Environmental Noise & Vibration Assessment

Visalia Parkway & S. Mooney Boulevard Retail Development

Visalia, California

BAC Job # 2019-195

Prepared For:

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CEQA Checklist

NOISE AND VIBRATION **– Would the Project Result in:**	**NA – Not Applicable**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?			**X**		
b) Generation of excessive groundborne vibration or groundborne noise levels?				**X**	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?					**X**

Introduction

The Visalia Parkway & S. Mooney Boulevard Retail Development project proposes the development of various commercial uses on a property located south of Visalia Parkway and west of S. Mooney Boulevard in Visalia, California. Specifically, the project will include the development of retail stores, restaurants (both with and without drive-through components), and an automotive shop. Existing land uses in the immediate project vicinity consist of single-family residential to the south and west, commercial to the north, and undeveloped land to the east. The project area and site plan are shown on Figures 1 and 2, respectively.

It is our understanding that the adjacent areas to the southwest and west of the proposed commercial uses (as identified above) will contain future uses that include a CarMax auto sales business (Outlot 2) and a senior housing development (Outlot 1). Due to the potential for elevated traffic and commercial noise levels at existing and future adjacent residential uses (senior housing development), Bollard Acoustical Consultants, Inc. (BAC) was retained to prepare this noise and vibration assessment. Specifically, this assessment focuses on the quantification of off-site traffic noise generation, off-site noise levels from proposed commercial uses, project-generated construction noise levels, and vibration levels generated from project construction and commercial operations.

It should be noted that the following noise and vibration assessment does not include analyses of potential noise or vibration impacts related to the future CarMax business on Outlot 2, or analyses of potential noise or vibration impacts on neighboring uses due to the development of the senior housing project on Outlot 1.

Noise and Vibration Fundamentals

Noise

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are designated as sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are provided in Appendix A.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Noise levels associated with common noise sources are provided in Figure 3.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels,

perception of loudness is relatively predictable and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network.

There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day/night average noise descriptor, L_{dn}, and shows very good correlation with community response to noise. The day/night average sound level (L_{dn}) is based on the average noise level over a 24-hour day, with a +10 decibel weighting applied to noise occurring during nighttime (10:00 a.m. to 7:00 a.m.) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second peak particle velocity (IPS, PPV) or root-mean-square (VdB, RMS). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity as well as RMS velocities.

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance. The maximum rate, or velocity of particle movement, is the commonly accepted descriptor of the vibration "strength".

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases.

According to the Transportation and Construction-Induced Vibration Guidance Manual (Caltrans, June 2004), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Legend

- Project Border (Approximate)
- Long-Term Noise Survey Locations
- Short-Term Noise Survey Location
- Vibration Survey Locations

N

Scale (feet)

0 125 250

Visalia Parkway & S. Mooney Boulevard
Retail Development
Visalia, California

Project Area

Figure 1

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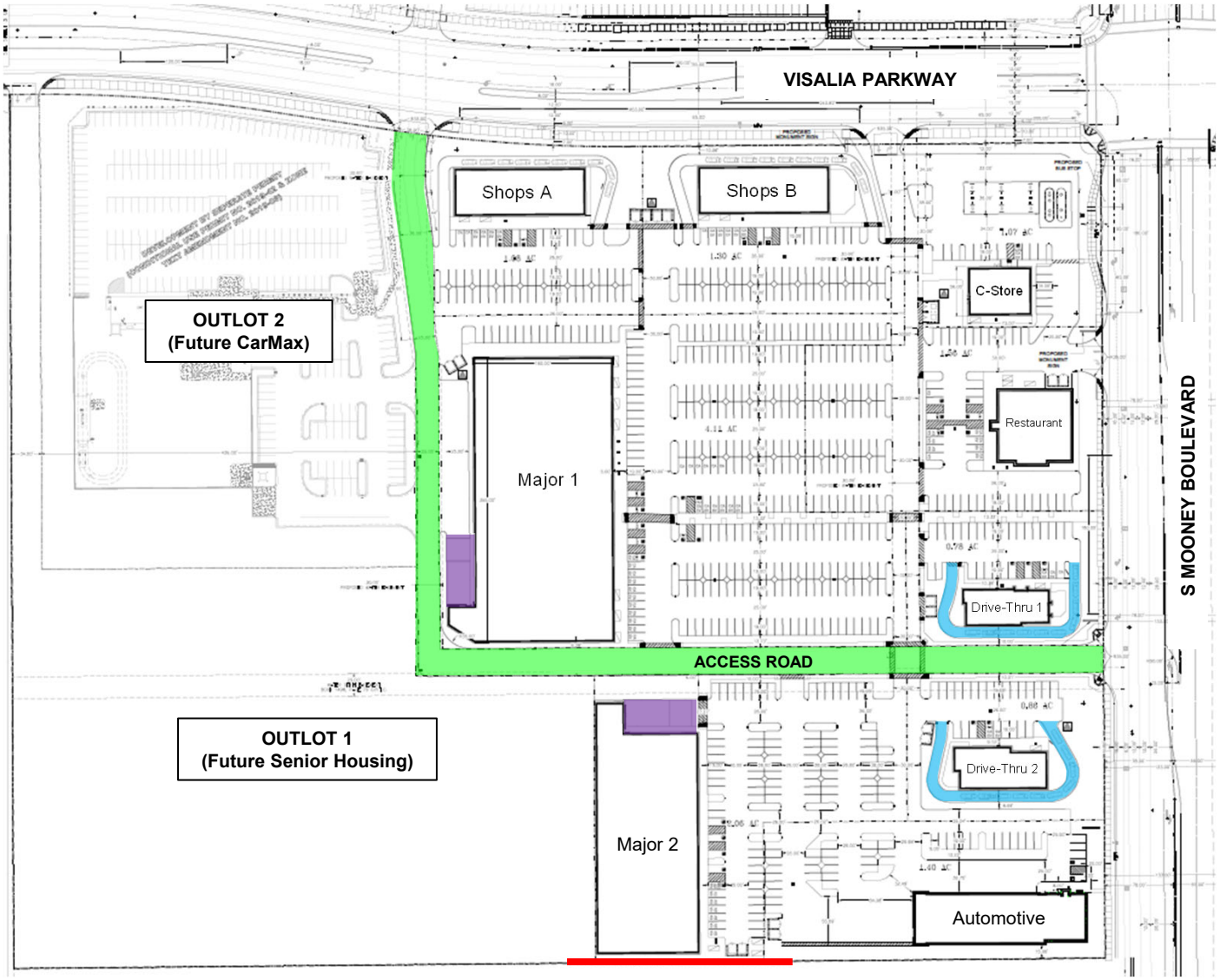

Legend

- Recommended 7-Foot Tall Solid Noise Barrier
- Proposed Primary Heavy Truck Route
- Proposed Restaurant Drive-Through Lanes
- Proposed Loading Docks

N

Scale (Feet)

0 100 200

Visalia Parkway & S. Mooney Boulevard
Retail Development
Visalia, California

Site Plan

Figure 2

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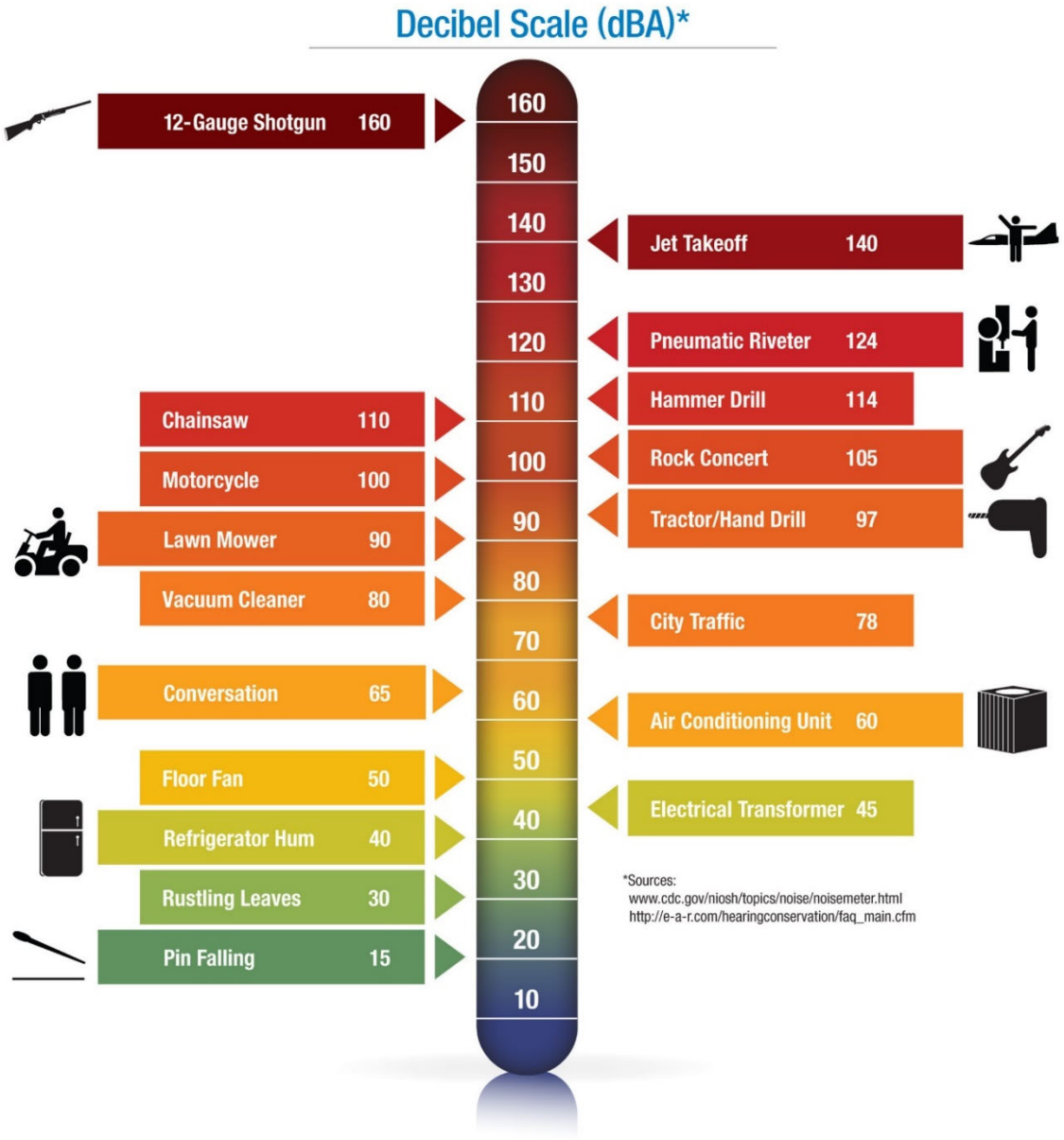
Figure 3
Noise Levels Associated with Common Noise Sources



Regulatory Setting: Criteria for Acceptable Noise and Vibration Exposure

Federal

There are no federal noise or vibration criteria which would be directly applicable to this project. However, the City of Visalia does not have a specific policy for assessing noise impacts associated with increases in ambient noise levels from project-generated sources. As a result, the following federal noise criteria was applied to the project.

