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,026 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	-1.84	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.08	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.04	-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:	60.8	59.8	58.1	52.0	60.6	61.2
Medium Trucks:	54.6	54.0	47.6	46.1	54.5	54.8
Heavy Trucks:	55.4	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	62.6	61.8	58.7	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	148	318
CNEL:	34	74	158	341

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Lakeview Av. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,893 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,042 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	-1.77	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.01	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.97	-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:	60.9	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	54.6	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	55.5	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	62.7	61.9	58.7	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	149	321
CNEL:	34	74	160	345

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Lakeview Av. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,336 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	754 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	-3.18	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.41	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.37	-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:	59.5	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	53.2	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	54.1	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	61.3	60.5	57.3	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	120	259
CNEL:	28	60	129	278

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Lakeview Av. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,534 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	770 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	-3.08	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.32	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.28	-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:	59.6	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	53.3	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	54.2	53.7	44.6	45.9	54.2	54.4
Vehicle Noise:	61.4	60.6	57.4	52.8	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	57	122	263
CNEL:	28	61	131	282

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

Scenario: EA
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Nuevo Rd. and San Jacinto Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,947 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	965 vehicles
Vehicle Speed:	35 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:	64.30	-1.01	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.25	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.21	-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:	57.5	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	51.7	51.1	44.7	43.2	51.7	51.9
Heavy Trucks:	53.6	53.1	44.0	45.3	53.6	53.7
Vehicle Noise:	59.7	58.9	55.5	51.1	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	203
CNEL:	22	47	101	217

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

Scenario: EAP
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Nuevo Rd. and San Jacinto Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,529 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,093 vehicles
Vehicle Speed:	35 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:	64.30	-0.47	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-17.71	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-21.67	-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:	58.0	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	52.2	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.1	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	60.2	59.4	56.0	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	102	220
CNEL:	24	51	109	236

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

Scenario: EAC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Nuevo Rd. and San Jacinto Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,247 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,686 vehicles
Vehicle Speed:	35 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:	64.30	3.43	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.81	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.76	-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:	61.9	60.9	59.2	53.1	61.7	62.4
Medium Trucks:	56.1	55.6	49.2	47.6	56.1	56.3
Heavy Trucks:	58.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.1	63.4	59.9	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	186	402
CNEL:	43	92	199	429

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

Scenario: EAPC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Nuevo Rd. and San Jacinto Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,829 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,814 vehicles
Vehicle Speed:	35 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:	64.30	3.63	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.60	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.56	-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:	62.1	61.1	59.4	53.3	61.9	62.6
Medium Trucks:	56.3	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	64.3	63.6	60.1	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	192	414
CNEL:	44	95	205	442

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

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,642 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,365 vehicles
Vehicle Speed:	35 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:	64.30	4.41	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.83	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.78	-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:	62.9	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	59.0	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	65.1	64.3	60.9	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	467
CNEL:	50	107	231	498

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

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,640 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,526 vehicles
Vehicle Speed:	35 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:	64.30	4.61	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.62	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.58	-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:	63.1	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.3	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	59.2	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	65.3	64.5	61.1	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	223	481
CNEL:	51	111	239	514

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

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,488 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,029 vehicles
Vehicle Speed:	35 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:	64.30	3.95	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-13.28	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-17.24	-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:	62.4	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	56.7	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	58.5	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	64.7	63.9	60.4	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	94	202	435
CNEL:	46	100	216	465

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

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and San Jacinto Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,466 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,189 vehicles
Vehicle Speed:	35 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:	64.30	4.18	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-13.06	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-17.02	-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:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.9	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.7	58.2	49.2	50.5	58.8	58.9
Vehicle Noise:	64.9	64.1	60.7	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	450
CNEL:	48	104	223	481

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

Scenario: EA
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between San Jacinto Av. And Ellis Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,820 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	793 vehicles
Vehicle Speed:	35 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:	64.30	-1.86	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.10	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.06	-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:	56.6	55.6	53.9	47.8	56.5	57.1
Medium Trucks:	50.8	50.3	43.9	42.3	50.8	51.0
Heavy Trucks:	52.7	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	58.8	58.1	54.6	50.2	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	38	83	178
CNEL:	19	41	88	190

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

Scenario: EAP
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between San Jacinto Av. And Ellis Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,006 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	889 vehicles
Vehicle Speed:	35 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:	64.30	-1.37	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.61	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-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:	57.1	56.1	54.4	48.3	56.9	57.6
Medium Trucks:	51.3	50.8	44.4	42.8	51.3	51.5
Heavy Trucks:	53.2	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	59.3	58.6	55.1	50.7	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	41	89	192
CNEL:	21	44	95	205

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

Scenario: EAC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between San Jacinto Av. And Ellis Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,420 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,620 vehicles
Vehicle Speed:	35 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:	64.30	3.32	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.92	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.87	-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:	61.8	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	56.0	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.9	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	64.0	63.2	59.8	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	85	183	395
CNEL:	42	91	196	422

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between San Jacinto Av. And Ellis Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,606 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,715 vehicles
Vehicle Speed:	35 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:	64.30	3.48	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.76	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.72	-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:	62.0	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	56.2	55.6	49.2	47.7	56.2	56.4
Heavy Trucks:	58.0	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	64.2	63.4	60.0	55.6	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	188	404
CNEL:	43	93	201	432

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between San Jacinto Av. And Ellis Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,180 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,247 vehicles
Vehicle Speed:	35 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:	64.30	4.25	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.98	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.94	-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:	62.7	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	58.8	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.0	64.2	60.7	56.4	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	98	211	456
CNEL:	49	105	226	487

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between San Jacinto Av. And Ellis Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,778 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,376 vehicles
Vehicle Speed:	35 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:	64.30	4.42	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.77	-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:	62.9	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	59.0	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	65.1	64.3	60.9	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	232	500

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between San Jacinto Av. And Ellis Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,362 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,100 vehicles
Vehicle Speed:	35 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:	64.30	4.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-13.18	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-17.14	-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:	62.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	56.8	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.6	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	64.8	64.0	60.5	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	442
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between San Jacinto Av. And Ellis Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,944 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,227 vehicles
Vehicle Speed:	35 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:	64.30	4.23	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-13.01	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.97	-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:	62.7	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	56.9	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.8	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	64.9	64.2	60.7	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	211	454
CNEL:	48	104	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Ellis Av. and Mapes Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,227 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	826 vehicles
Vehicle Speed:	35 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:	64.30	-1.69	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.93	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.88	-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	54.1	48.0	56.6	57.2
Medium Trucks:	51.0	50.4	44.1	42.5	51.0	51.2
Heavy Trucks:	52.9	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	59.0	58.2	54.8	50.4	58.9	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	85	183
CNEL:	20	42	91	195

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Ellis Av. and Mapes Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,215 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	906 vehicles
Vehicle Speed:	35 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:	64.30	-1.29	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.53	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.48	-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:	57.2	56.2	54.5	48.4	57.0	57.6
Medium Trucks:	51.4	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	53.3	52.8	43.7	45.0	53.3	53.5
Vehicle Noise:	59.4	58.6	55.2	50.8	59.3	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	42	90	195
CNEL:	21	45	96	208

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Ellis Av. and Mapes Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,227 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,927 vehicles
Vehicle Speed:	35 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:	64.30	3.80	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.43	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.39	-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:	62.3	61.3	59.6	53.5	62.1	62.7
Medium Trucks:	56.5	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	58.4	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	64.5	63.7	60.3	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	197	425
CNEL:	45	98	211	454

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Ellis Av. and Mapes Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,215 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,007 vehicles
Vehicle Speed:	35 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:	64.30	3.92	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.32	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.27	-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:	62.4	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.6	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	58.5	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	64.6	63.8	60.4	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	201	433
CNEL:	46	100	215	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Ellis Av. and Mapes Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,495 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,595 vehicles
Vehicle Speed:	35 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:	64.30	4.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.54	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.50	-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:	57.4	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	59.3	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	65.4	64.6	61.2	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	488
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Ellis Av. and Mapes Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,893 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,708 vehicles
Vehicle Speed:	35 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:	64.30	4.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.41	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.36	-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:	63.3	62.3	60.6	54.5	63.1	63.8
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	59.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	65.5	64.8	61.3	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	247	532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Ellis Av. and Mapes Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,546 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,599 vehicles
Vehicle Speed:	35 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:	64.30	4.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.54	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.49	-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	60.5	54.4	63.0	63.6
Medium Trucks:	57.4	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	59.3	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	65.4	64.6	61.2	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	488
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Ellis Av. and Mapes Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,930 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,711 vehicles
Vehicle Speed:	35 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:	64.30	4.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.40	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.36	-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:	63.3	62.3	60.6	54.5	63.2	63.8
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	59.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	65.5	64.8	61.3	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	247	532

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Mapes Rd. and Watson Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,437 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	601 vehicles
Vehicle Speed:	35 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:	64.30	-3.07	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-20.31	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-24.27	-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:	55.4	54.4	52.7	46.6	55.2	55.8
Medium Trucks:	49.6	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.5	51.0	42.0	43.2	51.6	51.7
Vehicle Noise:	57.6	56.9	53.4	49.0	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	15	32	69	148
CNEL:	16	34	73	158

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Mapes Rd. and Watson Rd.
Project Name: Stoneridge Commerce Ce
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:	35 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:	64.30	-2.53	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.77	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.72	-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:	56.0	55.0	53.2	47.2	55.8	56.4
Medium Trucks:	50.2	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	52.0	51.5	42.5	43.8	52.1	52.2
Vehicle Noise:	58.2	57.4	54.0	49.6	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	35	75	161
CNEL:	17	37	80	172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Mapes Rd. and Watson Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,737 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,807 vehicles
Vehicle Speed:	35 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:	64.30	3.62	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.62	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.57	-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:	62.1	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.3	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	64.3	63.5	60.1	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	192	413
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Mapes Rd. and Watson Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,727 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,887 vehicles
Vehicle Speed:	35 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:	64.30	3.74	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.49	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.45	-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:	62.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	56.4	55.9	49.5	48.0	56.4	56.7
Heavy Trucks:	58.3	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	64.5	63.7	60.2	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	196	421
CNEL:	45	97	209	450

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Mapes Rd. and Watson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,715 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,451 vehicles
Vehicle Speed:	35 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:	64.30	4.52	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.72	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.67	-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:	63.0	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.2	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	59.1	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.2	64.4	61.0	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	475
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Mapes Rd. and Watson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,913 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,548 vehicles
Vehicle Speed:	35 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:	64.30	4.64	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.55	-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:	63.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	57.3	56.8	50.4	48.9	57.3	57.5
Heavy Trucks:	59.2	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	65.4	64.6	61.1	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	224	483
CNEL:	52	111	240	516