Federal Interagency Commission on Noise (FICON)

The Federal Interagency Commission on Noise (FICON) has developed a graduated scale for use in the assessment of project-related noise level increases. The criteria shown in Table 1 was developed by FICON as a means of developing thresholds for impact identification for project-related noise level increases. The FICON standards have been used extensively in recent years by the authors of this section in the preparation of the noise sections of Environmental Impact Reports that have been certified in many California cities and counties.

The use of the FICON standards are considered conservative relative to thresholds used by other agencies in the State of California. For example, the California Department of Transportation (Caltrans) requires a project-related traffic noise level increase of 12 dB for a finding of significance, and the California Energy Commission (CEC) considers project-related noise level increases between 5 to 10 dB significant, depending on local factors. Therefore, the use of the FICON standards, which set the threshold for finding of significant noise impacts as low as 1.5 dB, provides a very conservative approach to impact assessment for this project.

Table 1
Significance of Changes in Cumulative Noise Exposure

Ambient Noise Level Without Project (L_{dn} or CNEL)	Change in Ambient Noise Level Due to Project
<60 dB	+5.0 dB or more
60 to 65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more
Source: Federal Interagency Committee on Noise (FICON)	

Based on the FICON research, as shown in Table 1, a 5 dB increase in noise levels due to a project is required for a finding of significant noise impact where ambient noise levels without the project are less than 60 dB. Where pre-project ambient conditions are between 60 and 65 dB, a 3 dB increase is applied as the standard of significance. Finally, in areas already exposed to higher noise levels, specifically pre-project noise levels in excess of 65 dB, a 1.5 dB increase is considered by FICON as the threshold of significance.

State of California

California Environmental Quality Act (CEQA)

The State of California has established regulatory criteria that are applicable to this assessment. Specifically, Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. According to Appendix G of the CEQA guidelines, the project would result in a significant noise or vibration impact if the following occur:

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

B. Generation of excessive groundborne vibration or groundborne noise levels?

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

It should be noted that audibility is not a test of significance according to CEQA. If this were the case, any project which added any audible amount of noise to the environment would be considered unacceptable according to CEQA. Because every physical process creates noise, whether by the addition of a single vehicle on a roadway, or a tractor in an agricultural field, the use of audibility alone as significance criteria would be unworkable. CEQA requires a substantial increase in ambient noise levels before noise impacts are identified, not simply an audible change.

California Department of Transportation (Caltrans)

The City of Visalia does not currently have adopted standards for groundborne vibration. As a result, the vibration impact criteria developed by the California Department of Transportation (Caltrans) was applied to the project. The Caltrans criteria applicable to damage and annoyance from transient and continuous vibration typically associated with construction activities are presented in Tables 2 and 3. Equipment or activities typical of continuous vibration include: excavation equipment, static compaction equipment, tracked vehicles, traffic on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. Equipment or activities typical of single-impact (transient) or low-rate repeated impact vibration include impact pile drivers, blasting, drop balls, “pogo stick” compactors, and crack-and-seat equipment (California Department of Transportation 2013).

Table 2
Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = Peak Particle Velocity

Source: California Department of Transportation, Transportation and Construction Vibration Manual (2013).

Table 3
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.40	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = Peak Particle Velocity

Source: California Department of Transportation, Transportation and Construction Vibration Manual (2013).

Local

Visalia General Plan

The Safety and Noise Element of the Visalia General Plan provides contains objectives and policies to ensure that city residents are not subjected to noise beyond acceptable levels. The General objectives and policies which would be most applicable to this project are reproduced below.

Objectives

N-O-1 Strive to achieve an acceptable noise environment for present and future residents of Visalia.

N-O-2 Protect the City's economic base by preventing the encroachment of incompatible land uses near known noise producing industries, railroads, airports and other sources.

N-O-3 Protect noise-sensitive land uses such as schools, hospitals, and senior care facilities from encroachment of and exposure to excessive levels of noise.

Policies

N-P-1 Update the City's Noise Ordinance as needed to be in conformance with the General Plan.

N-P-2 Promote the use of noise attenuation measures to improve the acoustic environment inside residences where existing single-family residential development is located in a noise-impacted environment such as along an arterial street or adjacent to a noise-producing use.

N-P-4 Where new development of industrial, commercial or other noise-generating land uses (including roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by Tables 8-3 and 8-4 (Tables 4 and 5 of this report), require a noise study to determine impacts, and require developers to mitigate these impacts in conformance with Tables 8-3 and 8-4 (Tables 4 and 5 of this report) as a condition of permit approval through appropriate means.

Noise mitigation measures may include but are not limited to:

- Screen and control noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Increase setbacks for noise sources from adjacent dwellings;
- Retain fences, walls, and landscaping that serve as noise buffers;
- Use soundproofing materials and double-glazed windows;
- Use open space, building orientation and design, landscaping and running water to mask sounds; and
- Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved, provided a qualified acoustical consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along state highways and arterials when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

N-P-5 Continue to enforce applicable State Noise Insulation Standards (California Administrative Code, Title 24) and Uniform Building Code (UBC) noise requirements.

Table 4
Transportation Noise Sources

Noise-Sensitive Land Use	Outdoor Activity Areas, dBA	Interior Spaces, dBA	
	Ldn/CNEL[2]	Ldn/CNEL[2]	L_{eq}[3]
Residential	65	45	--
Transient Lodging	65	45	--
Hospitals, Nursing Homes	65	45	--
Theatres, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	65	--	45
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45

[1] Outdoor activity areas generally include backyards of single-family residences and outdoor patios, decks or common recreation areas for multi-family developments.
[2] The CNEL is used for quantification of aircraft noise exposure as required by CAC Title 21.
[3] As determined for a typical worst-case hour during periods of use.
Source: Visalia General Plan, Safety and Noise Element, Table 8-3

Table 5
Stationary Noise Sources[1]

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level, L_{eq} (dBA)	50	45
Maximum Sound Level, L_{max} (dBA)	70	65

[1] As determined as the property line of the receiving noise-sensitive use.
Source: Visalia General Plan, Safety and Noise Element, Table 8-4

Visalia Municipal Code

The provisions of the Visalia Municipal Code which would be most applicable to this project are reproduced below.

Chapter 8.36 Noise

8.36.040 Exterior noise standards – fixed noise sources.

A. It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise, on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level, when measured at the property line of any affected noise-sensitive land use, to exceed any of the categorical noise level standards as set forth in the following table:

Exterior Noise Level Standards, dBA

Category	Cumulative Number of Minutes in Any 1-Hour Time Period	Evening and Daytime (6:00 a.m. to 7:00 p.m.)	Nighttime (7:00 p.m. to 6:00 a.m.)
1	30 (L_{50})	50	45
2	15 (L_{25})	55	50
3	5 (L_8)	60	55
4	1 (L_2)	65	60
5	0 (L_{max})	70	65

Source: Visalia Municipal Code, Section 8.36.040(A)

B. In the event the measured ambient noise level without the alleged offensive source in operation exceeds an applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal the ambient noise level.

C. Each of the noise level standards specified above shall be reduced by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

8.36.050 Exterior noise standards – mobile noise sources prohibition against use.

It is unlawful to operate any of the below-listed devices, appliances, equipment or vehicles on public or private property abutting noise-sensitive land uses between the weekday hours of 7:00 p.m. and 6:00 a.m., and between the weekend hours of 7:00 p.m. and 9:00 a.m.

C. Construction equipment including jackhammers, portable generators, pneumatic equipment, trenchers, or other such equipment, except for emergency repair purposes as provided in Section 8.36.070.

8.36.060 Residential interior noise standards.

A. It is unlawful for any person, at any location within the city, to operate or cause to be operated, any source of sound or to allow the creation of any noise which causes the noise level when measured inside a dwelling unit to exceed any of the categorized noise level standards as set forth in the following table:

Interior Noise Level Standards, dBA

Category	Cumulative Number of Minutes in Any 1-Hour Time Period	Evening and Daytime (6:00 a.m. to 7:00 p.m.)	Nighttime (7:00 p.m. to 6:00 a.m.)
1	5 (L_8)	45	35
2	1 (L_2)	50	40
3	0 (L_{max})	55	45

Source: Visalia Municipal Code, Section 8.36.040(A)

B. In the event the measured ambient noise level without the alleged offensive source in operation exceeds an applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal the ambient noise level.

C. Each of the noise level standards specified above shall be reduced by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

8.36.070 Noise source exemptions.

The following activities shall be exempted from the provisions of this chapter:

A. Noise sources associated with the collection of waste or garbage from commercially zoned or industrially zoned property by the city or its authorized franchisee.

Environmental Setting - Existing Ambient Noise and Vibration Environment

Existing Noise-Sensitive Land Uses in the Project Vicinity

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

The existing noise-sensitive land uses which would potentially be affected by the project consist of residential uses. Specifically, single-family residential land uses are located to the south and west. The northern end of the project property is located adjacent to commercial uses, which typically aren't considered to be noise-sensitive. The project areas and surrounding land uses are shown on Figure 1.

Existing Traffic Noise Levels along Project Area Roadway Network

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to develop existing noise contours expressed in terms of L_{dn} for major roadways within the project study area. The FHWA model predicts hourly L_{eq} values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop L_{dn} values from L_{eq} values.

Traffic data in the form of AM and PM peak hour movements for existing conditions were obtained from Peters Engineering Group (the project traffic consultant). Average daily traffic volumes were conservatively estimated by applying a factor of 10 to AM peak hour conditions. Using these data and the FHWA model, traffic noise levels were calculated. The traffic noise level at 50 feet from the roadway centerline and distances from the centerlines of selected roadways to the 60 dB, 65 dB, and 70 dB L_{dn} contours are summarized in Table 6.

In many cases, the actual distances to noise level contours may vary from the distances predicted by the FHWA model. Factors such as roadway curvature, roadway grade, shielding from local

topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation.

It is also recognized that existing sensitive land uses within the project vicinity are located varying distances from the centerlines of the local roadway network. The 50 foot reference distance is utilized in this analysis to provide a reference position at which changes in existing and future traffic noise levels resulting from the project can be evaluated. Appendix B contains the FWHA model inputs for existing conditions.

Table 6
Existing Traffic Noise Modeling Results

				Distance to Contour (feet)		
Segment	**Intersection**	**Direction**	**L_{dn} 50 Feet from Roadway**	**70 dB L_{dn}**	**65 dB L_{dn}**	**60 dB L_{dn}**
1	1 - Whitendale Ave / County Center	North	66	26	55	119
2		South	65	24	52	113
3		East	66	26	56	120
4		West	67	31	68	146
5	2 - Whitendale Ave / Mooney Blvd	North	68	34	74	160
6		South	68	38	82	176
7		East	66	26	56	120
8		West	65	25	54	115
9	3 - Sunnyside Ave / Mooney Blvd	North	68	39	84	181
10		South	68	36	78	168
11		East	54	4	9	19
12		West	54	5	10	21
13	4 - Orchard Ave / Mooney Blvd	North	68	35	76	163
14		South	68	34	74	160
15		East	55	5	11	24
16		West	47	1	3	7
17	5 - Caldwell Ave / Demaree St	North	69	43	93	201
18		South	69	41	87	188
19		East	69	43	92	199
20		West	69	46	99	213
21	6 - Caldwell Ave / Dans St	North	52	3	7	15
22		South	57	6	14	30
23		East	69	44	94	203
24		West	69	44	94	203
25	7 - Caldwell Ave / County Center Dr	North	64	21	45	96
26		South	64	19	42	90
27		East	67	30	66	141
28		West	69	43	92	197
29	8 - Caldwell Ave / Shady St	North	48	2	4	8
30		South	52	3	6	14
31		East	67	31	66	143
32		West	67	31	66	143
33	9 - Caldwell Ave / Mooney Blvd	North	68	35	75	162
34		South	68	35	76	163
35		East	67	31	66	143
36		West	67	32	70	150

Table 6
Existing Traffic Noise Modeling Results

				Distance to Contour (feet)		
Segment	**Intersection**	**Direction**	**L_{dn} 50 Feet from Roadway**	**70 dB L_{dn}**	**65 dB L_{dn}**	**60 dB L_{dn}**
37	10 - Caldwell Ave / Fairway St	North	58	8	17	36
38		South	57	7	14	31
39		East	67	30	66	141
40		West	66	28	61	131
41	11 - Caldwell Ave / Stonebrook St	North	54	4	9	19
42		South	40	0	1	2
43		East	69	44	94	203
44		West	67	30	65	141
45	12 - Cameron Ave / County Center Dr	North	64	21	44	96
46		South	62	14	31	66
47		East	62	15	33	71
48		West	ND	--	--	--
49	13 - Cameron Ave / Mooney Blvd	North	67	33	72	155
50		South	68	39	85	182
51		East	65	23	49	106
52		West	63	17	37	80
53	14 - Cameron Ave / Stonebrook St	North	ND	--	--	--
54		South	62	14	31	67
55		East	67	31	67	144
56		West	65	22	47	101
57	15 - Cameron Ave / West St	North	58	8	17	37
58		South	52	3	7	16
59		East	66	27	59	126
60		West	67	32	70	150
61	16 - Visalia Prkwy / Demaree St	North	70	48	104	224
62		South	70	48	104	224
63		East	67	31	66	143
64		West	67	29	63	136
65	17 - Visalia Prkwy / Dans St	North	59	9	20	43
66		South	44	1	2	4
67		East	65	23	50	108
68		West	67	32	70	150
69	18 - Visalia Prkwy / County Center Dr	North	62	14	30	66
70		South	ND	--	--	--
71		East	65	23	49	106
72		West	66	25	54	117
73	19 - Visalia Prkwy / Outlot 1 Access	North	ND	--	--	--
74		South	ND	--	--	--
75		East	65	22	48	104
76		West	65	22	48	104
77	20 - Visalia Prkwy / Main Site Access	North	51	3	6	13
78		South	ND	--	--	--
79		East	65	22	47	100
80		West	65	22	48	104
81	21 - Visalia Prkwy / E Site Access	North	55	5	10	22
82		South	ND	--	--	--

Table 6
Existing Traffic Noise Modeling Results

Segment	Intersection	Direction	L_{dn} 50 Feet from Roadway	Distance to Contour (feet) 70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
83		East	65	22	48	103
84		West	65	22	46	100
85	22 - Visalia Prkwy / Mooney Blvd	North	68	38	82	178
86		South	69	46	99	214
87		East	64	21	45	97
88		West	64	20	44	95
89	23 - Visalia Prkwy / Stonebrook St	North	62	14	31	66
90		South	ND	--	--	--
91		East	ND	--	--	--
92		West	63	17	38	81
93	24 - N Site Access / Mooney Blvd	North	69	46	99	214
94		South	69	46	99	214
95		East	ND	--	--	--
96		West	ND	--	--	--
97	25 - S Site Access / Mooney Blvd	North	69	46	99	214
98		South	69	46	99	214
99		East	ND	--	--	--
100		West	ND	--	--	--
101	26 - Midvalley Ave / Mooney Blvd	North	70	47	101	217
102		South	69	46	98	211
103		East	50	2	5	11
104		West	55	5	10	22
105	27 - Ave 272 / Rd 108 (Demaree St)	North	72	68	146	315
106		South	72	66	142	306
107		East	64	21	44	96
108		West	63	16	35	76
109	28 - Ave 272 / Mooney Blvd	North	69	45	97	210
110		South	70	50	107	230
111		East	60	10	22	47
112		West	64	20	43	93
113	29 - Ave 268 / Mooney Blvd	North	70	48	103	221
114		South	70	47	100	216
115		East	58	8	18	38
116		West	61	12	26	55

Note: ND = Roadway segments for which no traffic data was provided.
Source: FHWA-RD-77-108 with inputs from Peters Engineering. Appendix B contains FHWA model inputs.

Existing Overall Ambient Noise Environment within the Project Area

The existing ambient noise environment within the project area is defined primarily by traffic on Visalia Parkway and S. Mooney Boulevard. To generally quantify existing ambient noise levels within the project area, short-term (15-minute) and long-term (24-hour) and ambient noise surveys were conducted on the project site on September 25 & 26, 2019, respectively. The noise

measurement locations are shown on Figure 1. Photographs of the noise survey locations are provided in Appendix C.

Larson Davis Laboratories (LDL) Model 820 and 831 precision integrating sound level meters were used to complete the noise level measurement surveys. The meters were calibrated before use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4).

The results from the long-term ambient noise surveys are summarized in Table 7. The detailed results of the long-term noise surveys are contained in Appendix D in tabular format and graphically in Appendix E. A summary of the short-term noise survey results is provided in Table 8.

Table 7
Summary of Long-Term Noise Survey Measurement Results – September 26, 2019[1]

			Average Measured Hourly Noise Levels, dBA[3]					
			Daytime[4]			Nighttime[5]		
Site[2]	Description	L_{dn}	L_{50}	L_{eq}	L_{max}	L_{50}	L_{eq}	L_{max}
LT-1	Western end of project area along the project boundary.	59	51	53	66	48	53	69
LT-2	Southern end of the project area along the project boundary.	55	48	51	61	44	48	62

[1] Detailed summaries of the noise monitoring results are provided in Appendices D and E.
[2] Long-term noise survey locations are identified on Figure 1.
[3] Noise levels presented in terms of: Average (Low-High)
[4] Daytime hours: 7:00 a.m. to 10:00 p.m.
[5] Nighttime hours: 10:00 p.m. to 7:00 a.m.
Source: Bollard Acoustical Consultants, Inc. (2020)

Table 8
Summary of Short-Term Noise Survey Measurement Results – September 25, 2019

			Average Measured Noise Levels, dBA	
Site	Description	Time	L_{eq}	L_{max}
ST-1	Southwestern end of the project area near project boundary	11:15 a.m.	40	48

[1] Short-term noise survey location is identified on Figure 1.
Source: Bollard Acoustical Consultants, Inc. (2020)

As shown in Table 7, measured average noise levels were highest at Site LT-1. The noise level surveys conducted at Sites LT-1 and LT-2 were intended to quantify the existing general ambient noise environment within the project area, including the noise generation of traffic on the adjacent roadways.

Results from the short-term noise level survey at Site ST-1 (Table 8) indicate that measured ambient average and maximum noise levels were 40 dB L_{eq} and 48 dB L_{max}.

Adjustments to Municipal Code Noise Standards Based on Ambient Conditions

Section 8.36.040 of the Visalia Municipal Code states if measured ambient noise levels exceed the established noise level limits, the applicable standard shall be adjusted so as to equal the measured ambient noise level.

As previously discussed, long-term ambient noise level surveys were conducted on the project site by BAC on September 26, 2019. The noise measurement locations are shown on Figure 1 – the results of the noise level survey are summarized in Table 7. Noise measurement Site LT-1 was selected be representative of ambient conditions at the nearest existing residences to the south of the project. Site LT-2 was selected to be representative of ambient conditions at the nearest existing residences to the west of the project. Based on the results from the BAC long-term noise level surveys, the Municipal Code noise level limits applicable to the project are summarized in Table 9.

Table 9
Adjusted Municipal Code Noise Level Standards Applicable to the Project

Nearest Residences[1]	Average Measured Noise Levels				Unadjusted Standards				Adjustment for Measured Ambient?				Applicable Standards[2]			
	Daytime		Nighttime		Day/Eve		Nighttime		Day/Eve		Nighttime		Day/Eve		Nighttime	
	L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}
South	51	66	48	69	50	70	45	65	**Y**	N	**Y**	**Y**	**51**	70	**48**	**69**
West	48	61	44	62	50	70	45	65	N	N	N	N	50	70	45	65

[1] Site LT-1=nearest residences south of project – Site LT-2=nearest residences west of project.
[2] Applicable noise levels based on measurements from BAC long-term ambient noise level surveys.
Source: Bollard Acoustical Consultants, Inc. (2020)

Existing Ambient Vibration Environment within the Project Area

During the site visit on September 25, 2019, vibration levels were below the threshold of perception within the project areas. Nonetheless, to quantify existing vibration levels within the project area, BAC conducted three (3) short-term (5-minute) vibration measurement surveys on the project site on September 25, 2019. The vibration survey locations are shown on Figure 1. Photographs of the vibration survey locations are provided in Appendix C-2.

A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the measurements. The results are summarized in Table 10.

Table 10
Summary of Ambient Vibration Survey Measurement Results – September 25, 2019

Site	Time	Average Measured Vibration Level, PPV (in. sec.)[1]
V-1	11:10 a.m.	<0.001
V-2	11:25 a.m.	0.003
V-3	11:35 a.m.	0.001

[1] PPV = Peak Particle Velocity (inches/second)
Source: Bollard Acoustical Consultants, Inc. (2020)

The Table 10 data indicate that measured average vibration levels within the project area ranged from less than 0.001 to 0.003 in/sec PPV. The measured vibration levels are well below the Caltrans vibration annoyance criteria for "barely perceptible" human response identified in Table 3.

Impacts and Mitigation Measures

Thresholds of Significance

For the purposes of this report, a noise and vibration impact is considered significant if the project would result in:

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

The project site is not within the vicinity of a private airstrip, an airport land use plan, or within two miles of a public airport. Therefore, the last threshold listed above is not discussed further.