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Mapes Rd. and Watson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,670 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,529 vehicles
Vehicle Speed:	35 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:	64.30	4.62	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.62	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.58	-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:	63.1	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.3	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	59.2	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	65.3	64.5	61.1	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	104	224	482
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Mapes Rd. and Watson Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,856 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,624 vehicles
Vehicle Speed:	35 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:	64.30	4.73	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.51	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.46	-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	60.5	54.4	63.0	63.7
Medium Trucks:	57.4	56.9	50.5	48.9	57.4	57.6
Heavy Trucks:	59.3	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	65.4	64.7	61.2	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	228	490
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Watson Rd. and SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,308 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	752 vehicles
Vehicle Speed:	35 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:	64.30	-2.10	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.34	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.29	-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	55.4	53.7	47.6	56.2	56.8
Medium Trucks:	50.6	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	52.5	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	58.6	57.8	54.4	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: EAP
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Watson Rd. and SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,902 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	800 vehicles
Vehicle Speed:	35 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:	64.30	-1.83	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-19.07	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-23.02	-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:	56.7	55.7	53.9	47.9	56.5	57.1
Medium Trucks:	50.9	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	52.7	52.2	43.2	44.5	52.8	52.9
Vehicle Noise:	58.9	58.1	54.7	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	83	179
CNEL:	19	41	89	191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Watson Rd. and SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,608 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,958 vehicles
Vehicle Speed:	35 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:	64.30	3.85	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.39	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.34	-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:	62.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	56.6	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	58.4	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	64.6	63.8	60.3	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	428
CNEL:	46	99	212	457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: Between Watson Rd. and SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,202 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,006 vehicles
Vehicle Speed:	35 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:	64.30	3.92	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.32	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.27	-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:	62.4	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	56.6	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	58.5	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	64.6	63.8	60.4	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	201	433
CNEL:	46	100	215	462

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Watson Rd. and SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,480 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,594 vehicles
Vehicle Speed:	35 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:	64.30	4.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.54	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.50	-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:	57.4	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	59.3	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	65.4	64.6	61.2	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	488
CNEL:	52	112	242	521

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Watson Rd. and SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,480 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,675 vehicles
Vehicle Speed:	35 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:	64.30	4.79	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.45	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.40	-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:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.5	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	59.4	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	65.5	64.7	61.3	56.9	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	107	230	495
CNEL:	53	114	245	529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Watson Rd. and SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,320 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,096 vehicles
Vehicle Speed:	35 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:	64.30	4.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-13.19	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-17.15	-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:	62.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	56.8	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.6	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	64.8	64.0	60.5	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	441
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. *Job Number:* 13265
Road Segment: Between Watson Rd. and SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,310 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	35 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:	64.30	4.16	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-13.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-17.03	-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:	62.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.7	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	64.9	64.1	60.6	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	449
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Reservoir Av./Menifee Rd.
Road Segment: South of SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,045 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	973 vehicles
Vehicle Speed:	35 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:	64.30	-0.98	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.22	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-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:	57.5	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	51.7	51.1	44.8	43.2	51.7	51.9
Heavy Trucks:	53.6	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	59.7	58.9	55.5	51.1	59.6	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	95	204
CNEL:	22	47	101	218

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Reservoir Av./Menifee Rd.
Road Segment: South of SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,243 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	989 vehicles
Vehicle Speed:	35 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:	64.30	-0.91	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-18.14	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-22.10	-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:	57.6	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	51.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	53.7	53.2	44.1	45.4	53.7	53.9
Vehicle Noise:	59.8	59.0	55.6	51.2	59.7	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	44	96	206
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: South of SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,345 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,179 vehicles
Vehicle Speed:	35 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:	64.30	4.16	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.07	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.03	-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:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.7	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	64.9	64.1	60.6	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	209	449
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Reservoir Av./Menifee Rd.
Road Segment: South of SR-74
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,543 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,195 vehicles
Vehicle Speed:	35 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:	64.30	4.19	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-13.05	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-17.01	-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:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.9	56.3	49.9	48.4	56.9	57.1
Heavy Trucks:	58.7	58.3	49.2	50.5	58.8	58.9
Vehicle Noise:	64.9	64.1	60.7	56.3	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	209	451
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. | *Job Number:* 13265
Road Segment: South of SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,278 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,820 vehicles
Vehicle Speed:	35 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:	64.30	4.96	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.28	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.23	-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:	63.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.7	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	59.5	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	65.7	64.9	61.4	57.1	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	236	508
CNEL:	54	117	252	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. | *Job Number:* 13265
Road Segment: South of SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,678 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,852 vehicles
Vehicle Speed:	35 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:	64.30	5.00	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.24	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.20	-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:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.7	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	59.6	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	65.7	64.9	61.5	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	55	118	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. | *Job Number:* 13265
Road Segment: South of SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,731 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,291 vehicles
Vehicle Speed:	35 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:	64.30	4.31	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.92	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.88	-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	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	57.0	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	58.9	58.4	49.3	50.6	59.0	59.1
Vehicle Noise:	65.0	64.2	60.8	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	460
CNEL:	49	106	228	491

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Reservoir Av./Menifee Rd. | *Job Number:* 13265
Road Segment: South of SR-74

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,127 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,323 vehicles
Vehicle Speed:	35 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:	64.30	4.36	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-12.88	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-16.84	-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:	62.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	57.1	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.9	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	65.1	64.3	60.8	56.5	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	100	215	463
CNEL:	49	106	229	494

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Dunlap Dr.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,819 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	389 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	-6.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.29	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.24	-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	53.9	47.8	56.4	57.0
Medium Trucks:	50.4	49.8	43.4	41.9	50.3	50.6
Heavy Trucks:	51.2	50.7	41.7	42.9	51.3	51.4
Vehicle Noise:	58.4	57.6	54.5	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	167
CNEL:	18	39	83	179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Dunlap Dr.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,215 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	421 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	-5.70	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.94	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.90	-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:	56.9	56.0	54.2	48.1	56.8	57.4
Medium Trucks:	50.7	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	51.5	51.0	42.0	43.3	51.6	51.7
Vehicle Noise:	58.8	58.0	54.8	50.1	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	88	189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Dunlap Dr.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,219 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	664 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	-3.73	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.92	-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:	58.9	57.9	56.2	50.1	58.7	59.4
Medium Trucks:	52.7	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	53.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	60.8	59.9	56.8	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	26	55	119	255

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Dunlap Dr.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,615 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	696 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	-3.52	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.76	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.72	-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:	59.1	58.1	56.4	50.3	58.9	59.6
Medium Trucks:	52.9	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	53.7	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	61.0	60.1	57.0	52.3	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	53	114	246
CNEL:	26	57	122	264

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,301 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	832 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	-2.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.94	-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:	59.9	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	53.7	53.1	46.7	45.2	53.6	53.9
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	61.7	60.9	57.8	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	277
CNEL:	30	64	138	297

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,301 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	832 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	-2.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.94	-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:	59.9	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	53.7	53.1	46.7	45.2	53.6	53.9
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	61.7	60.9	57.8	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	128	277
CNEL:	30	64	138	297

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,727 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	382 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	-6.13	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.37	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.33	-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:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.4	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	165
CNEL:	18	38	82	177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,727 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	382 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	-6.13	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.37	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.33	-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:	56.5	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	50.3	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	51.1	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	58.4	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	165
CNEL:	18	38	82	177

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Dunlap Dr.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,109 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	90 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	-12.43	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-29.67	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-33.62	-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	47.5	41.4	50.0	50.7
Medium Trucks:	44.0	43.4	37.0	35.5	43.9	44.2
Heavy Trucks:	44.8	44.3	35.3	36.5	44.9	45.0
Vehicle Noise:	52.1	51.2	48.1	43.4	52.0	52.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Dunlap Dr.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,109 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	90 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	-12.43	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-29.67	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-33.62	-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	47.5	41.4	50.0	50.7
Medium Trucks:	44.0	43.4	37.0	35.5	43.9	44.2
Heavy Trucks:	44.8	44.3	35.3	36.5	44.9	45.0
Vehicle Noise:	52.1	51.2	48.1	43.4	52.0	52.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Dunlap Dr.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,109 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	90 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	-12.43	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-29.67	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-33.62	-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	47.5	41.4	50.0	50.7
Medium Trucks:	44.0	43.4	37.0	35.5	43.9	44.2
Heavy Trucks:	44.8	44.3	35.3	36.5	44.9	45.0
Vehicle Noise:	52.1	51.2	48.1	43.4	52.0	52.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Dunlap Dr.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,109 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	90 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	-12.43	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-29.67	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-33.62	-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	47.5	41.4	50.0	50.7
Medium Trucks:	44.0	43.4	37.0	35.5	43.9	44.2
Heavy Trucks:	44.8	44.3	35.3	36.5	44.9	45.0
Vehicle Noise:	52.1	51.2	48.1	43.4	52.0	52.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	13	29	63
CNEL:	7	14	31	67

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,326 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	107 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	-11.65	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-28.89	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-32.85	-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:	51.0	50.0	48.3	42.2	50.8	51.4
Medium Trucks:	44.7	44.2	37.8	36.3	44.7	45.0
Heavy Trucks:	45.6	45.1	36.1	37.3	45.7	45.8
Vehicle Noise:	52.8	52.0	48.9	44.2	52.7	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,526 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	123 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	-11.04	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-28.28	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-32.24	-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:	51.6	50.6	48.9	42.8	51.4	52.0
Medium Trucks:	45.4	44.8	38.4	36.9	45.3	45.6
Heavy Trucks:	46.2	45.7	36.7	37.9	46.3	46.4
Vehicle Noise:	53.4	52.6	49.5	44.8	53.3	53.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	77
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,402 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	194 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	-9.07	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-26.31	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-30.27	-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:	53.6	52.6	50.8	44.8	53.4	54.0
Medium Trucks:	47.3	46.7	40.4	38.8	47.3	47.5
Heavy Trucks:	48.2	47.7	38.6	39.9	48.3	48.4
Vehicle Noise:	55.4	54.6	51.4	46.8	55.3	55.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	23	49	105
CNEL:	11	24	52	112

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Dunlap Dr. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,600 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	210 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	-8.73	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-25.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-29.92	-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:	53.9	52.9	51.2	45.1	53.7	54.4
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:	55.8	54.9	51.8	47.1	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	111
CNEL:	12	26	55	119

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Bradley Rd.
Road Segment: Between Ramona Exwy. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,190 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	258 vehicles
Vehicle Speed:	35 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:	64.30	-6.75	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.99	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-27.94	-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:	51.7	50.8	49.0	42.9	51.6	52.2
Medium Trucks:	46.0	45.4	39.0	37.5	45.9	46.2
Heavy Trucks:	47.8	47.3	38.3	39.5	47.9	48.0
Vehicle Noise:	54.0	53.2	49.7	45.3	53.9	54.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	18	39	84
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Bradley Rd.
Road Segment: Between Ramona Exwy. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,980 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	35 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:	64.30	-5.79	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.02	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-26.98	-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:	52.7	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	46.9	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	48.8	48.3	39.2	40.5	48.8	49.0
Vehicle Noise:	54.9	54.1	50.7	46.3	54.8	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	45	98
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Bradley Rd.
Road Segment: Between Ramona Exwy. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,190 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	258 vehicles
Vehicle Speed:	35 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:	64.30	-6.75	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.99	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-27.94	-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:	51.7	50.8	49.0	42.9	51.6	52.2
Medium Trucks:	46.0	45.4	39.0	37.5	45.9	46.2
Heavy Trucks:	47.8	47.3	38.3	39.5	47.9	48.0
Vehicle Noise:	54.0	53.2	49.7	45.3	53.9	54.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	18	39	84
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Bradley Rd.
Road Segment: Between Ramona Exwy. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,980 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	322 vehicles
Vehicle Speed:	35 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:	64.30	-5.79	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	75.75	-23.02	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	81.57	-26.98	-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:	52.7	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	46.9	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	48.8	48.3	39.2	40.5	48.8	49.0
Vehicle Noise:	54.9	54.1	50.7	46.3	54.8	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	45	98
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,759 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	385 vehicles
Vehicle Speed:	35 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:	64.30	-5.01	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.25	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.20	-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:	53.5	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	47.7	47.1	40.7	39.2	47.7	47.9
Heavy Trucks:	49.6	49.1	40.0	41.3	49.6	49.8
Vehicle Noise:	55.7	54.9	51.5	47.1	55.6	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	54	117