The following criteria based on standards established by the Federal Interagency Commission on Noise (FICON), California Department of Transportation (Caltrans), Visalia General Plan, and Visalia Municipal Code were used to evaluate the significance of environmental noise and vibration resulting from the project:

- A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the Visalia General Plan or Visalia Municipal Code.

- A significant impact would be identified if off-site traffic or if the noise exposure from on-site commercial activities generated by the project would substantially increase noise levels at sensitive receptors in the vicinity. A substantial increase would be identified relative to the FICON standards provided in Table 1.

- A significant impact would be identified if project construction activities or proposed on-site commercial operations would expose noise-sensitive receptors to excessive vibration levels. Specifically, an impact would be identified if groundborne vibration levels due to these sources would exceed the Caltrans vibration impact criteria.

Noise Impacts Associated with Project-Generated Increases Off-Site Traffic

With development of the project, traffic volumes on the local roadway network will increase. Those increases in daily traffic volumes will result in a corresponding increase in traffic noise levels at existing uses located along those roadways. The FHWA Model was used with traffic data provided by the client (prepared by Peters Engineering Group) to predict project traffic noise level increases relative to Existing, Five-Year Cumulative, 10-Year Cumulative, and 20-Year Cumulative project and no project conditions.

Impact 1: Increases in Existing Traffic Noise Levels due to Project (Phase 1)

Traffic data in the form of AM and PM peak hour movements for Existing and Existing Plus Project Phase 1 conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Peters Engineering Group (October 3, 2019). Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 10 to AM peak hour conditions.

Existing versus Existing Plus Project Phase 1 traffic noise levels on the local roadway network are shown in Table 11. The following section includes an assessment of predicted traffic noise levels relative to the FICON significance noise criteria identified in Table 1. The Table 11 data are provided in terms of L_{dn} at a standard distance of 50 feet from the centerlines of the roadways in the project vicinity. Appendix B contains the FWHA model inputs.

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1

			Traffic Noise Level at 50 feet, dB L_{dn}			
Segment	Intersection	Direction	E	E+PP1	Increase	Substantial Increase?
1	1 - Whitendale Ave / County Center	North	65.7	65.7	0.0	N
2		South	65.3	65.3	0.0	N
3		East	65.7	65.8	0.1	N
4		West	67.0	67.0	0.0	N
5	2 - Whitendale Ave / Mooney Blvd	North	67.6	67.9	0.3	N
6		South	68.2	68.6	0.4	N
7		East	65.7	65.8	0.1	N
8		West	65.5	65.5	0.0	N
9	3 - Sunnyside Ave / Mooney Blvd	North	68.4	68.7	0.3	N

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			E	E+PP1	Increase	
10		South	67.9	68.3	0.4	N
11		East	53.6	53.7	0.1	N
12		West	54.4	54.5	0.1	N
13	4 - Orchard Ave / Mooney Blvd	North	67.7	68.1	0.4	N
14		South	67.6	68.1	0.5	N
15		East	55.3	55.5	0.2	N
16		West	47.1	48.5	1.4	N
17	5 - Caldwell Ave / Demaree St	North	69.1	69.1	0.0	N
18		South	68.6	68.7	0.1	N
19		East	69.0	69.2	0.2	N
20		West	69.4	69.6	0.2	N
21	6 - Caldwell Ave / Dans St	North	52.1	52.1	0.0	N
22		South	56.6	56.6	0.0	N
23		East	69.1	69.3	0.2	N
24		West	69.1	69.3	0.2	N
25	7 - Caldwell Ave / County Center Dr	North	64.3	64.6	0.3	N
26		South	63.8	64.2	0.4	N
27		East	66.8	67.0	0.2	N
28		West	68.9	69.1	0.2	N
29	8 - Caldwell Ave / Shady St	North	48.2	48.2	0.0	N
30		South	51.6	51.6	0.0	N
31		East	66.8	67.1	0.3	N
32		West	66.8	67.1	0.3	N
33	9 - Caldwell Ave / Mooney Blvd	North	67.6	68.1	0.5	N
34		South	67.7	68.6	0.9	N
35		East	66.9	67.1	0.2	N
36		West	67.2	67.4	0.2	N
37	10 - Caldwell Ave / Fairway St	North	57.8	57.9	0.1	N
38		South	56.9	56.9	0.0	N
39		East	66.8	67.0	0.2	N
40		West	66.3	66.5	0.2	N
41	11 - Caldwell Ave / Stonebrook St	North	53.6	53.9	0.3	N
42		South	39.8	39.8	0.0	N
43		East	69.1	69.3	0.2	N
44		West	66.7	66.9	0.2	N
45	12 - Cameron Ave / County Center Dr	North	64.2	64.5	0.3	N
46		South	61.8	62.3	0.5	N
47		East	62.3	62.3	0.0	N
48		West	ND	ND	--	--
49	13 - Cameron Ave / Mooney Blvd	North	67.4	68.3	0.9	N
50		South	68.4	69.5	1.1	N
51		East	64.9	65.2	0.3	N
52		West	63.0	63.3	0.3	N
53	14 - Cameron Ave / Stonebrook St	North	ND	ND	--	--
54		South	61.9	62.2	0.3	N

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			E	E+PP1	Increase	
55		East	66.9	67.2	0.3	N
56		West	64.6	64.8	0.2	N
57	15 - Cameron Ave / West St	North	58.1	58.6	0.5	N
58		South	52.4	52.6	0.2	N
59		East	66.0	66.4	0.4	N
60		West	67.1	67.5	0.4	N
61	16 - Visalia Prkwy / Demaree St	North	69.8	69.9	0.1	N
62		South	69.8	69.8	0.0	N
63		East	66.8	67.1	0.3	N
64		West	66.5	66.7	0.2	N
65	17 - Visalia Prkwy / Dans St	North	59.0	59.1	0.1	N
66		South	43.6	44.2	0.6	N
67		East	65.0	65.4	0.4	N
68		West	67.2	67.4	0.2	N
69	18 - Visalia Prkwy / County Center Dr	North	61.8	62.3	0.5	N
70		South	ND	ND	--	--
71		East	64.9	65.6	0.7	N
72		West	65.5	65.9	0.4	N
73	19 - Visalia Prkwy / Outlet 1 Access	North	ND	ND	--	--
74		South	ND	ND	--	--
75		East	64.7	65.4	0.7	N
76		West	64.7	65.4	0.7	N
77	20 - Visalia Prkwy / Main Site Access	North	51.2	54.8	3.6	N
78		South	ND	ND	--	--
79		East	64.5	66.3	1.8	N
80		West	64.7	65.4	0.7	N
81	21 - Visalia Prkwy / E Site Access	North	54.7	51.0	-3.7	N
82		South	NA	54.7	--	--
83		East	64.7	66.6	1.9	N
84		West	64.5	66.3	1.8	N
85	22 - Visalia Prkwy / Mooney Blvd	North	68.3	69.4	1.1	N
86		South	69.5	69.8	0.3	N
87		East	64.3	64.6	0.3	N
88		West	64.2	66.3	2.1	N
89	23 - Visalia Prkwy / Stonebrook St	North	61.8	62.1	0.3	N
90		South	ND	ND	--	--
91		East	ND	ND	--	--
92		West	63.1	63.5	0.4	N
93	24 - N Site Access / Mooney Blvd	North	69.5	69.8	0.3	N
94		South	69.5	69.7	0.2	N
95		East	ND	ND	--	--
96		West	NA	55.5	--	--
97	25 - S Site Access / Mooney Blvd	North	69.5	69.7	0.2	N
98		South	69.5	70.1	0.6	N
99		East	ND	ND	--	--

Table 11
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phase 1

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			E	E+PP1	Increase	
100		West	NA	58.0	--	--
101	26 - Midvalley Ave / Mooney Blvd	North	69.6	70.2	0.6	N
102		South	69.4	70.0	0.6	N
103		East	49.9	49.9	0.0	N
104		West	54.6	55.2	0.6	N
105	27 - Ave 272 / Rd 108	North	72.0	72.0	0.0	N
106		South	71.8	71.8	0.0	N
107		East	64.2	64.3	0.1	N
108		West	62.7	62.9	0.2	N
109	28 - Ave 272 / Mooney Blvd	North	69.3	70.0	0.7	N
110		South	69.9	70.5	0.6	N
111		East	59.6	59.6	0.0	N
112		West	64.1	64.2	0.1	N
113	29 - Ave 268 / Mooney Blvd	North	69.7	70.2	0.5	N
114		South	69.5	70.1	0.6	N
115		East	58.2	58.2	0.0	N
116		West	60.6	60.6	0.0	N

Notes:
ND = Roadway segments for which no traffic data was provided.
NA = Roadway segments that previously did not exist (located on project site).
Source: FHWA-RD-77-108 with inputs from Peters Engineering. Appendix B contains the FHWA model inputs.

The data in Table 11 indicate that traffic generated by the project would not result in an increase of traffic noise levels on the local roadway network. Relative to the FICON significance criteria identified in Table 1, the increases would not be considered substantial. As a result, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project (Phase 1 conditions) are identified as being ***less than significant***.

Impact 2: Increases in Existing Traffic Noise Levels due to Project (Phases 1 and 2)

Traffic data in the form of AM and PM peak hour movements for Existing and Existing Plus Project Phases 1 and 2 conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Peters Engineering Group (October 3, 2019). Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 10 to AM peak hour conditions.

Existing versus Existing Plus Project Phases 1 and 2 traffic noise levels on the local roadway network are shown in Table 12. The following section includes an assessment of predicted traffic noise levels relative to the FICON significance noise criteria identified in Table 1. The Table 12 data are provided in terms of L_{dn} at a standard distance of 50 feet from the centerlines of the roadways in the project vicinity. Appendix B contains the FWHA model inputs.