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,759 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	385 vehicles
Vehicle Speed:	35 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:	64.30	-5.01	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.25	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.20	-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:	53.5	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	47.7	47.1	40.7	39.2	47.7	47.9
Heavy Trucks:	49.6	49.1	40.0	41.3	49.6	49.8
Vehicle Noise:	55.7	54.9	51.5	47.1	55.6	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	110
CNEL:	12	25	54	117

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,129 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	253 vehicles
Vehicle Speed:	35 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:	64.30	-6.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-24.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-28.03	-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:	51.7	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	45.9	45.3	38.9	37.4	45.8	46.1
Heavy Trucks:	47.7	47.2	38.2	39.4	47.8	47.9
Vehicle Noise:	53.9	53.1	49.7	45.3	53.8	54.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	83
CNEL:	9	19	41	89

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,129 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	253 vehicles
Vehicle Speed:	35 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:	64.30	-6.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-24.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-28.03	-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:	51.7	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	45.9	45.3	38.9	37.4	45.8	46.1
Heavy Trucks:	47.7	47.2	38.2	39.4	47.8	47.9
Vehicle Noise:	53.9	53.1	49.7	45.3	53.8	54.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	83
CNEL:	9	19	41	89

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Bradley Rd.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	777 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	63 vehicles
Vehicle Speed:	35 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:	64.30	-12.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-30.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-34.08	-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:	45.6	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	39.8	39.2	32.9	31.3	39.8	40.0
Heavy Trucks:	41.7	41.2	32.1	33.4	41.8	41.9
Vehicle Noise:	47.8	47.0	43.6	39.2	47.7	48.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	15	33
CNEL:	4	8	16	35

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Bradley Rd.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	777 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	63 vehicles
Vehicle Speed:	35 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:	64.30	-12.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-30.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-34.08	-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:	45.6	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	39.8	39.2	32.9	31.3	39.8	40.0
Heavy Trucks:	41.7	41.2	32.1	33.4	41.8	41.9
Vehicle Noise:	47.8	47.0	43.6	39.2	47.7	48.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	15	33
CNEL:	4	8	16	35

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Bradley Rd.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	777 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	63 vehicles
Vehicle Speed:	35 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:	64.30	-12.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-30.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-34.08	-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:	45.6	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	39.8	39.2	32.9	31.3	39.8	40.0
Heavy Trucks:	41.7	41.2	32.1	33.4	41.8	41.9
Vehicle Noise:	47.8	47.0	43.6	39.2	47.7	48.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	15	33
CNEL:	4	8	16	35

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Bradley Rd.
Road Segment: South of Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	777 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	63 vehicles
Vehicle Speed:	35 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:	64.30	-12.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-30.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-34.08	-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:	45.6	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	39.8	39.2	32.9	31.3	39.8	40.0
Heavy Trucks:	41.7	41.2	32.1	33.4	41.8	41.9
Vehicle Noise:	47.8	47.0	43.6	39.2	47.7	48.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	15	33
CNEL:	4	8	16	35

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	929 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	75 vehicles
Vehicle Speed:	35 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:	64.30	-12.11	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-29.34	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-33.30	-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:	46.4	45.4	43.6	37.6	46.2	46.8
Medium Trucks:	40.6	40.0	33.7	32.1	40.6	40.8
Heavy Trucks:	42.5	42.0	32.9	34.2	42.5	42.7
Vehicle Noise:	48.6	47.8	44.4	40.0	48.5	48.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	9	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	929 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	75 vehicles
Vehicle Speed:	35 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:	64.30	-12.11	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-29.34	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-33.30	-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:	46.4	45.4	43.6	37.6	46.2	46.8
Medium Trucks:	40.6	40.0	33.7	32.1	40.6	40.8
Heavy Trucks:	42.5	42.0	32.9	34.2	42.5	42.7
Vehicle Noise:	48.6	47.8	44.4	40.0	48.5	48.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	9	18	39

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	762 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	62 vehicles
Vehicle Speed:	35 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:	64.30	-12.97	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-30.20	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-34.16	-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:	45.5	44.5	42.8	36.7	45.3	46.0
Medium Trucks:	39.7	39.2	32.8	31.2	39.7	39.9
Heavy Trucks:	41.6	41.1	32.1	33.3	41.7	41.8
Vehicle Noise:	47.7	47.0	43.5	39.1	47.7	48.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	15	32
CNEL:	3	7	16	35

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Bradley Rd. *Job Number:* 13265
Road Segment: South of Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	762 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	62 vehicles
Vehicle Speed:	35 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:	64.30	-12.97	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-30.20	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-34.16	-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:	45.5	44.5	42.8	36.7	45.3	46.0
Medium Trucks:	39.7	39.2	32.8	31.2	39.7	39.9
Heavy Trucks:	41.6	41.1	32.1	33.3	41.7	41.8
Vehicle Noise:	47.7	47.0	43.5	39.1	47.7	48.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	3	7	15	32
CNEL:	3	7	16	35

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Evans Rd.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,233 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	40 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:	66.51	-1.49	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.73	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.68	-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:	59.2	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.2	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	61.2	60.4	57.1	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Evans Rd.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,233 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	40 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:	66.51	-1.49	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.73	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.68	-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:	59.2	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.2	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	54.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	61.2	60.4	57.1	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Evans Rd.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,333 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	40 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:	66.51	0.27	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.93	-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:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.9	54.4	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.0	62.2	58.9	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	155	335
CNEL:	36	77	166	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Evans Rd.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,333 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,481 vehicles
Vehicle Speed:	40 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:	66.51	0.27	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.97	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.93	-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:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.9	54.4	48.0	46.4	54.9	55.1
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.0	62.2	58.9	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	155	335
CNEL:	36	77	166	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,920 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,771 vehicles
Vehicle Speed:	40 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:	66.51	1.04	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.20	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.15	-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:	61.7	60.8	59.0	52.9	61.6	62.2
Medium Trucks:	55.7	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.0	56.5	47.5	48.8	57.1	57.2
Vehicle Noise:	63.7	62.9	59.7	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,920 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,771 vehicles
Vehicle Speed:	40 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:	66.51	1.04	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-16.20	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-20.15	-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:	61.7	60.8	59.0	52.9	61.6	62.2
Medium Trucks:	55.7	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.0	56.5	47.5	48.8	57.1	57.2
Vehicle Noise:	63.7	62.9	59.7	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	81	175	377
CNEL:	40	87	188	404

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,999 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	969 vehicles
Vehicle Speed:	40 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:	66.51	-1.57	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.77	-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:	59.1	58.1	56.4	50.3	59.0	59.6
Medium Trucks:	53.1	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.4	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	61.1	60.3	57.0	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	253
CNEL:	27	58	126	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,999 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	969 vehicles
Vehicle Speed:	40 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:	66.51	-1.57	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-18.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-22.77	-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:	59.1	58.1	56.4	50.3	59.0	59.6
Medium Trucks:	53.1	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.4	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	61.1	60.3	57.0	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	253
CNEL:	27	58	126	270

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Evans Rd.
Road Segment: Between Orange Av. And Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,138 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,062 vehicles
Vehicle Speed:	40 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:	66.51	-1.18	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.42	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.37	-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:	59.5	58.5	56.8	50.7	59.3	60.0
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.5	60.7	57.4	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Evans Rd.
Road Segment: Between Orange Av. And Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,138 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,062 vehicles
Vehicle Speed:	40 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:	66.51	-1.18	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.42	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.37	-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:	59.5	58.5	56.8	50.7	59.3	60.0
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.5	60.7	57.4	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Evans Rd.
Road Segment: Between Orange Av. And Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,138 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,062 vehicles
Vehicle Speed:	40 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:	66.51	-1.18	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.42	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.37	-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:	59.5	58.5	56.8	50.7	59.3	60.0
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.5	60.7	57.4	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Evans Rd.
Road Segment: Between Orange Av. And Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,138 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,062 vehicles
Vehicle Speed:	40 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:	66.51	-1.18	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.42	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.37	-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:	59.5	58.5	56.8	50.7	59.3	60.0
Medium Trucks:	53.5	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	54.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	61.5	60.7	57.4	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Orange Av. And Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,708 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,269 vehicles
Vehicle Speed:	40 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:	66.51	-0.40	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-17.64	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-21.60	-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:	60.3	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.3	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.6	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	62.3	61.5	58.2	53.7	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	302
CNEL:	32	70	150	324

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Orange Av. And Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,108 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,302 vehicles
Vehicle Speed:	40 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:	66.51	-0.29	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-17.53	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-21.49	-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:	60.4	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	54.4	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	55.7	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	62.4	61.6	58.3	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	66	143	307
CNEL:	33	71	153	329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Orange Av. And Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,683 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,994 vehicles
Vehicle Speed:	40 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:	66.51	1.56	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.68	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.64	-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:	62.3	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	56.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.5	57.1	48.0	49.3	57.6	57.7
Vehicle Noise:	64.3	63.5	60.2	55.6	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	190	408
CNEL:	44	94	203	437

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Orange Av. And Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,079 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,026 vehicles
Vehicle Speed:	40 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:	66.51	1.63	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.61	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.57	-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:	62.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	56.3	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	57.6	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	64.3	63.5	60.3	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	89	192	413
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Evans Rd.
Road Segment: Between Rider St. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,769 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,436 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.13	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.06	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.9	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	54.9	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	62.9	62.1	58.8	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	36	77	165	356

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Evans Rd.
Road Segment: Between Rider St. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,967 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.9	54.4	48.0	46.5	54.9	55.1
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.0	62.2	58.9	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	72	156	335
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Evans Rd.
Road Segment: Between Rider St. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,329 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,562 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.50	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.74	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.70	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.3	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.6	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	63.3	62.5	59.2	54.7	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	163	352
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Evans Rd.
Road Segment: Between Rider St. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,527 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,578 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.70	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.65	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	55.3	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.6	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	63.3	62.5	59.3	54.7	63.2	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	165	355
CNEL:	38	82	176	380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Rider St. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,956 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,451 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.9	54.4	48.0	46.5	54.9	55.1
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.0	62.2	58.9	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	72	156	335
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Rider St. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,956 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,451 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	54.9	54.4	48.0	46.5	54.9	55.1
Heavy Trucks:	56.3	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	63.0	62.2	58.9	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	72	156	335
CNEL:	36	77	167	359

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Rider St. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,809 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,924 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.40	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.84	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.79	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.2	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.5	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.2	63.4	60.1	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	188	405
CNEL:	43	93	201	433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Rider St. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,809 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,924 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.40	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.84	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.79	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.2	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.5	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	64.2	63.4	60.1	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	188	405
CNEL:	43	93	201	433

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA | Project Name: Stoneridge Commerce Ce
Road Name: Evans Rd. | Job Number: 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,508 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,465 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.48	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.76	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.72	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.2	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.3	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	222	477
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP | Project Name: Stoneridge Commerce Ce
Road Name: Evans Rd. | Job Number: 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,892 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,577 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.67	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.57	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.52	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.4	56.9	50.5	48.9	57.4	57.6
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	65.5	64.7	61.4	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	106	228	492
CNEL:	53	113	244	526

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | Project Name: Stoneridge Commerce Ce
Road Name: Evans Rd. | Job Number: 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,402 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,426 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.91	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-13.33	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-17.29	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	58.7	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	60.0	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	66.7	65.9	62.6	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	276	595
CNEL:	64	137	295	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | Project Name: Stoneridge Commerce Ce
Road Name: Evans Rd. | Job Number: 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,786 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,538 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.05	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-13.19	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-17.15	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	63.9	62.1	56.0	64.7	65.3
Medium Trucks:	58.8	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	60.1	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	66.8	66.0	62.8	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	282	607
CNEL:	65	140	302	650

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,351 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,230 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.82	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.41	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.37	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.6	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.6	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.9	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	67.6	66.8	63.5	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	68	147	318	684
CNEL:	73	158	340	733

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,949 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	4,359 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.28	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.24	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.7	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	59.7	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.0	60.5	51.5	52.8	61.1	61.2
Vehicle Noise:	67.8	66.9	63.7	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	70	150	324	698
CNEL:	75	161	347	747

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,658 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,639 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.77	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	500
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,240 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,767 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.98	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.26	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.21	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.7	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	65.8	65.0	61.7	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	239	516
CNEL:	55	119	256	552

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Evans Rd.
Road Segment: Between Krameria Av. and Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,701 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,400 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.36	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.88	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.83	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.4	58.0	48.9	50.2	58.5	58.6
Vehicle Noise:	65.2	64.4	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	218	469
CNEL:	50	108	233	502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Evans Rd.
Road Segment: Between Krameria Av. and Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,491 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,464 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.48	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.76	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.72	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.2	56.7	50.3	48.8	57.2	57.4
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.3	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Evans Rd.
Road Segment: Between Krameria Av. and Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,638 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,637 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.77	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.47	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	499
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Evans Rd.
Road Segment: Between Krameria Av. and Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,428 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,701 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.88	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.36	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.32	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.6	57.1	50.7	49.2	57.6	57.8
Heavy Trucks:	59.0	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	65.7	64.9	61.6	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	236	507
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. | *Job Number:* 13265
Road Segment: Between Krameria Av. and Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,967 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,229 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.65	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-13.59	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-17.54	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	58.4	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.7	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	66.5	65.6	62.4	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	265	572
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. | *Job Number:* 13265
Road Segment: Between Krameria Av. and Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,567 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,278 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.72	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-13.52	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-17.48	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.5	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.8	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.5	65.7	62.4	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	268	577
CNEL:	62	133	287	618

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. | *Job Number:* 13265
Road Segment: Between Krameria Av. and Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,293 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,771 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.99	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.25	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.21	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.7	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	65.8	65.0	61.7	57.2	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	111	240	516
CNEL:	55	119	256	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Evans Rd. | *Job Number:* 13265
Road Segment: Between Krameria Av. and Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,887 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,819 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.06	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.18	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.13	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.9	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	57.8	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.1	58.7	49.6	50.9	59.2	59.3
Vehicle Noise:	65.9	65.1	61.8	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	112	242	522
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Murrieta Rd.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,450 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	360 vehicles
Vehicle Speed:	25 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:	58.73	-3.84	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	70.80	-21.08	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	77.97	-25.03	-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:	49.1	48.1	46.3	40.3	48.9	49.5
Medium Trucks:	43.9	43.3	37.0	35.4	43.9	44.1
Heavy Trucks:	47.1	46.6	37.6	38.8	47.2	47.3
Vehicle Noise:	52.0	51.2	47.3	43.4	51.9	52.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	29	62
CNEL:	7	14	31	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Murrieta Rd.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,648 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	376 vehicles
Vehicle Speed:	25 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:	58.73	-3.65	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	70.80	-20.89	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	77.97	-24.85	-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:	49.3	48.3	46.5	40.5	49.1	49.7
Medium Trucks:	44.1	43.5	37.2	35.6	44.1	44.3
Heavy Trucks:	47.3	46.8	37.8	39.0	47.4	47.5
Vehicle Noise:	52.2	51.4	47.5	43.6	52.1	52.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	14	30	64
CNEL:	7	15	31	68

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Murrieta Rd.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,250 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	586 vehicles
Vehicle Speed:	25 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:	58.73	-1.72	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	70.80	-18.96	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	77.97	-22.92	-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:	51.2	50.2	48.5	42.4	51.0	51.6
Medium Trucks:	46.0	45.4	39.1	37.5	46.0	46.2
Heavy Trucks:	49.2	48.8	39.7	41.0	49.3	49.4
Vehicle Noise:	54.1	53.3	49.4	45.5	54.0	54.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	40	86
CNEL:	9	20	42	91

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Murrieta Rd.
Road Segment: North of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,448 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	602 vehicles
Vehicle Speed:	25 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:	58.73	-1.60	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	70.80	-18.84	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	77.97	-22.80	-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:	51.3	50.3	48.6	42.5	51.1	51.7
Medium Trucks:	46.1	45.6	39.2	37.7	46.1	46.3
Heavy Trucks:	49.4	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	54.2	53.4	49.5	45.6	54.1	54.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	88
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,905 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	720 vehicles
Vehicle Speed:	25 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:	58.73	-0.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-18.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-22.02	-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:	52.1	51.1	49.4	43.3	51.9	52.5
Medium Trucks:	46.9	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	50.1	49.6	40.6	41.9	50.2	50.3
Vehicle Noise:	55.0	54.2	50.3	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	99
CNEL:	10	23	49	105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,905 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	720 vehicles
Vehicle Speed:	25 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:	58.73	-0.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-18.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-22.02	-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:	52.1	51.1	49.4	43.3	51.9	52.5
Medium Trucks:	46.9	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	50.1	49.6	40.6	41.9	50.2	50.3
Vehicle Noise:	55.0	54.2	50.3	46.4	54.9	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	21	46	99
CNEL:	10	23	49	105

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,045 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	569 vehicles
Vehicle Speed:	25 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:	58.73	-1.85	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-19.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-23.04	-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:	51.1	50.1	48.3	42.3	50.9	51.5
Medium Trucks:	45.9	45.3	39.0	37.4	45.9	46.1
Heavy Trucks:	49.1	48.6	39.6	40.8	49.2	49.3
Vehicle Noise:	54.0	53.2	49.3	45.4	53.9	54.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	84
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. *Job Number:* 13265
Road Segment: North of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,045 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	569 vehicles
Vehicle Speed:	25 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:	58.73	-1.85	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-19.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-23.04	-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:	51.1	50.1	48.3	42.3	50.9	51.5
Medium Trucks:	45.9	45.3	39.0	37.4	45.9	46.1
Heavy Trucks:	49.1	48.6	39.6	40.8	49.2	49.3
Vehicle Noise:	54.0	53.2	49.3	45.4	53.9	54.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	84
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Murrieta Rd.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,283 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	508 vehicles
Vehicle Speed:	25 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:	58.73	-2.34	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-19.58	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-23.54	-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:	50.6	49.6	47.8	41.8	50.4	51.0
Medium Trucks:	45.4	44.8	38.5	36.9	45.4	45.6
Heavy Trucks:	48.6	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	53.5	52.7	48.8	44.9	53.4	53.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Murrieta Rd.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,481 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	524 vehicles
Vehicle Speed:	25 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:	58.73	-2.21	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-19.45	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-23.40	-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:	50.7	49.7	48.0	41.9	50.5	51.1
Medium Trucks:	45.5	45.0	38.6	37.1	45.5	45.7
Heavy Trucks:	48.8	48.3	39.2	40.5	48.8	49.0
Vehicle Noise:	53.6	52.8	48.9	45.0	53.5	53.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	17	37	80
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Murrieta Rd.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,983 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,049 vehicles
Vehicle Speed:	25 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:	58.73	0.81	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-16.43	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-20.38	-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:	53.7	52.8	51.0	44.9	53.6	54.2
Medium Trucks:	48.6	48.0	41.6	40.1	48.5	48.8
Heavy Trucks:	51.8	51.3	42.2	43.5	51.9	52.0
Vehicle Noise:	56.6	55.9	52.0	48.0	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	59	127
CNEL:	13	29	62	135

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Murrieta Rd.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,181 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,065 vehicles
Vehicle Speed:	25 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:	58.73	0.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-16.36	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-20.32	-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:	53.8	52.8	51.1	45.0	53.6	54.2
Medium Trucks:	48.6	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	51.8	51.3	42.3	43.6	51.9	52.0
Vehicle Noise:	56.7	55.9	52.0	48.1	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	59	128
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,759 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,273 vehicles
Vehicle Speed:	25 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:	58.73	1.65	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-15.59	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-19.54	-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:	54.6	53.6	51.8	45.8	54.4	55.0
Medium Trucks:	49.4	48.8	42.5	40.9	49.4	49.6
Heavy Trucks:	52.6	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	57.5	56.7	52.8	48.9	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	31	67	144
CNEL:	15	33	71	153

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,159 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,306 vehicles
Vehicle Speed:	25 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:	58.73	1.76	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-15.48	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-19.43	-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:	49.5	48.9	42.6	41.0	49.5	49.7
Heavy Trucks:	52.7	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	57.6	56.8	52.9	49.0	57.5	57.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	68	147
CNEL:	16	34	72	156

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,467 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	25 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:	58.73	0.63	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-16.60	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-20.56	-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:	53.6	52.6	50.8	44.8	53.4	54.0
Medium Trucks:	48.4	47.8	41.4	39.9	48.4	48.6
Heavy Trucks:	51.6	51.1	42.1	43.3	51.7	51.8
Vehicle Noise:	56.4	55.7	51.8	47.9	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	27	57	123
CNEL:	13	28	61	131

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Murrieta Rd. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,863 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	25 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:	58.73	0.77	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	70.80	-16.47	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	77.97	-20.42	-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:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	48.5	47.9	41.6	40.0	48.5	48.7
Heavy Trucks:	51.7	51.2	42.2	43.5	51.8	51.9
Vehicle Noise:	56.6	55.8	51.9	48.0	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	126
CNEL:	13	29	62	134

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Redlands Av.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,945 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,127 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	-1.43	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.67	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.63	-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:	61.2	60.2	58.5	52.4	61.0	61.6
Medium Trucks:	55.0	54.4	48.0	46.5	54.9	55.2
Heavy Trucks:	55.8	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	63.0	62.2	59.1	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	339
CNEL:	36	78	169	363

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Redlands Av.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,341 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,159 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	-1.31	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.55	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.51	-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:	61.3	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	55.1	54.5	48.1	46.6	55.1	55.3
Heavy Trucks:	55.9	55.4	46.4	47.7	56.0	56.1
Vehicle Noise:	63.2	62.4	59.2	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	160	345
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Redlands Av.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,645 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,264 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	-0.93	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.17	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.13	-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:	61.7	60.7	59.0	52.9	61.5	62.1
Medium Trucks:	55.5	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.3	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	63.5	62.7	59.6	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	85	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Redlands Av.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,041 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,296 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	-0.82	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.06	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.02	-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:	61.8	60.8	59.1	53.0	61.6	62.3
Medium Trucks:	55.6	55.0	48.6	47.1	55.5	55.8
Heavy Trucks:	56.4	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	63.7	62.8	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	372
CNEL:	40	86	185	399