Table 12
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phases 1 and 2

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			E	E+PP1&2	Increase	
1	1 - Whitendale Ave / County Center	North	65.7	65.7	0.0	N
2		South	65.3	65.3	0.0	N
3		East	65.7	65.8	0.1	N
4		West	67.0	67.0	0.0	N
5	2 - Whitendale Ave / Mooney Blvd	North	67.6	67.9	0.3	N
6		South	68.2	68.6	0.4	N
7		East	65.7	65.8	0.1	N
8		West	65.5	65.5	0.0	N
9	3 - Sunnyside Ave / Mooney Blvd	North	68.4	68.8	0.4	N
10		South	67.9	68.3	0.4	N
11		East	53.6	53.7	0.1	N
12		West	54.4	54.5	0.1	N
13	4 - Orchard Ave / Mooney Blvd	North	67.7	68.1	0.4	N
14		South	67.6	68.1	0.5	N
15		East	55.3	55.5	0.2	N
16		West	47.1	48.5	1.4	N
17	5 - Caldwell Ave / Demaree St	North	69.1	69.1	0.0	N
18		South	68.6	68.7	0.1	N
19		East	69.0	69.2	0.2	N
20		West	69.4	69.7	0.3	N
21	6 - Caldwell Ave / Dans St	North	52.1	52.1	0.0	N
22		South	56.6	56.6	0.0	N
23		East	69.1	69.3	0.2	N
24		West	69.1	69.3	0.2	N
25	7 - Caldwell Ave / County Center Dr	North	64.3	64.6	0.3	N
26		South	63.8	64.2	0.4	N
27		East	66.8	67.1	0.3	N
28		West	68.9	69.1	0.2	N
29	8 - Caldwell Ave / Shady St	North	48.2	48.2	0.0	N
30		South	51.6	51.6	0.0	N
31		East	66.8	67.1	0.3	N
32		West	66.8	67.1	0.3	N
33	9 - Caldwell Ave / Mooney Blvd	North	67.6	68.1	0.5	N
34		South	67.7	68.6	0.9	N
35		East	66.9	67.1	0.2	N
36		West	67.2	67.4	0.2	N
37	10 - Caldwell Ave / Fairway St	North	57.8	57.9	0.1	N
38		South	56.9	56.9	0.0	N
39		East	66.8	67.0	0.2	N
40		West	66.3	66.5	0.2	N
41	11 - Caldwell Ave / Stonebrook St	North	53.6	53.9	0.3	N
42		South	39.8	39.8	0.0	N
43		East	69.1	69.3	0.2	N
44		West	66.7	66.9	0.2	N
45	12 - Cameron Ave / County Center Dr	North	64.2	64.6	0.4	N

Table 12
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phases 1 and 2

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			E	E+PP1&2	Increase	
46		South	61.8	62.3	0.5	N
47		East	62.3	62.3	0.0	N
48		West	ND	ND	--	--
49	13 - Cameron Ave / Mooney Blvd	North	67.4	68.3	0.9	N
50		South	68.4	69.6	1.2	N
51		East	64.9	65.2	0.3	N
52		West	63.0	63.3	0.3	N
53	14 - Cameron Ave / Stonebrook St	North	ND	ND	--	--
54		South	61.9	62.3	0.4	N
55		East	66.9	67.2	0.3	N
56		West	64.6	64.9	0.3	N
57	15 - Cameron Ave / West St	North	58.1	58.6	0.5	N
58		South	52.4	52.6	0.2	N
59		East	66.0	66.4	0.4	N
60		West	67.1	67.5	0.4	N
61	16 - Visalia Prkwy / Demaree St	North	69.8	69.9	0.1	N
62		South	69.8	69.8	0.0	N
63		East	66.8	67.1	0.3	N
64		West	66.5	66.7	0.2	N
65	17 - Visalia Prkwy / Dans St	North	59.0	59.1	0.1	N
66		South	43.6	44.2	0.6	N
67		East	65.0	65.4	0.4	N
68		West	67.2	67.4	0.2	N
69	18 - Visalia Prkwy / County Center Dr	North	61.8	62.4	0.6	N
70		South	ND	ND	--	--
71		East	64.9	65.6	0.7	N
72		West	65.5	65.9	0.4	N
73	19 - Visalia Prkwy / Outlet 1 Access	North	ND	ND	--	--
74		South	NA	42.3	--	--
75		East	64.7	65.5	0.8	N
76		West	64.7	65.5	0.8	N
77	20 - Visalia Prkwy / Main Site Access	North	51.2	54.8	3.6	N
78		South	NA	59.3	--	--
79		East	64.5	66.3	1.8	N
80		West	64.7	65.5	0.8	N
81	21 - Visalia Prkwy / E Site Access	North	54.7	51.0	-3.7	N
82		South	NA	54.9	--	--
83		East	64.7	66.7	2.0	N
84		West	64.5	66.3	1.8	N
85	22 - Visalia Prkwy / Mooney Blvd	North	68.3	69.5	1.2	N
86		South	69.5	69.9	0.4	N
87		East	64.3	64.6	0.3	N
88		West	64.2	66.4	2.2	N
89	23 - Visalia Prkwy / Stonebrook St	North	61.8	62.1	0.3	N
90		South	ND	ND	--	--

Table 12
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Existing vs. Existing Plus Project Phases 1 and 2

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			E	E+PP1&2	Increase	
91		East	ND	ND	--	--
92		West	63.1	63.5	0.4	N
93	24 - N Site Access / Mooney Blvd	North	69.5	69.9	0.4	N
94		South	69.5	69.7	0.2	N
95		East	ND	ND	--	--
96		West	NA	55.6	--	--
97	25 - S Site Access / Mooney Blvd	North	69.5	69.7	0.2	N
98		South	69.5	70.1	0.6	N
99		East	ND	ND	--	--
100		West	NA	58.1	--	--
101	26 - Midvalley Ave / Mooney Blvd	North	69.6	70.2	0.6	N
102		South	69.4	70.0	0.6	N
103		East	49.9	49.9	0.0	N
104		West	54.6	55.2	0.6	N
105	27 - Ave 272 / Rd 108	North	72.0	72.0	0.0	N
106		South	71.8	71.8	0.0	N
107		East	64.2	64.3	0.1	N
108		West	62.7	62.9	0.2	N
109	28 - Ave 272 / Mooney Blvd	North	69.3	70.0	0.7	N
110		South	69.9	70.5	0.6	N
111		East	59.6	59.6	0.0	N
112		West	64.1	64.2	0.1	N
113	29 - Ave 268 / Mooney Blvd	North	69.7	70.3	0.6	N
114		South	69.5	70.1	0.6	N
115		East	58.2	58.2	0.0	N
116		West	60.6	60.6	0.0	N

Notes:
ND = Roadway segments for which no traffic data was provided.
NA = Roadway segments that previously did not exist (on project site).
Source: FHWA-RD-77-108 with inputs from Peters Engineering. Appendix B contains the FHWA model inputs.

The data in Table 12 indicate that traffic generated by the project would not result in an increase of traffic noise levels on the local roadway network. Relative to the FICON significance criteria identified in Table 1, the increases would not be considered substantial. As a result, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project (Phases 1 and 2 conditions) are identified as being ***less than significant***.

Impact 3: Increases in Five-Year Cumulative Traffic Noise Levels due to Project

Traffic data in the form of AM and PM peak hour movements for Five-Year Cumulative and Five-Year Cumulative Plus Project conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Peters Engineering Group (October 3,

2019). Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 10 to AM peak hour conditions.

Five-Year Cumulative versus Five-Year Cumulative Plus Project traffic noise levels on the local roadway network are shown in Table 13. The following section includes an assessment of predicted traffic noise levels relative to the FICON significance noise criteria identified in Table 1. The Table 13 data are provided in terms of L_{dn} at a standard distance of 50 feet from the centerlines of the roadways in the project vicinity. Appendix B contains the FWHA model inputs.

Table 13
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Five-Year Cumulative vs. Five-Year Cumulative Plus Project

			Traffic Noise Level at 50 feet, dB L_{dn}			
Segment	**Intersection**	**Direction**	**5YC**	**5YC+P**	**Increase**	**Substantial Increase?**
1	1 - Whitendale Ave / County Center	North	65.9	65.9	0.0	N
2		South	65.5	65.5	0.0	N
3		East	65.9	66.0	0.1	N
4		West	67.2	67.2	0.0	N
5	2 - Whitendale Ave / Mooney Blvd	North	68.0	68.3	0.3	N
6		South	68.7	69.1	0.4	N
7		East	66.0	66.1	0.1	N
8		West	65.7	65.8	0.1	N
9	3 - Sunnyside Ave / Mooney Blvd	North	68.8	69.1	0.3	N
10		South	68.3	68.7	0.4	N
11		East	53.7	53.8	0.1	N
12		West	57.7	57.8	0.1	N
13	4 - Orchard Ave / Mooney Blvd	North	68.1	68.5	0.4	N
14		South	68.0	68.4	0.4	N
15		East	55.5	55.7	0.2	N
16		West	47.6	48.8	1.2	N
17	5 - Caldwell Ave / Demaree St	North	69.3	69.4	0.1	N
18		South	69.0	69.1	0.1	N
19		East	69.1	69.3	0.2	N
20		West	69.6	69.8	0.2	N
21	6 - Caldwell Ave / Dans St	North	52.1	52.1	0.0	N
22		South	56.6	56.6	0.0	N
23		East	69.4	69.6	0.2	N
24		West	69.4	69.6	0.2	N
25	7 - Caldwell Ave / County Center Dr	North	64.6	64.9	0.3	N
26		South	64.1	64.5	0.4	N
27		East	67.0	67.2	0.2	N
28		West	69.1	69.3	0.2	N
29	8 - Caldwell Ave / Shady St	North	48.3	48.3	0.0	N
30		South	51.7	51.7	0.0	N
31		East	67.2	67.4	0.2	N
32		West	67.1	67.4	0.3	N
33	9 - Caldwell Ave / Mooney Blvd	North	68.2	68.7	0.5	N
34		South	68.2	69.0	0.8	N
35		East	67.1	67.3	0.2	N

Table 13
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Five-Year Cumulative vs. Five-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			5YC	5YC+P	Increase	
36		West	67.4	67.6	0.2	N
37	10 - Caldwell Ave / Fairway St	North	57.8	58.0	0.2	N
38		South	56.9	56.9	0.0	N
39		East	67.0	67.2	0.2	N
40		West	66.5	66.7	0.2	N
41	11 - Caldwell Ave / Stonebrook St	North	53.6	53.9	0.3	N
42		South	47.7	47.7	0.0	N
43		East	69.4	69.5	0.1	N
44		West	67.0	67.2	0.2	N
45	12 - Cameron Ave / County Center Dr	North	64.6	65.0	0.4	N
46		South	62.3	62.9	0.6	N
47		East	62.5	62.6	0.1	N
48		West	ND	ND	--	--
49	13 - Cameron Ave / Mooney Blvd	North	68.0	68.8	0.8	N
50		South	68.8	69.9	1.1	N
51		East	65.4	65.6	0.2	N
52		West	63.4	63.6	0.2	N
53	14 - Cameron Ave / Stonebrook St	North	ND	ND	--	--
54		South	62.4	62.7	0.3	N
55		East	67.1	67.5	0.4	N
56		West	65.1	65.4	0.3	N
57	15 - Cameron Ave / West St	North	58.5	58.9	0.4	N
58		South	52.6	52.9	0.3	N
59		East	66.5	66.8	0.3	N
60		West	67.6	67.9	0.3	N
61	16 - Visalia Prkwy / Demaree St	North	70.1	70.2	0.1	N
62		South	70.1	70.1	0.0	N
63		East	67.5	67.8	0.3	N
64		West	67.0	67.2	0.2	N
65	17 - Visalia Prkwy / Dans St	North	59.0	59.1	0.1	N
66		South	43.6	44.2	0.6	N
67		East	65.7	66.0	0.3	N
68		West	67.7	67.9	0.2	N
69	18 - Visalia Prkwy / County Center Dr	North	62.3	62.9	0.6	N
70		South	ND	ND	--	--
71		East	65.4	66.1	0.7	N
72		West	66.1	66.4	0.3	N
73	19 - Visalia Prkwy / Outlet 1 Access	North	ND	ND	--	--
74		South	NA	42.3	--	--
75		East	65.3	66.0	0.7	N
76		West	65.3	66.0	0.7	N
77	20 - Visalia Prkwy / Main Site Access	North	51.2	54.8	3.6	N
78		South	NA	59.4	--	--
79		East	65.1	66.7	1.6	Y
80		West	65.3	66.0	0.7	N