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,179 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,550 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	-0.05	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.29	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.24	-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:	62.6	61.6	59.9	53.8	62.4	63.0
Medium Trucks:	56.4	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	57.2	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	64.4	63.6	60.5	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	419
CNEL:	45	97	209	449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,579 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,582 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	0.04	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.20	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.15	-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:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.4	55.9	49.5	48.0	56.4	56.6
Heavy Trucks:	57.3	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	64.5	63.7	60.6	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	197	425
CNEL:	46	98	211	456

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,678 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,105 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	-1.52	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.76	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.71	-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:	61.1	60.2	58.4	52.3	61.0	61.6
Medium Trucks:	54.9	54.3	47.9	46.4	54.9	55.1
Heavy Trucks:	55.7	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	63.0	62.1	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	334
CNEL:	36	77	166	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. | *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,074 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,137 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	-1.39	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.63	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.59	-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:	61.3	60.3	58.5	52.5	61.1	61.7
Medium Trucks:	55.0	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	55.9	55.4	46.3	47.6	55.9	56.1
Vehicle Noise:	63.1	62.3	59.1	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	158	341
CNEL:	37	79	170	366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Redlands Av.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,610 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	615 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	-4.06	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.30	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.26	-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:	58.6	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	52.3	51.8	45.4	43.9	52.3	52.5
Heavy Trucks:	53.2	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	60.4	59.6	56.5	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Redlands Av.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,006 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	647 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	-3.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.04	-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:	58.8	57.8	56.1	50.0	58.6	59.2
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:	60.6	59.8	56.7	52.0	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	109	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Redlands Av.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,510 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	688 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	-3.58	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.82	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.77	-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:	59.1	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	52.8	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	53.7	53.2	44.1	45.4	53.7	53.9
Vehicle Noise:	60.9	60.1	56.9	52.3	60.8	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	244
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Redlands Av.
Road Segment: Between Nuevo Rd. and Orange Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,906 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	720 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	-3.38	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.62	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.57	-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:	59.3	58.3	56.5	50.5	59.1	59.7
Medium Trucks:	53.0	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	53.9	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	61.1	60.3	57.1	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	251
CNEL:	27	58	125	269

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,648 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	860 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	-2.60	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.84	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.80	-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:	60.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	53.8	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.6	54.1	45.1	46.4	54.7	54.8
Vehicle Noise:	61.9	61.1	57.9	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,648 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	860 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	-2.60	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.84	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.80	-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:	60.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	53.8	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.6	54.1	45.1	46.4	54.7	54.8
Vehicle Noise:	61.9	61.1	57.9	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,464 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	603 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	-4.15	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.39	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.34	-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:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	53.1	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.3	59.5	56.4	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Nuevo Rd. and Orange Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,464 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	603 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	-4.15	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.39	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.34	-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:	58.5	57.5	55.8	49.7	58.3	58.9
Medium Trucks:	52.3	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	53.1	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.3	59.5	56.4	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	104	223
CNEL:	24	52	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Redlands Av.
Road Segment: Between Orange Av. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,112 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	575 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	-4.36	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-21.60	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.55	-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:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.0	51.5	45.1	43.6	52.0	52.2
Heavy Trucks:	52.9	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	60.1	59.3	56.2	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Redlands Av.
Road Segment: Between Orange Av. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,112 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	575 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	-4.36	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-21.60	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.55	-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:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.0	51.5	45.1	43.6	52.0	52.2
Heavy Trucks:	52.9	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	60.1	59.3	56.2	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Redlands Av.
Road Segment: Between Orange Av. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,112 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	575 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	-4.36	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-21.60	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.55	-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:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.0	51.5	45.1	43.6	52.0	52.2
Heavy Trucks:	52.9	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	60.1	59.3	56.2	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Redlands Av.
Road Segment: Between Orange Av. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,112 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	575 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	-4.36	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-21.60	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.55	-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:	58.3	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	52.0	51.5	45.1	43.6	52.0	52.2
Heavy Trucks:	52.9	52.4	43.4	44.6	53.0	53.1
Vehicle Noise:	60.1	59.3	56.2	51.5	60.0	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	100	216
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Orange Av. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,503 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	687 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	-3.58	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.82	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.78	-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:	59.1	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	52.8	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	53.7	53.2	44.1	45.4	53.7	53.9
Vehicle Noise:	60.9	60.1	56.9	52.3	60.8	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	244
CNEL:	26	56	121	261

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Orange Av. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,699 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	945 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	-2.20	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.43	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.39	-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:	60.5	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	54.2	53.6	47.3	45.7	54.2	54.4
Heavy Trucks:	55.1	54.6	45.5	46.8	55.1	55.3
Vehicle Noise:	62.3	61.5	58.3	53.6	62.2	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	65	140	301
CNEL:	32	70	150	323

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Orange Av. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,102 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,382 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	-0.55	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.78	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.74	-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:	62.1	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	55.9	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	56.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	63.9	63.1	60.0	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	84	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Redlands Av. *Job Number:* 13265
Road Segment: Between Orange Av. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,498 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,414 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	-0.45	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.69	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.64	-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:	62.2	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.0	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	56.8	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	64.0	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Perris Blvd.
Road Segment: North of Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,616 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,151 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.89	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.35	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.31	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	56.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	58.0	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	64.7	63.9	60.6	56.1	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	202	436
CNEL:	47	101	217	467

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Perris Blvd.
Road Segment: North of Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,814 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,167 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.92	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.32	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.28	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	56.7	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	58.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.7	63.9	60.6	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	203	438
CNEL:	47	101	218	469

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: North of Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,822 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,167 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.92	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.32	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.27	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	56.7	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	58.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	64.7	63.9	60.6	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	203	438
CNEL:	47	101	218	469

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: North of Iris Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,020 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,183 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.95	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.29	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	56.7	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.0	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	64.8	63.9	60.7	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	204	440
CNEL:	47	102	219	471

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: North of Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,306 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,610 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.73	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.51	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.47	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.8	54.7	63.3	64.0
Medium Trucks:	57.5	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.8	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	65.5	64.7	61.4	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	230	496
CNEL:	53	114	246	531

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: North of Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,506 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,626 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.75	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.48	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.44	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.8	58.3	49.3	50.6	58.9	59.0
Vehicle Noise:	65.6	64.7	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	53	115	247	533

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: North of Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,778 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,244 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.07	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.12	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	56.8	56.3	49.9	48.3	56.8	57.0
Heavy Trucks:	58.2	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	64.9	64.1	60.8	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	208	448
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: North of Iris Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,168 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,276 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.13	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.11	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.06	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	56.9	56.3	50.0	48.4	56.9	57.1
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	64.9	64.1	60.9	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	98	210	453
CNEL:	48	104	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Perris Blvd.
Road Segment: Between Iris Av. And Krameria Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,640 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,395 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.35	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.88	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.84	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.1	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.4	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	65.2	64.3	61.1	56.5	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	501

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Perris Blvd.
Road Segment: Between Iris Av. And Krameria Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,234 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,443 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.44	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.80	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.75	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	57.2	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.5	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.2	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	220	475
CNEL:	51	109	236	508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: Between Iris Av. And Krameria Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,938 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,419 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.40	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.84	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.80	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.2	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	58.5	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	65.2	64.4	61.1	56.6	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	471
CNEL:	50	109	234	505

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: Between Iris Av. And Krameria Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,532 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,467 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.48	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.76	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.71	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.3	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.2	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	58.6	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	65.3	64.5	61.2	56.7	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	478
CNEL:	51	110	237	511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Iris Av. And Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,505 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,950 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.26	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.98	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.94	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.0	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.3	58.8	49.8	51.1	59.4	59.5
Vehicle Noise:	66.1	65.3	62.0	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	538
CNEL:	58	124	267	576

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Iris Av. And Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,905 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,982 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.31	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.93	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.89	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.1	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.1	65.3	62.0	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	252	542
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Iris Av. And Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,000 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,586 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.69	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.55	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.51	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.5	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.4	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	58.8	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	65.5	64.7	61.4	56.9	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	229	493
CNEL:	53	114	245	528

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Iris Av. And Krameria Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,588 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,633 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.77	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.47	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.43	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	232	499
CNEL:	53	115	248	534

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA | Project Name: Stoneridge Commerce Ce
Road Name: Perris Blvd. | Job Number: 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,268 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,688 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.85	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.38	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.34	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.6	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.9	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	65.7	64.9	61.6	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	109	235	506
CNEL:	54	117	251	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP | Project Name: Stoneridge Commerce Ce
Road Name: Perris Blvd. | Job Number: 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,058 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,752 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.96	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.28	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.7	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	59.0	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	65.8	65.0	61.7	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	111	238	514
CNEL:	55	119	255	550

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC | Project Name: Stoneridge Commerce Ce
Road Name: Perris Blvd. | Job Number: 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,350 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,695 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.87	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.37	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.33	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.6	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	59.0	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	65.7	64.9	61.6	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	109	235	507
CNEL:	54	117	252	542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC | Project Name: Stoneridge Commerce Ce
Road Name: Perris Blvd. | Job Number: 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,140 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,759 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.97	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.27	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.7	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	59.1	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	65.8	65.0	61.7	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	111	239	515
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,818 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,298 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.74	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.50	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.45	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.5	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.5	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.8	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	66.5	65.7	62.5	57.9	66.4	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	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,418 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,347 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.81	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.43	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.39	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.6	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.6	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.9	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	66.6	65.8	62.5	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	135	291	627

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,630 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,637 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.77	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.47	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.42	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	232	499
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Krameria Av. and San Michele Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,416 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,700 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.87	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.36	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.32	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.7	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	57.6	57.1	50.7	49.1	57.6	57.8
Heavy Trucks:	59.0	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	65.7	64.9	61.6	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	109	235	507
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Perris Blvd.
Road Segment: Between Ramona Exwy. and Morgan St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,726 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,079 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.74	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	56.5	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.8	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	64.5	63.7	60.5	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	198	426
CNEL:	46	98	212	456

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Perris Blvd.
Road Segment: Between Ramona Exwy. and Morgan St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,726 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,079 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.74	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	56.5	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.8	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	64.5	63.7	60.5	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	198	426
CNEL:	46	98	212	456

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: Between Ramona Exwy. and Morgan St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,344 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.74	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.2	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.5	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	65.3	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	102	221	476
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: Between Ramona Exwy. and Morgan St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,344 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,452 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.74	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.2	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.5	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	65.3	64.5	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	102	221	476
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Morgan St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,280 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,931 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.23	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.01	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.96	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	58.0	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.3	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.0	65.2	61.9	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	266	574

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Morgan St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,280 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,931 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.23	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.01	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.96	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.0	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	58.0	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.3	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	66.0	65.2	61.9	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	266	574

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Morgan St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,668 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,316 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.21	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.03	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.99	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	58.3	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	65.0	64.2	60.9	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	458
CNEL:	49	106	228	490

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Morgan St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,668 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,316 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.21	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.03	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.99	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.0	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	58.3	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	65.0	64.2	60.9	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	46	99	213	458
CNEL:	49	106	228	490

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,539 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,306 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.19	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.0	64.2	60.9	56.4	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	457
CNEL:	49	105	227	489