Table 13
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
Five-Year Cumulative vs. Five-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			5YC	5YC+P	Increase	
81	21 - Visalia Prkwy / E Site Access	North	54.7	51.0	-3.7	N
82		South	NA	54.9	--	--
83		East	65.3	67.0	1.7	Y
84		West	65.1	66.7	1.6	Y
85	22 - Visalia Prkwy / Mooney Blvd	North	68.7	69.8	1.1	N
86		South	69.9	70.3	0.4	N
87		East	65.1	65.3	0.2	N
88		West	64.8	66.7	1.9	N
89	23 - Visalia Prkwy / Stonebrook St	North	62.1	62.5	0.4	N
90		South	45.8	45.8	0.0	N
91		East	50.9	50.9	0.0	N
92		West	63.6	64.0	0.4	N
93	24 - N Site Access / Mooney Blvd	North	69.9	70.2	0.3	N
94		South	69.9	70.1	0.2	N
95		East	ND	ND	--	--
96		West	NA	55.6	--	--
97	25 - S Site Access / Mooney Blvd	North	69.9	70.1	0.2	N
98		South	69.9	70.5	0.6	N
99		East	ND	ND	--	--
100		West	NA	58.3	--	--
101	26 - Midvalley Ave / Mooney Blvd	North	70.0	70.6	0.6	N
102		South	69.8	70.4	0.6	N
103		East	49.9	49.9	0.0	N
104		West	54.6	55.2	0.6	N
105	27 - Ave 272 / Rd 108	North	72.4	72.4	0.0	N
106		South	72.2	72.2	0.0	N
107		East	64.4	64.5	0.1	N
108		West	63.1	63.3	0.2	N
109	28 - Ave 272 / Mooney Blvd	North	69.8	70.4	0.6	N
110		South	70.3	70.9	0.6	N
111		East	59.8	59.8	0.0	N
112		West	64.2	64.4	0.2	N
113	29 - Ave 268 / Mooney Blvd	North	70.1	70.6	0.5	N
114		South	69.9	70.5	0.6	N
115		East	58.3	58.3	0.0	N
116		West	60.7	60.7	0.0	N

Notes:
ND = Roadway segments for which no traffic data was provided.
NA = Roadway segments that previously did not exist (on project site).
Source: FHWA-RD-77-108 with inputs from Peters Engineering. Appendix B contains the FHWA model inputs.

The Table 13 data indicate that the proposed project's contribution to traffic noise level increases is predicted to exceed the FICON substantial increase criteria along three roadway segments evaluated in the 5-Year Cumulative conditions analysis. However, additional analysis of those

roadway segments revealed that there are no noise-sensitive uses identified along those roadway segments. Because there are no identified noise-sensitive receptors along those roadway segments, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project under the 5-Year Cumulative conditions are identified as being ***less than significant.***

Impact 4: Increases in 10-Year Cumulative Traffic Noise Levels due to Project

Traffic data in the form of AM and PM peak hour movements for 10-Year Cumulative and 10-Year Cumulative Plus Project conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Peters Engineering Group (October 3, 2019). Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 10 to AM peak hour conditions.

10-Year Cumulative versus 10-Year Cumulative Plus Project traffic noise levels on the local roadway network are shown in Table 14. The following section includes an assessment of predicted traffic noise levels relative to the FICON significance noise criteria identified in Table 1. The Table 14 data are provided in terms of L_{dn} at a standard distance of 50 feet from the centerlines of the roadways in the project vicinity. Appendix B contains the FWHA model inputs.

Table 14
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
10-Year Cumulative vs. 10-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			10YC	10YC+P	Increase	
1	1 - Whitendale Ave / County Center	North	66.2	66.2	0.0	N
2		South	65.8	65.8	0.0	N
3		East	66.3	66.3	0.0	N
4		West	67.4	67.5	0.1	N
5	2 - Whitendale Ave / Mooney Blvd	North	68.4	68.7	0.3	N
6		South	69.0	69.4	0.4	N
7		East	66.3	66.4	0.1	N
8		West	66.0	66.1	0.1	N
9	3 - Sunnyside Ave / Mooney Blvd	North	68.9	69.3	0.4	N
10		South	68.5	68.8	0.3	N
11		East	53.7	53.8	0.1	N
12		West	57.7	57.8	0.1	N
13	4 - Orchard Ave / Mooney Blvd	North	68.3	68.7	0.4	N
14		South	68.1	68.6	0.5	N
15		East	55.5	55.7	0.2	N
16		West	47.6	48.8	1.2	N
17	5 - Caldwell Ave / Demaree St	North	69.6	69.6	0.0	N
18		South	69.3	69.4	0.1	N
19		East	69.2	69.4	0.2	N
20		West	69.7	69.9	0.2	N
21	6 - Caldwell Ave / Dans St	North	52.1	52.1	0.0	N
22		South	56.6	56.6	0.0	N
23		East	69.7	69.9	0.2	N

Table 14
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
10-Year Cumulative vs. 10-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			10YC	10YC+P	Increase	
24		West	69.7	69.9	0.2	N
25	7 - Caldwell Ave / County Center Dr	North	65.0	65.3	0.3	N
26		South	64.5	64.8	0.3	N
27		East	67.1	67.3	0.2	N
28		West	69.2	69.4	0.2	N
29	8 - Caldwell Ave / Shady St	North	48.3	48.3	0.0	N
30		South	51.7	51.7	0.0	N
31		East	67.5	67.7	0.2	N
32		West	67.5	67.7	0.2	N
33	9 - Caldwell Ave / Mooney Blvd	North	68.6	69.0	0.4	N
34		South	68.6	69.3	0.7	N
35		East	67.3	67.6	0.3	N
36		West	67.6	67.9	0.3	N
37	10 - Caldwell Ave / Fairway St	North	57.8	58.0	0.2	N
38		South	56.9	56.9	0.0	N
39		East	67.1	67.3	0.2	N
40		West	66.6	66.9	0.3	N
41	11 - Caldwell Ave / Stonebrook St	North	53.6	53.9	0.3	N
42		South	47.7	47.7	0.0	N
43		East	69.5	69.7	0.2	N
44		West	67.1	67.3	0.2	N
45	12 - Cameron Ave / County Center Dr	North	64.9	65.2	0.3	N
46		South	62.8	63.3	0.5	N
47		East	62.6	62.6	0.0	N
48		West	ND	ND	--	--
49	13 - Cameron Ave / Mooney Blvd	North	68.4	69.1	0.7	N
50		South	69.3	70.3	1.0	N
51		East	65.7	65.9	0.2	N
52		West	63.7	63.9	0.2	N
53	14 - Cameron Ave / Stonebrook St	North	ND	ND	--	--
54		South	62.4	62.7	0.3	N
55		East	67.2	67.5	0.3	N
56		West	65.3	65.5	0.2	N
57	15 - Cameron Ave / West St	North	59.1	59.4	0.3	N
58		South	53.2	53.4	0.2	N
59		East	66.8	67.1	0.3	N
60		West	68.0	68.3	0.3	N
61	16 - Visalia Prkwy / Demaree St	North	70.3	70.4	0.1	N
62		South	70.1	70.2	0.1	N
63		East	67.7	68.0	0.3	N
64		West	67.4	67.5	0.1	N
65	17 - Visalia Prkwy / Dans St	North	59.0	59.1	0.1	N
66		South	43.6	44.2	0.6	N
67		East	65.9	66.3	0.4	N
68		West	67.9	68.1	0.2	N

Table 14
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
10-Year Cumulative vs. 10-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			10YC	10YC+P	Increase	
69	18 - Visalia Prkwy / County Center Dr	North	62.8	63.4	0.6	N
70		South	ND	ND	--	--
71		East	65.7	66.3	0.6	N
72		West	66.3	66.6	0.3	N
73	19 - Visalia Prkwy / Outlet 1 Access	North	ND	ND	--	--
74		South	NA	42.3	--	--
75		East	65.6	66.3	0.7	N
76		West	65.6	66.3	0.7	N
77	20 - Visalia Prkwy / Main Site Access	North	51.2	54.8	3.6	N
78		South	NA	59.4	--	--
79		East	65.4	66.9	1.5	Y
80		West	65.6	66.3	0.7	N
81	21 - Visalia Prkwy / E Site Access	North	54.7	51.0	-3.7	N
82		South	NA	54.9	--	--
83		East	65.6	67.2	1.6	Y
84		West	65.4	66.9	1.5	Y
85	22 - Visalia Prkwy / Mooney Blvd	North	69.2	70.2	1.0	N
86		South	70.4	70.7	0.3	N
87		East	65.7	65.9	0.2	N
88		West	65.0	66.9	1.9	Y
89	23 - Visalia Prkwy / Stonebrook St	North	62.1	62.5	0.4	N
90		South	45.8	45.8	0.0	N
91		East	50.9	50.9	0.0	N
92		West	63.6	64.0	0.4	N
93	24 - N Site Access / Mooney Blvd	North	70.2	70.6	0.4	N
94		South	70.2	70.4	0.2	N
95		East	ND	ND	--	--
96		West	NA	55.6	--	--
97	25 - S Site Access / Mooney Blvd	North	70.2	70.4	0.2	N
98		South	70.2	70.8	0.6	N
99		East	ND	ND	--	--
100		West	NA	58.3	--	--
101	26 - Midvalley Ave / Mooney Blvd	North	70.3	70.9	0.6	N
102		South	70.1	70.7	0.6	N
103		East	49.9	49.9	0.0	N
104		West	54.6	55.2	0.6	N
105	27 - Ave 272 / Rd 108	North	72.8	72.8	0.0	N
106		South	72.6	72.6	0.0	N
107		East	64.6	64.8	0.2	N
108		West	63.4	63.5	0.1	N
109	28 - Ave 272 / Mooney Blvd	North	70.1	70.7	0.6	N
110		South	70.7	71.2	0.5	N
111		East	60.2	60.2	0.0	N
112		West	64.6	64.8	0.2	N
113	29 - Ave 268 / Mooney Blvd	North	70.4	70.9	0.5	N

Table 14
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
10-Year Cumulative vs. 10-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			10YC	10YC+P	Increase	
114		South	70.3	70.8	0.5	N
115		East	58.5	58.5	0.0	N
116		West	60.9	60.9	0.0	N

Notes:
ND = Roadway segments for which no traffic data was provided.
NA = Roadway segments that previously did not exist (on project site).
Source: FHWA-RD-77-108 with inputs from Peters Engineering. Appendix B contains the FHWA model inputs.