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,539 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,306 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.19	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.0	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	58.3	57.8	48.7	50.0	58.3	58.5
Vehicle Noise:	65.0	64.2	60.9	56.4	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	457
CNEL:	49	105	227	489

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,136 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,516 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.57	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.67	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.63	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.3	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	65.4	64.6	61.3	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	225	484
CNEL:	52	112	240	518

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Rider St.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,136 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,516 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.57	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.67	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.63	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	57.3	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.7	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	65.4	64.6	61.3	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	225	484
CNEL:	52	112	240	518

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,227 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,008 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.34	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.90	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.85	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.1	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.1	65.3	62.1	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	117	253	545
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,227 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,008 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.34	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.90	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.85	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.1	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.1	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	66.1	65.3	62.1	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	117	253	545
CNEL:	58	126	271	584

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,992 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,262 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.10	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.13	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.09	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	64.9	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	224	483

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Rider St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,992 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,262 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	2.10	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-15.13	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-19.09	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.9	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	56.9	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	58.2	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	64.9	64.1	60.8	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	97	209	451
CNEL:	48	104	224	483

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Orange Ave.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,295 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.24	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.8	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.1	57.6	48.5	49.8	58.2	58.3
Vehicle Noise:	64.8	64.0	60.7	56.2	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	206	443
CNEL:	47	102	220	475

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Orange Ave.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,295 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.24	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.8	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.1	57.6	48.5	49.8	58.2	58.3
Vehicle Noise:	64.8	64.0	60.7	56.2	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	206	443
CNEL:	47	102	220	475

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Orange Ave.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,295 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.24	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.8	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.1	57.6	48.5	49.8	58.2	58.3
Vehicle Noise:	64.8	64.0	60.7	56.2	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	206	443
CNEL:	47	102	220	475

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: Between Placentia Av. and Orange Ave.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,295 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,205 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.24	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	56.8	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.1	57.6	48.5	49.8	58.2	58.3
Vehicle Noise:	64.8	64.0	60.7	56.2	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	206	443
CNEL:	47	102	220	475

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Orange Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,634 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,637 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.77	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.47	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.42	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	499
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Orange Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,634 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,637 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.77	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.47	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.42	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	57.5	57.0	50.6	49.0	57.5	57.7
Heavy Trucks:	58.9	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	65.6	64.8	61.5	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	499
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Orange Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,104 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,675 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.83	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.40	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.36	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	57.6	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.9	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	65.6	64.8	61.6	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	109	234	504
CNEL:	54	116	251	540

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Placentia Av. and Orange Ave.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,104 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,675 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.83	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-14.40	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-18.36	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	57.6	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.9	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	65.6	64.8	61.6	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	109	234	504
CNEL:	54	116	251	540

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Perris Blvd.
Road Segment: Between Orange Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,377 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,778 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.00	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.24	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.20	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.1	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.8	65.0	61.7	57.2	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Perris Blvd.
Road Segment: Between Orange Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,773 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,810 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.05	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.15	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	57.8	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.1	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	65.8	65.0	61.8	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	521
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Perris Blvd.
Road Segment: Between Orange Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,377 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,778 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.00	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.24	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.20	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	57.8	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.1	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	65.8	65.0	61.7	57.2	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	111	240	517
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Perris Blvd.
Road Segment: Between Orange Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,773 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	2,810 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.05	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-14.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-18.15	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.8	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	57.8	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.1	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	65.8	65.0	61.8	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	521
CNEL:	56	120	259	558

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Orange Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,250 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,091 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.46	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.78	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.73	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.2	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.5	59.1	50.0	51.3	59.6	59.7
Vehicle Noise:	66.3	65.5	62.2	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	258	555
CNEL:	59	128	276	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Orange Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,250 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,091 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	3.46	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-13.78	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-17.73	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.3	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.2	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.5	59.1	50.0	51.3	59.6	59.7
Vehicle Noise:	66.3	65.5	62.2	57.6	66.2	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	120	258	555
CNEL:	59	128	276	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Orange Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,100 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,806 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.36	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.87	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.83	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.1	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	67.2	66.4	63.1	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Perris Blvd. *Job Number:* 13265
Road Segment: Between Orange Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,100 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	3,806 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	4.36	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	77.72	-12.87	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	82.99	-16.83	-4.51	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.2	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.1	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.5	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	67.2	66.4	63.1	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	64	137	296	638
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Indian Av.
Road Segment: South of Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,993 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	403 vehicles
Vehicle Speed:	35 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:	64.30	-4.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.04	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.00	-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:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	47.9	47.3	41.0	39.4	47.9	48.1
Heavy Trucks:	49.8	49.3	40.2	41.5	49.8	50.0
Vehicle Noise:	55.9	55.1	51.7	47.3	55.8	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	53	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Indian Av.
Road Segment: South of Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,993 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	403 vehicles
Vehicle Speed:	35 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:	64.30	-4.80	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.04	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.00	-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:	53.7	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	47.9	47.3	41.0	39.4	47.9	48.1
Heavy Trucks:	49.8	49.3	40.2	41.5	49.8	50.0
Vehicle Noise:	55.9	55.1	51.7	47.3	55.8	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	53	113
CNEL:	12	26	56	121

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Indian Av.
Road Segment: South of Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,573 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	35 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:	64.30	-3.61	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.85	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.80	-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:	54.9	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	49.1	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	51.0	50.5	41.4	42.7	51.0	51.2
Vehicle Noise:	57.1	56.3	52.9	48.5	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	29	63	136
CNEL:	15	31	68	146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Indian Av.
Road Segment: South of Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,573 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	35 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:	64.30	-3.61	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.85	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.80	-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:	54.9	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	49.1	48.5	42.2	40.6	49.1	49.3
Heavy Trucks:	51.0	50.5	41.4	42.7	51.0	51.2
Vehicle Noise:	57.1	56.3	52.9	48.5	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	29	63	136
CNEL:	15	31	68	146

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. | *Job Number:* 13265
Road Segment: South of Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,859 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	35 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:	64.30	-2.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.03	-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:	55.7	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	49.9	49.3	42.9	41.4	49.8	50.1
Heavy Trucks:	51.7	51.2	42.2	43.4	51.8	51.9
Vehicle Noise:	57.9	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	71	153
CNEL:	16	35	76	164

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. | *Job Number:* 13265
Road Segment: South of Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,859 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	35 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:	64.30	-2.83	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.07	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.03	-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:	55.7	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	49.9	49.3	42.9	41.4	49.8	50.1
Heavy Trucks:	51.7	51.2	42.2	43.4	51.8	51.9
Vehicle Noise:	57.9	57.1	53.7	49.3	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	71	153
CNEL:	16	35	76	164

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. | *Job Number:* 13265
Road Segment: South of Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,930 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	479 vehicles
Vehicle Speed:	35 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:	64.30	-4.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.29	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.25	-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:	54.4	53.5	51.7	45.6	54.3	54.9
Medium Trucks:	48.6	48.1	41.7	40.2	48.6	48.9
Heavy Trucks:	50.5	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	56.7	55.9	52.4	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	59	127
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. | *Job Number:* 13265
Road Segment: South of Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,930 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	479 vehicles
Vehicle Speed:	35 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:	64.30	-4.05	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.29	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.25	-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:	54.4	53.5	51.7	45.6	54.3	54.9
Medium Trucks:	48.6	48.1	41.7	40.2	48.6	48.9
Heavy Trucks:	50.5	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	56.7	55.9	52.4	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	59	127
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Indian Av.
Road Segment: Between Placentia Av. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,790 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	791 vehicles
Vehicle Speed:	35 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:	64.30	-1.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-19.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-23.07	-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	53.9	47.8	56.4	57.0
Medium Trucks:	50.8	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	52.7	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	58.8	58.0	54.6	50.2	58.7	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	178
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Indian Av.
Road Segment: Between Placentia Av. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,790 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	791 vehicles
Vehicle Speed:	35 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:	64.30	-1.88	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-19.12	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-23.07	-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	53.9	47.8	56.4	57.0
Medium Trucks:	50.8	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	52.7	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	58.8	58.0	54.6	50.2	58.7	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	178
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Indian Av.
Road Segment: Between Placentia Av. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,072 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	895 vehicles
Vehicle Speed:	35 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:	64.30	-1.34	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-18.58	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-22.54	-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:	57.1	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	53.2	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	59.4	58.6	55.1	50.8	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	193
CNEL:	21	44	96	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Indian Av.
Road Segment: Between Placentia Av. and Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,072 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	895 vehicles
Vehicle Speed:	35 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:	64.30	-1.34	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-18.58	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-22.54	-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:	57.1	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	51.4	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	53.2	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	59.4	58.6	55.1	50.8	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	193
CNEL:	21	44	96	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. *Job Number:* 13265
Road Segment: Between Placentia Av. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,237 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,070 vehicles
Vehicle Speed:	35 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:	64.30	-0.57	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.76	-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:	57.9	56.9	55.2	49.1	57.7	58.4
Medium Trucks:	52.1	51.6	45.2	43.6	52.1	52.3
Heavy Trucks:	54.0	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	60.1	59.4	55.9	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	101	217
CNEL:	23	50	108	232

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. *Job Number:* 13265
Road Segment: Between Placentia Av. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,437 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,086 vehicles
Vehicle Speed:	35 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:	64.30	-0.50	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.74	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.70	-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:	58.0	57.0	55.2	49.2	57.8	58.4
Medium Trucks:	52.2	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.1	53.6	44.5	45.8	54.1	54.3
Vehicle Noise:	60.2	59.4	56.0	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	51	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. *Job Number:* 13265
Road Segment: Between Placentia Av. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,392 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,082 vehicles
Vehicle Speed:	35 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:	64.30	-0.52	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.76	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.71	-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:	58.0	57.0	55.2	49.2	57.8	58.4
Medium Trucks:	52.2	51.6	45.2	43.7	52.2	52.4
Heavy Trucks:	54.0	53.6	44.5	45.8	54.1	54.2
Vehicle Noise:	60.2	59.4	56.0	51.6	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	47	102	219
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Indian Av. *Job Number:* 13265
Road Segment: Between Placentia Av. and Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,590 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,098 vehicles
Vehicle Speed:	35 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:	64.30	-0.45	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.69	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.65	-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:	58.0	57.1	55.3	49.2	57.9	58.5
Medium Trucks:	52.2	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	54.1	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	60.3	59.5	56.0	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	221
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Webster Av.
Road Segment: South of Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,261 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	344 vehicles
Vehicle Speed:	35 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:	64.30	-5.49	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.73	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.68	-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:	53.0	52.0	50.3	44.2	52.8	53.4
Medium Trucks:	47.2	46.6	40.3	38.7	47.2	47.4
Heavy Trucks:	49.1	48.6	39.5	40.8	49.1	49.3
Vehicle Noise:	55.2	54.4	51.0	46.6	55.1	55.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	102
CNEL:	11	23	51	109

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Webster Av.
Road Segment: South of Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,261 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	344 vehicles
Vehicle Speed:	35 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:	64.30	-5.49	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.73	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.68	-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:	53.0	52.0	50.3	44.2	52.8	53.4
Medium Trucks:	47.2	46.6	40.3	38.7	47.2	47.4
Heavy Trucks:	49.1	48.6	39.5	40.8	49.1	49.3
Vehicle Noise:	55.2	54.4	51.0	46.6	55.1	55.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	102
CNEL:	11	23	51	109

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Webster Av.
Road Segment: South of Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,944 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	399 vehicles
Vehicle Speed:	35 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:	64.30	-4.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.04	-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:	53.6	52.7	50.9	44.8	53.5	54.1
Medium Trucks:	47.9	47.3	40.9	39.4	47.8	48.1
Heavy Trucks:	49.7	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	55.9	55.1	51.6	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Webster Av.
Road Segment: South of Ramona Exwy.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,944 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	399 vehicles
Vehicle Speed:	35 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:	64.30	-4.84	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.08	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.04	-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:	53.6	52.7	50.9	44.8	53.5	54.1
Medium Trucks:	47.9	47.3	40.9	39.4	47.8	48.1
Heavy Trucks:	49.7	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	55.9	55.1	51.6	47.3	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	52	113
CNEL:	12	26	56	120

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: South of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,911 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	478 vehicles
Vehicle Speed:	35 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:	64.30	-4.07	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.31	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.26	-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:	54.4	53.4	51.7	45.6	54.2	54.9
Medium Trucks:	48.6	48.1	41.7	40.1	48.6	48.8
Heavy Trucks:	50.5	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	56.6	55.9	52.4	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	59	127
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: South of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,911 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	478 vehicles
Vehicle Speed:	35 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:	64.30	-4.07	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-21.31	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-25.26	-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:	54.4	53.4	51.7	45.6	54.2	54.9
Medium Trucks:	48.6	48.1	41.7	40.1	48.6	48.8
Heavy Trucks:	50.5	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	56.6	55.9	52.4	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	59	127
CNEL:	14	29	63	136

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: South of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,180 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	338 vehicles
Vehicle Speed:	35 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:	64.30	-5.57	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.77	-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:	52.9	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.1	46.5	40.2	38.6	47.1	47.3
Heavy Trucks:	49.0	48.5	39.5	40.7	49.1	49.2
Vehicle Noise:	55.1	54.3	50.9	46.5	55.0	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	101
CNEL:	11	23	50	108

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: South of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,180 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	338 vehicles
Vehicle Speed:	35 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:	64.30	-5.57	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-22.81	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-26.77	-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:	52.9	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.1	46.5	40.2	38.6	47.1	47.3
Heavy Trucks:	49.0	48.5	39.5	40.7	49.1	49.2
Vehicle Noise:	55.1	54.3	50.9	46.5	55.0	55.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	101
CNEL:	11	23	50	108

Wednesday, March 9, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: Webster Av.
Road Segment: Between Ramona Exwy. and Harley Knox Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,399 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	598 vehicles
Vehicle Speed:	35 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:	64.30	-3.09	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.33	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.29	-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:	55.4	54.4	52.7	46.6	55.2	55.8
Medium Trucks:	49.6	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.5	51.0	41.9	43.2	51.5	51.7
Vehicle Noise:	57.6	56.8	53.4	49.0	57.5	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	68	147
CNEL:	16	34	73	158

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: Webster Av.
Road Segment: Between Ramona Exwy. and Harley Knox Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,597 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	614 vehicles
Vehicle Speed:	35 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:	64.30	-2.98	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-20.22	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-24.17	-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:	55.5	54.5	52.8	46.7	55.3	55.9
Medium Trucks:	49.7	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	51.6	51.1	42.1	43.3	51.7	51.8
Vehicle Noise:	57.7	56.9	53.5	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	70	150
CNEL:	16	35	74	160

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: Webster Av.
Road Segment: Between Ramona Exwy. and Harley Knox Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,228 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	665 vehicles
Vehicle Speed:	35 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:	64.30	-2.63	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-19.87	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-23.83	-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:	55.9	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.1	49.5	43.1	41.6	50.0	50.3
Heavy Trucks:	51.9	51.4	42.4	43.6	52.0	52.1
Vehicle Noise:	58.1	57.3	53.9	49.5	58.0	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	34	73	158
CNEL:	17	36	78	169

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: Webster Av.
Road Segment: Between Ramona Exwy. and Harley Knox Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,426 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	681 vehicles
Vehicle Speed:	35 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:	64.30	-2.53	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-19.77	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-23.72	-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:	56.0	55.0	53.2	47.2	55.8	56.4
Medium Trucks:	50.2	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	52.0	51.5	42.5	43.8	52.1	52.2
Vehicle Noise:	58.2	57.4	54.0	49.6	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	75	161
CNEL:	17	37	80	172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Harley Knox Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,074 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	35 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:	64.30	-1.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-18.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-22.95	-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:	56.7	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	50.9	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.8	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	59.0	58.2	54.7	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Harley Knox Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,074 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	814 vehicles
Vehicle Speed:	35 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:	64.30	-1.75	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-18.99	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-22.95	-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:	56.7	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	50.9	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.8	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	59.0	58.2	54.7	50.3	58.9	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	84	181
CNEL:	19	42	90	194

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Harley Knox Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,310 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	35 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:	64.30	0.06	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.17	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.13	-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:	58.6	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	52.8	52.2	45.8	44.3	52.7	53.0
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	60.8	60.0	56.5	52.2	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	239
CNEL:	26	55	119	256

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: Webster Av. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Harley Knox Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,310 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	1,237 vehicles
Vehicle Speed:	35 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:	64.30	0.06	-4.62	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	75.75	-17.17	-4.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	81.57	-21.13	-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:	58.6	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	52.8	52.2	45.8	44.3	52.7	53.0
Heavy Trucks:	54.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	60.8	60.0	56.5	52.2	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	111	239
CNEL:	26	55	119	256

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: I-215 Fwy.
Road Segment: North of Ramona Exwy.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	111,433 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,004 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.00	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-11.24	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-15.20	-3.60	-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:	75.7	74.8	73.0	66.9	75.6	76.2
Medium Trucks:	68.8	68.2	61.9	60.3	68.8	69.0
Heavy Trucks:	68.2	67.7	58.7	59.9	68.3	68.4
Vehicle Noise:	77.1	76.3	73.5	68.5	77.0	77.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	294	633	1,363	2,936
CNEL:	317	682	1,469	3,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: I-215 Fwy.
Road Segment: North of Ramona Exwy.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	114,860 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,281 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.13	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-11.11	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-15.07	-3.60	-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:	75.9	74.9	73.1	67.1	75.7	76.3
Medium Trucks:	69.0	68.4	62.0	60.5	68.9	69.2
Heavy Trucks:	68.3	67.8	58.8	60.0	68.4	68.5
Vehicle Noise:	77.3	76.4	73.6	68.6	77.1	77.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	300	645	1,391	2,996
CNEL:	323	696	1,499	3,230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: I-215 Fwy.
Road Segment: North of Ramona Exwy.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	136,726 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,047 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.88	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.35	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.31	-3.60	-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:	76.6	75.7	73.9	67.8	76.5	77.1
Medium Trucks:	69.7	69.1	62.8	61.2	69.7	69.9
Heavy Trucks:	69.1	68.6	59.5	60.8	69.1	69.3
Vehicle Noise:	78.0	77.2	74.4	69.3	77.9	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	337	725	1,562	3,365
CNEL:	363	782	1,684	3,628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: I-215 Fwy.
Road Segment: North of Ramona Exwy.

Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	140,152 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,324 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.99	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.25	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.20	-3.60	-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:	76.7	75.8	74.0	67.9	76.6	77.2
Medium Trucks:	69.8	69.2	62.9	61.3	69.8	70.0
Heavy Trucks:	69.2	68.7	59.7	60.9	69.3	69.4
Vehicle Noise:	78.1	77.3	74.5	69.5	78.0	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	342	737	1,588	3,421
CNEL:	369	795	1,712	3,688

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. | *Job Number:* 13265
Road Segment: North of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	179,736 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	14,523 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	8.07	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.17	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.12	-3.60	-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:	77.8	76.8	75.1	69.0	77.6	78.2
Medium Trucks:	70.9	70.3	64.0	62.4	70.9	71.1
Heavy Trucks:	70.3	69.8	60.7	62.0	70.3	70.5
Vehicle Noise:	79.2	78.4	75.5	70.5	79.1	79.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	404	870	1,874	4,038
CNEL:	435	938	2,021	4,354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. | *Job Number:* 13265
Road Segment: North of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	183,163 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	14,800 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	8.15	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.08	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.04	-3.60	-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:	77.9	76.9	75.2	69.1	77.7	78.3
Medium Trucks:	71.0	70.4	64.0	62.5	71.0	71.2
Heavy Trucks:	70.3	69.8	60.8	62.1	70.4	70.5
Vehicle Noise:	79.3	78.4	75.6	70.6	79.2	79.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	409	881	1,898	4,089
CNEL:	441	950	2,046	4,409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. | *Job Number:* 13265
Road Segment: North of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	188,593 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	15,238 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	8.28	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-8.96	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-12.91	-3.60	-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:	78.0	77.1	75.3	69.2	77.9	78.5
Medium Trucks:	71.1	70.5	64.2	62.6	71.1	71.3
Heavy Trucks:	70.5	70.0	60.9	62.2	70.5	70.7
Vehicle Noise:	79.4	78.6	75.8	70.7	79.3	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	417	898	1,935	4,170
CNEL:	450	969	2,087	4,495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) | *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. | *Job Number:* 13265
Road Segment: North of Ramona Exwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	188,993 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	15,271 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	8.29	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-8.95	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-12.90	-3.60	-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:	78.0	77.1	75.3	69.2	77.9	78.5
Medium Trucks:	71.1	70.5	64.2	62.6	71.1	71.3
Heavy Trucks:	70.5	70.0	60.9	62.2	70.6	70.7
Vehicle Noise:	79.4	78.6	75.8	70.7	79.3	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	418	900	1,938	4,176
CNEL:	450	970	2,090	4,502

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: I-215 Fwy.
Road Segment: Between Ramona Exwy. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	105,915 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,558 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	5.78	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-11.46	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-15.42	-3.60	-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:	75.5	74.5	72.8	66.7	75.3	76.0
Medium Trucks:	68.6	68.0	61.7	60.1	68.6	68.8
Heavy Trucks:	68.0	67.5	58.4	59.7	68.0	68.2
Vehicle Noise:	76.9	76.1	73.2	68.2	76.8	77.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	284	612	1,317	2,838
CNEL:	306	659	1,420	3,060

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: I-215 Fwy.
Road Segment: Between Ramona Exwy. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	109,341 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,835 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	5.91	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-11.32	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-15.28	-3.60	-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:	75.7	74.7	72.9	66.9	75.5	76.1
Medium Trucks:	68.7	68.2	61.8	60.3	68.7	68.9
Heavy Trucks:	68.1	67.6	58.6	59.8	68.2	68.3
Vehicle Noise:	77.1	76.2	73.4	68.4	76.9	77.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	290	625	1,346	2,899
CNEL:	313	673	1,451	3,126