The Table 14 data indicate that the proposed project's contribution to traffic noise level increases is predicted to exceed the FICON substantial increase criteria along four roadway segments evaluated in the 10-Year Cumulative conditions analysis. However, additional analysis of those roadway segments revealed that there are no noise-sensitive uses identified along those roadway segments. Because there are no identified noise-sensitive receptors along those roadway segments, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project under the 10-Year Cumulative conditions are identified as being ***less than significant.***

Impact 5: Increases in 20-Year Cumulative Traffic Noise Levels due to Project

Traffic data in the form of AM and PM peak hour movements for 20-Year Cumulative and 20-Year Cumulative Plus Project conditions in the project area roadway network were obtained from the project transportation impact analysis completed by Peters Engineering Group (October 3, 2019). Average daily traffic (ADT) volumes were conservatively estimated by applying a factor of 10 to AM peak hour conditions.

20-Year Cumulative versus 20-Year Cumulative Plus Project traffic noise levels on the local roadway network are shown in Table 15. The following section includes an assessment of predicted traffic noise levels relative to the FICON significance noise criteria identified in Table 1. The Table 15 data are provided in terms of L_{dn} at a standard distance of 50 feet from the centerlines of the roadways in the project vicinity. Appendix B contains the FWHA model inputs.

Table 15
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
20-Year Cumulative vs. 20-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			20YC	20YC+P	Increase	
1	1 - Whitendale Ave / County Center	North	66.5	66.5	0.0	N
2		South	66.0	66.0	0.0	N
3		East	66.5	66.6	0.1	N
4		West	67.7	67.7	0.0	N

Table 15
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
20-Year Cumulative vs. 20-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			20YC	20YC+P	Increase	
5	2 - Whitendale Ave / Mooney Blvd	North	68.5	68.8	0.3	N
6		South	69.1	69.5	0.4	N
7		East	66.5	66.6	0.1	N
8		West	66.3	66.3	0.0	N
9	3 - Sunnyside Ave / Mooney Blvd	North	69.0	69.3	0.3	N
10		South	68.6	68.9	0.3	N
11		East	53.7	53.8	0.1	N
12		West	57.7	57.8	0.1	N
13	4 - Orchard Ave / Mooney Blvd	North	68.3	68.7	0.4	N
14		South	68.2	68.6	0.4	N
15		East	55.5	55.7	0.2	N
16		West	47.6	48.8	1.2	N
17	5 - Caldwell Ave / Demaree St	North	69.7	69.7	0.0	N
18		South	69.4	69.5	0.1	N
19		East	69.2	69.4	0.2	N
20		West	69.8	70.0	0.2	N
21	6 - Caldwell Ave / Dans St	North	52.1	52.1	0.0	N
22		South	56.6	56.6	0.0	N
23		East	69.9	70.1	0.2	N
24		West	69.9	70.1	0.2	N
25	7 - Caldwell Ave / County Center Dr	North	65.3	65.6	0.3	N
26		South	64.7	65.0	0.3	N
27		East	67.1	67.4	0.3	N
28		West	69.3	69.4	0.1	N
29	8 - Caldwell Ave / Shady St	North	48.3	48.3	0.0	N
30		South	51.7	51.7	0.0	N
31		East	67.7	67.9	0.2	N
32		West	67.7	67.9	0.2	N
33	9 - Caldwell Ave / Mooney Blvd	North	68.7	69.1	0.4	N
34		South	68.7	69.4	0.7	N
35		East	67.5	67.7	0.2	N
36		West	67.7	68.0	0.3	N
37	10 - Caldwell Ave / Fairway St	North	57.9	58.0	0.1	N
38		South	56.9	56.9	0.0	N
39		East	67.1	67.3	0.2	N
40		West	66.7	66.9	0.2	N
41	11 - Caldwell Ave / Stonebrook St	North	55.3	55.5	0.2	N
42		South	58.9	58.9	0.0	N
43		East	70.8	70.9	0.1	N
44		West	67.8	67.9	0.1	N
45	12 - Cameron Ave / County Center Dr	North	65.1	65.4	0.3	N
46		South	63.1	63.6	0.5	N
47		East	62.6	62.6	0.0	N
48		West	ND	ND	--	--
49	13 - Cameron Ave / Mooney Blvd	North	68.6	69.3	0.7	N

Table 15
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
20-Year Cumulative vs. 20-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			20YC	20YC+P	Increase	
50		South	69.5	70.4	0.9	N
51		East	65.8	66.0	0.2	N
52		West	63.9	64.1	0.2	N
53	14 - Cameron Ave / Stonebrook St	North	61.0	61.0	0.0	N
54		South	64.3	64.5	0.2	N
55		East	67.7	68.0	0.3	N
56		West	66.3	66.5	0.2	N
57	15 - Cameron Ave / West St	North	59.7	60.0	0.3	N
58		South	53.7	53.9	0.2	N
59		East	67.0	67.3	0.3	N
60		West	68.2	68.5	0.3	N
61	16 - Visalia Prkwy / Demaree St	North	70.4	70.5	0.1	N
62		South	70.2	70.3	0.1	N
63		East	67.8	68.1	0.3	N
64		West	67.5	67.6	0.1	N
65	17 - Visalia Prkwy / Dans St	North	59.0	59.1	0.1	N
66		South	43.6	44.2	0.6	N
67		East	66.0	66.3	0.3	N
68		West	67.9	68.2	0.3	N
69	18 - Visalia Prkwy / County Center Dr	North	63.1	63.6	0.5	N
70		South	ND	ND	--	--
71		East	65.9	66.5	0.6	N
72		West	66.4	66.7	0.3	N
73	19 - Visalia Prkwy / Outlet 1 Access	North	ND	ND	--	--
74		South	NA	42.3	--	--
75		East	65.7	66.4	0.7	N
76		West	65.7	66.3	0.6	N
77	20 - Visalia Prkwy / Main Site Access	North	51.2	52.8	1.6	N
78		South	NA	59.9	--	--
79		East	65.5	67.0	1.5	Y
80		West	65.7	66.3	0.6	N
81	21 - Visalia Prkwy / E Site Access	North	54.7	54.7	0.0	N
82		South	NA	54.9	--	--
83		East	65.6	67.2	1.6	Y
84		West	65.4	66.8	1.4	N
85	22 - Visalia Prkwy / Mooney Blvd	North	69.4	70.4	1.0	N
86		South	70.7	71.0	0.3	N
87		East	66.1	66.2	0.1	N
88		West	65.2	67.0	1.8	Y
89	23 - Visalia Prkwy / Stonebrook St	North	64.1	64.3	0.2	N
90		South	ND	ND	--	--
91		East	64.6	64.6	0.0	N
92		West	66.5	66.6	0.1	N
93	24 - N Site Access / Mooney Blvd	North	70.4	70.7	0.3	N
94		South	70.4	70.6	0.2	N

Table 15
Traffic Noise Modeling Results and Project-Related Traffic Noise Increases
20-Year Cumulative vs. 20-Year Cumulative Plus Project

Segment	Intersection	Direction	Traffic Noise Level at 50 feet, dB L_{dn}			Substantial Increase?
			20YC	20YC+P	Increase	
95		East	ND	ND	--	--
96		West	NA	55.6	--	--
97	25 - S Site Access / Mooney Blvd	North	70.4	70.6	0.2	N
98		South	70.4	70.9	0.5	N
99		East	ND	ND	--	--
100		West	NA	58.3	--	--
101	26 - Midvalley Ave / Mooney Blvd	North	70.4	71.0	0.6	N
102		South	70.3	70.8	0.5	N
103		East	49.9	49.9	0.0	N
104		West	54.6	55.2	0.6	N
105	27 - Ave 272 / Rd 108	North	72.9	72.9	0.0	N
106		South	72.7	72.7	0.0	N
107		East	64.9	65.0	0.1	N
108		West	63.8	63.9	0.1	N
109	28 - Ave 272 / Mooney Blvd	North	70.2	70.8	0.6	N
110		South	70.8	71.3	0.5	N
111		East	60.6	60.6	0.0	N
112		West	65.0	65.1	0.1	N
113	29 - Ave 268 / Mooney Blvd	North	70.5	71.0	0.5	N
114		South	70.4	70.9	0.5	N
115		East	58.6	58.6	0.0	N
116		West	61.1	61.1	0.0	N

Notes:
ND = Roadway segments for which no traffic data was provided.
NA = Roadway segments that previously did not exist (on project site).
Source: FHWA-RD-77-108 with inputs from Peters Engineering. Appendix B contains the FHWA model inputs.

The Table 15 data indicate that the proposed project's contribution to traffic noise level increases is predicted to exceed the FICON substantial increase criteria along three roadway segments evaluated in the 20-Year Cumulative conditions analysis. However, additional analysis of those roadway segments revealed that there are no noise-sensitive uses identified along those roadway segments. Because there are no identified noise-sensitive receptors along those roadway segments, off-site traffic noise impacts related to increases in traffic resulting from the implementation of the project under the 20-Year Cumulative conditions are identified as being ***less than significant.***

Noise Impacts Associated with Proposed On-Site Commercial Activities

The primary noise sources associated the proposed commercial components of the project have been identified as on-site delivery truck circulation, truck delivery activities (i.e., loading and unloading of product at loading docks and storefronts), rooftop mechanical equipment (HVAC), restaurant drive-through operations (i.e., vehicle passages and speaker noise), and parking lot

activities. An assessment of each project-related noise source follows. The locations of the on-site noise sources are shown on Figure 2.

Impact 6: On-Site Delivery Truck Circulation Noise at Existing Residences

Based on review of the project site plan, it is expected that delivery trucks will utilize an access road centrally located within the commercial development. This assumed delivery route would be accessed from two points – Visalia Parkway (Outlet Access 1) and S. Mooney Boulevard (South Site Access). The assumed primary delivery route is shown on Figure 2.

It is expected that heavy truck deliveries could only physically occur at the Major 1 building – which would occur at the rear or west side of the building. Based on this expectation, only medium duty trucks/vans or smaller could deliver product to the remaining buildings of the development (including Major 2 building with a loading dock). These assumptions are based on the proposed building capacities, orientation, and delivery access points indicated in the project site plan. Based on the project site plan, the nearest proposed buildings to existing residences to the south and west are buildings Major 1, Major 2, Shops A and Automotive.

It has been the experience of BAC in similar projects that commercial uses typically can have deliveries during both daytime and nighttime hours, with daily deliveries consisting of 1-2 heavy trucks and 4 medium duty trucks/vans. Based on the information above, it was conservatively assumed that 2 heavy trucks and 2 medium duty trucks/vans could deliver products to the Major 1 building during the same worst-case hour. It was further assumed that 2 medium duty trucks/vans could deliver products to the Major 2, Shops A and Automotive buildings during the same worst-case hour.