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: I-215 Fwy.
Road Segment: Between Ramona Exwy. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	122,401 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,890 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.40	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.83	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.79	-3.60	-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:	76.1	75.2	73.4	67.4	76.0	76.6
Medium Trucks:	69.2	68.7	62.3	60.7	69.2	69.4
Heavy Trucks:	68.6	68.1	59.1	60.3	68.7	68.8
Vehicle Noise:	77.5	76.7	73.9	68.9	77.4	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	313	673	1,451	3,126
CNEL:	337	726	1,564	3,370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: I-215 Fwy.
Road Segment: Between Ramona Exwy. and Placentia Av.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	125,828 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	10,167 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.52	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.71	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.67	-3.60	-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:	76.3	75.3	73.5	67.5	76.1	76.7
Medium Trucks:	69.4	68.8	62.4	60.9	69.3	69.6
Heavy Trucks:	68.7	68.2	59.2	60.4	68.8	68.9
Vehicle Noise:	77.7	76.8	74.0	69.0	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	318	686	1,478	3,184
CNEL:	343	740	1,593	3,433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	151,124 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	12,211 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.32	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.92	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.87	-3.60	-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:	77.1	76.1	74.3	68.3	76.9	77.5
Medium Trucks:	70.1	69.6	63.2	61.7	70.1	70.4
Heavy Trucks:	69.5	69.0	60.0	61.2	69.6	69.7
Vehicle Noise:	78.5	77.6	74.8	69.8	78.3	78.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	360	775	1,670	3,597
CNEL:	388	836	1,800	3,878

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	154,551 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	12,488 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.42	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.82	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.78	-3.60	-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:	77.2	76.2	74.4	68.4	77.0	77.6
Medium Trucks:	70.2	69.7	63.3	61.8	70.2	70.5
Heavy Trucks:	69.6	69.1	60.1	61.3	69.7	69.8
Vehicle Noise:	78.6	77.7	74.9	69.9	78.4	78.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	365	787	1,695	3,652
CNEL:	394	848	1,827	3,937

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	176,223 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	14,239 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.99	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.25	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.21	-3.60	-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:	77.7	76.8	75.0	68.9	77.6	78.2
Medium Trucks:	70.8	70.2	63.9	62.3	70.8	71.0
Heavy Trucks:	70.2	69.7	60.6	61.9	70.3	70.4
Vehicle Noise:	79.1	78.3	75.5	70.4	79.0	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	399	859	1,850	3,985
CNEL:	430	926	1,994	4,297

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Ramona Exwy. and Placentia Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	176,470 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	14,259 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.99	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.25	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.20	-3.60	-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:	77.7	76.8	75.0	68.9	77.6	78.2
Medium Trucks:	70.8	70.2	63.9	62.3	70.8	71.0
Heavy Trucks:	70.2	69.7	60.7	61.9	70.3	70.4
Vehicle Noise:	79.1	78.3	75.5	70.5	79.0	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	399	859	1,852	3,989
CNEL:	430	927	1,996	4,301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: I-215 Fwy.
Road Segment: Between Placentia Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	105,915 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,558 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	74.55	5.78	-3.60	-1.20	-4.77	0.000	0.000
Medium Trucks:	84.86	-11.46	-3.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	88.18	-15.42	-3.60	-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:	75.5	74.5	72.8	66.7	75.3	76.0
Medium Trucks:	68.6	68.0	61.7	60.1	68.6	68.8
Heavy Trucks:	68.0	67.5	58.4	59.7	68.0	68.2
Vehicle Noise:	76.9	76.1	73.2	68.2	76.8	77.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	284	612	1,317	2,838
CNEL:	306	659	1,420	3,060

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: I-215 Fwy.
Road Segment: Between Placentia Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	107,016 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	8,647 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	74.55	5.82	-3.60	-1.20	-4.77	0.000	0.000
Medium Trucks:	84.86	-11.42	-3.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	88.18	-15.37	-3.60	-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:	75.6	74.6	72.8	66.8	75.4	76.0
Medium Trucks:	68.7	68.1	61.7	60.2	68.6	68.9
Heavy Trucks:	68.0	67.5	58.5	59.7	68.1	68.2
Vehicle Noise:	77.0	76.1	73.3	68.3	76.8	77.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	286	616	1,327	2,858
CNEL:	308	664	1,430	3,081

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: I-215 Fwy.
Road Segment: Between Placentia Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	121,634 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,828 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	74.55	6.38	-3.60	-1.20	-4.77	0.000	0.000
Medium Trucks:	84.86	-10.86	-3.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	88.18	-14.82	-3.60	-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:	76.1	75.1	73.4	67.3	75.9	76.6
Medium Trucks:	69.2	68.6	62.3	60.7	69.2	69.4
Heavy Trucks:	68.6	68.1	59.0	60.3	68.6	68.8
Vehicle Noise:	77.5	76.7	73.8	68.8	77.4	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	311	671	1,445	3,113
CNEL:	336	723	1,558	3,356

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: I-215 Fwy.
Road Segment: Between Placentia Av. and Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	122,735 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,917 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	74.55	6.42	-3.60	-1.20	-4.77	0.000	0.000
Medium Trucks:	84.86	-10.82	-3.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	88.18	-14.78	-3.60	-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:	76.2	75.2	73.4	67.4	76.0	76.6
Medium Trucks:	69.2	68.7	62.3	60.8	69.2	69.5
Heavy Trucks:	68.6	68.1	59.1	60.3	68.7	68.8
Vehicle Noise:	77.6	76.7	73.9	68.9	77.4	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	313	675	1,454	3,131
CNEL:	338	727	1,567	3,376

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Placentia Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	146,745 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,857 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.19	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.05	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.00	-3.60	-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:	76.9	76.0	74.2	68.1	76.8	77.4
Medium Trucks:	70.0	69.4	63.1	61.5	70.0	70.2
Heavy Trucks:	69.4	68.9	59.9	61.1	69.5	69.6
Vehicle Noise:	78.3	77.5	74.7	69.7	78.2	78.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	353	760	1,637	3,528
CNEL:	380	819	1,765	3,803

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Placentia Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	147,846 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,946 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.22	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.01	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.97	-3.60	-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:	77.0	76.0	74.2	68.2	76.8	77.4
Medium Trucks:	70.1	69.5	63.1	61.6	70.0	70.3
Heavy Trucks:	69.4	68.9	59.9	61.1	69.5	69.6
Vehicle Noise:	78.4	77.5	74.7	69.7	78.2	78.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	355	764	1,646	3,545
CNEL:	382	823	1,774	3,822

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Placentia Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	138,754 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,211 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.95	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.29	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.25	-3.60	-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:	76.7	75.7	74.0	67.9	76.5	77.1
Medium Trucks:	69.8	69.2	62.8	61.3	69.8	70.0
Heavy Trucks:	69.1	68.6	59.6	60.9	69.2	69.3
Vehicle Noise:	78.1	77.2	74.4	69.4	78.0	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	340	732	1,577	3,398
CNEL:	366	789	1,701	3,664

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: Between Placentia Av. and Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	139,002 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,231 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.96	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.28	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.24	-3.60	-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:	76.7	75.7	74.0	67.9	76.5	77.1
Medium Trucks:	69.8	69.2	62.8	61.3	69.8	70.0
Heavy Trucks:	69.1	68.7	59.6	60.9	69.2	69.3
Vehicle Noise:	78.1	77.2	74.4	69.4	78.0	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	340	733	1,579	3,402
CNEL:	367	790	1,703	3,668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EA
Road Name: I-215 Fwy.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	112,806 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,115 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.05	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-11.19	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-15.14	-3.60	-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:	75.8	74.8	73.1	67.0	75.6	76.2
Medium Trucks:	68.9	68.3	61.9	60.4	68.9	69.1
Heavy Trucks:	68.2	67.7	58.7	60.0	68.3	68.4
Vehicle Noise:	77.2	76.3	73.5	68.5	77.1	77.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	296	638	1,374	2,960
CNEL:	319	688	1,481	3,191

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAP
Road Name: I-215 Fwy.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	116,356 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	9,402 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.18	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-11.05	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-15.01	-3.60	-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:	75.9	75.0	73.2	67.1	75.8	76.4
Medium Trucks:	69.0	68.4	62.1	60.5	69.0	69.2
Heavy Trucks:	68.4	67.9	58.8	60.1	68.4	68.6
Vehicle Noise:	77.3	76.5	73.7	68.6	77.2	77.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	302	651	1,403	3,022
CNEL:	326	702	1,512	3,258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAC
Road Name: I-215 Fwy.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	125,942 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	10,176 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.53	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.71	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.67	-3.60	-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:	76.3	75.3	73.5	67.5	76.1	76.7
Medium Trucks:	69.4	68.8	62.4	60.9	69.3	69.6
Heavy Trucks:	68.7	68.2	59.2	60.4	68.8	68.9
Vehicle Noise:	77.7	76.8	74.0	69.0	77.5	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	319	686	1,479	3,186
CNEL:	343	740	1,594	3,435

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EAPC
Road Name: I-215 Fwy.
Road Segment: South of Nuevo Rd.
Project Name: Stoneridge Commerce Ce
Job Number: 13265

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	129,492 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	10,463 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	6.65	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.59	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.55	-3.60	-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:	76.4	75.4	73.7	67.6	76.2	76.8
Medium Trucks:	69.5	68.9	62.5	61.0	69.5	69.7
Heavy Trucks:	68.8	68.3	59.3	60.6	68.9	69.0
Vehicle Noise:	77.8	76.9	74.1	69.1	77.7	78.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	325	699	1,506	3,245
CNEL:	350	754	1,624	3,499

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	159,598 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	12,895 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.56	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.68	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.64	-3.60	-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:	77.3	76.3	74.6	68.5	77.1	77.7
Medium Trucks:	70.4	69.8	63.4	61.9	70.4	70.6
Heavy Trucks:	69.7	69.3	60.2	61.5	69.8	69.9
Vehicle Noise:	78.7	77.8	75.0	70.0	78.6	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	373	804	1,732	3,731
CNEL:	402	867	1,867	4,022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (Without MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	163,148 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	13,182 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.65	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-9.59	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-13.54	-3.60	-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:	77.4	76.4	74.7	68.6	77.2	77.8
Medium Trucks:	70.5	69.9	63.5	62.0	70.5	70.7
Heavy Trucks:	69.8	69.3	60.3	61.6	69.9	70.0
Vehicle Noise:	78.8	77.9	75.1	70.1	78.7	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	379	816	1,757	3,786
CNEL:	408	879	1,894	4,081

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	145,459 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,753 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.15	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.08	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.04	-3.60	-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:	76.9	75.9	74.2	68.1	76.7	77.3
Medium Trucks:	70.0	69.4	63.0	61.5	70.0	70.2
Heavy Trucks:	69.3	68.8	59.8	61.1	69.4	69.5
Vehicle Noise:	78.3	77.4	74.6	69.6	78.2	78.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	351	756	1,628	3,507
CNEL:	378	815	1,755	3,781

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HYP (With MCP) *Project Name:* Stoneridge Commerce Ce
Road Name: I-215 Fwy. *Job Number:* 13265
Road Segment: South of Nuevo Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	145,706 vehicles
Peak Hour Percentage:	8.08%
Peak Hour Volume:	11,773 vehicles
Vehicle Speed:	65 mph
Near/Far Lane Distance:	104 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:	85.563
Medium Trucks:	85.459
Heavy Trucks:	85.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	74.55	7.16	-3.60	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	84.86	-10.08	-3.60	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	88.18	-14.03	-3.60	-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:	76.9	75.9	74.2	68.1	76.7	77.3
Medium Trucks:	70.0	69.4	63.0	61.5	70.0	70.2
Heavy Trucks:	69.4	68.9	59.8	61.1	69.4	69.6
Vehicle Noise:	78.3	77.4	74.6	69.6	78.2	78.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	351	756	1,630	3,511
CNEL:	379	815	1,757	3,785