Truck deliveries are expected to be relatively brief and will occur at low speeds. To predict noise levels generated by truck deliveries, BAC utilized file data obtained from measurements conducted by BAC of heavy and medium duty truck passbys. According to BAC file data, single-event heavy truck passby noise levels are approximately 74 dB L_{max} and 83 dB SEL at a reference distance of 50 feet. BAC file data also indicate that single-event medium truck passby noise levels are approximately 66 dB L_{max} and 76 SEL at a reference distance of 50 feet.

Because the Visalia General Plan noise standards are provided in terms of both individual maximum noise levels and hourly average noise levels, it is necessary to identify the number of truck movements occurring during a typical busy hour of operations to assess compliance with the L_{eq}-based standards. In addition, because on-site truck circulation could occur throughout the course of an hour (i.e., in excess of 30 minutes), the applicable Visalia Municipal Code noise level descriptor for on-site truck circulation would be the median noise level metric (L_{50}).

Based on a conservative 2 heavy truck trips and 2 medium truck trips per hour, and SEL's of 83 and 76 dB SEL per passby, the hourly average noise level generated by building Major 1 delivery truck circulation computes to 51 dB L_{eq} at a reference distance of 50 feet from the passby route during the worst-case hour of deliveries (maximum noise level of 74 dB L_{max}). Based on a conservative 2 medium truck trips per hour, and an SEL 76 dB SEL per passby, the hourly average noise level generated by building Major 2, Shops A and Automotive delivery truck circulation computes to 43 dB L_{eq} at a reference distance of 50 feet from the passby route during

the worst-case hour of deliveries (maximum noise level of 66 dB L_{max}). Median (L_{50}) on-site truck circulation noise levels would be approximately 5 dB less than hourly average noise levels (L_{eq}).

Assuming standard spherical spreading loss (-6 dB per doubling of distance), on-site delivery truck circulation noise exposure at the nearest existing residential uses to the south and west was calculated, and the results of those calculations are presented in Table 16.

Table 16
Predicted On-Site Truck Circulation Noise Levels at Nearest Existing Residential Uses

Nearest Residential Use	Nearest Building	Distance from Truck Lane (feet)[1]	Predicted Noise Levels (dB)		
			L_{eq}	L_{50}	L_{max}
South	Major 1	340	35	30	57
	Major 2	150	34	29	56
	Automotive	150	34	29	56
West	Major 1	500	31	26	54
	Shops A	475	24	<20	46

[1] Distances measured from center of nearest truck circulation lane to nearest residential property lines south and west.

Source: Bollard Acoustical Consultants, Inc. (2020)

As indicated in Table 16, on-site truck circulation noise levels are predicted to satisfy the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the nearest existing residential uses to the south and west. The Table 16 data also indicates that on-site truck circulation noise levels are predicted to satisfy the Visalia Municipal Code adjusted daytime/evening and nighttime median (L_{50}) exterior noise level limits at those nearest existing residential uses.

Standard residential construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. Based on this information, on-site truck circulation noise levels are expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the nearest existing residences.

The predicted average hourly, maximum, and median noise levels shown in Table 16 are below measured ambient daytime and nighttime noise levels measured at the nearest existing residential uses (Table 7).

Because on-site delivery truck circulation noise levels are predicted to satisfy the applicable Visalia General Plan and Municipal Code noise level limits, and because on-site delivery truck circulation noise levels are not predicted to significantly increase ambient noise levels at existing residential uses, this impact is identified as being ***less than significant***.

Impact 7: On-Site Truck Delivery Operations Noise at Existing Residences

The site plans indicate that the project proposes loading docks to accommodate store deliveries at buildings Major 1 and 2. The proposed loading docks are shown on Figure 2. In addition to

the deliveries that would occur at Major 1 and 2 loading docks, it is expected that deliveries would also occur at the front of the proposed stores (using medium trucks). The primary noise sources associated with loading area activities are trucks stopping (air brakes), trucks backing into position (back-up alarms), and pulling away from the loading/unloading area (revving engines).

The Visalia General Plan noise standards are provided in terms of both hourly average (L_{eq}) and individual maximum (L_{max}) noise levels. Because truck deliveries could occur throughout the course of an hour (i.e., in excess of 30 minutes), the applicable Visalia Municipal Code noise level descriptor for on-site truck delivery activities would be the median noise level metric (L_{50}).

To quantify the noise generated by truck delivery operations, BAC utilized noise level data obtained from BAC field measurements of a commercial warehouse facility. According to BAC measurement data, truck loading dock average and maximum noise levels are approximately 63 dB L_{eq} and 75 dB L_{max} at a reference distance of 50 feet. Median (L_{50}) on-site truck delivery activity noise levels would be approximately 5 dB less than hourly average noise levels (L_{eq}). Assuming standard spherical spreading loss (-6 dB per doubling of distance), on-site truck delivery operations noise exposure at the nearest existing residential uses to the south and west was calculated, and the results of those calculations are presented in Table 17.

Table 17
Predicted On-Site Truck Delivery Operations Noise Levels at Nearest Existing Residential Uses

Nearest Residential Use	Nearest Building	Distance from Delivery Area (feet)[1]	Predicted Noise Levels (dB)		
			L_{eq}	L_{50}	L_{max}
South	Major 1	420	45	40	57
	Major 2	150	53	48	65
	Automotive	150	53	48	65
West	Major 1	500	43	38	55
	Shops A	550	42	37	54

[1] Distances measured from nearest delivery area (loading dock or front of store) to property line of nearest residential uses.

Source: Bollard Acoustical Consultants, Inc. (2020)

The Table 17 data indicate that on-site truck delivery operations noise levels are predicted to satisfy the Visalia Municipal Code adjusted daytime/evening and nighttime median (L_{50}) exterior noise level limits at the nearest existing residential uses to the south and west. However, on-site truck delivery operations noise levels associated with the Major 2 and Automotive buildings are predicted to exceed the Visalia General Plan daytime and nighttime hourly average (L_{eq}) daytime and nighttime noise level standards at the nearest existing residential uses to the south.

Based on the noise level reduction achieved with standard residential construction (minimum 25 dB with windows closed, approximately 15 dB with windows open), on-site truck delivery activity noise levels are expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the nearest existing residences.

The predicted average hourly, maximum, and median noise levels shown in Table 17 are below measured ambient daytime and nighttime noise levels measured at the nearest existing residential uses (Table 7).

Because on-site truck delivery operations noise levels associated with the Major 2 and Automotive buildings are predicted to exceed the Visalia General Plan daytime and nighttime hourly average (L_{eq}) daytime and nighttime noise level standards at the nearest existing residential uses to the south, this impact is considered to be ***potentially significant.***

Mitigation Impact 7:

In order to satisfy applicable Visalia General Plan daytime and nighttime hourly average (L_{eq}) exterior noise level limits at the nearest existing residential uses, the following noise mitigation measure should be implemented:

MM 7: The construction of a solid noise barrier measuring 7-feet in height along the project property boundary, as indicated in Figure 2. The construction of a 7-foot solid noise barrier at the location indicated in Figure 2 will result in the satisfaction of the applicable General Plan daytime and nighttime noise level limits at the nearest existing residential uses to the south of the project.

Table 18 shows the predicted on-site truck delivery operations hourly average (L_{eq}) noise levels after construction of a 7-foot tall noise barrier as discussed above.

Table 18
Predicted Truck Delivery Activity Noise Levels – Mitigated with 7-Foot Tall Wall

Nearest Residential Use	Predicted Noise Levels, L_{eq} (dB)[1]	General Plan Noise Standards, L_{eq} (dB)	
		Daytime	Nighttime
South	45	50	45

[1] Predicted noise levels include the screening provided by a 7-foot tall noise barrier along the property line, as indicated in Figure 2.

Source: Bollard Acoustical Consultants, Inc. (2020)

Significance after Mitigation: ***Less than Significant***

Impact 8: Commercial HVAC Equipment Noise at Existing Residences

It is assumed that the HVAC systems for maintaining comfortable temperatures within the future commercial buildings of the development will consist of packaged rooftop air conditioning systems. Such HVAC units, which typically stand about 4-5 feet tall, would be shielded from view of nearby existing residences by the building parapets on top of the proposed commercial buildings. Such rooftop HVAC units frequently generate a noise level of approximately 45 dB L_{eq} at a reference distance of 100 feet from the building facade, including shielding by a building parapet.

Based on the project site plans, the Major 2 building is proposed to be located closest to existing residences. Based on the above-mentioned HVAC reference noise level, and after consideration

of the shielding that would be provided by the building parapet, rooftop HVAC equipment noise levels from the Major 2 building are expected to satisfy the Visalia General Plan daytime hourly average (L_{eq}) and Municipal Code daytime median (L_{50}) exterior noise level limits at the nearest existing residential uses. However, it is possible that noise level exposure associated with the Major 2 building could exceed the applicable Visalia General Plan and Municipal Code exterior nighttime noise level standards at the nearest existing residential uses.

Based on the previously discussed noise level reduction achieved with standard residential construction (minimum 25 dB with windows closed, approximately 15 dB with windows open), HVAC equipment noise levels are expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the nearest existing residential uses.

Based on the above information, it is expected that average hourly, maximum, and median noise levels associated with HVAC equipment will be within the range of measured ambient daytime noise levels measured at the nearest existing residential uses (Table 7). However, it is possible that HVAC equipment noise levels could be above measured ambient nighttime noise levels at the nearest existing residential uses.

Because it is possible that noise level exposure associated with the Major 2 building mechanical equipment could exceed the applicable Visalia General Plan and Municipal Code exterior nighttime noise level standards at the nearest existing residential uses, and because it is possible that this equipment could be above ambient nighttime noise levels at those residential uses, this impact is considered to be ***potentially significant.***

Mitigation Impact 8:

In order to satisfy the applicable Visalia General Plan and Visalia Municipal Code nighttime exterior noise level limits at existing residential uses, the following noise mitigation measures should be implemented:

MM 8: A site specific noise impact study that addresses proposed commercial HVAC equipment noise levels should be completed by a qualified noise consultant once specific proposals for such plans are filed. The noise impact study should include an analysis of HVAC equipment noise exposure at the nearest existing residential uses. The analysis should include associated mitigation measures (as appropriate) to reduce commercial HVAC equipment noise levels to a state of compliance with applicable Visalia General Plan and Municipal Code noise level limits at nearby existing residential uses.

Specific mitigation measures could include but are not limited to the following:

- Ensure that noise exposure associated with the selected mechanical equipment satisfies the applicable General Plan and Municipal Code noise level limits at existing residential uses.

- Locate mechanical equipment on the rooftop of commercial buildings away from existing residences (to the extent feasible) and screen the equipment behind building parapets.

- The construction of localized noise barriers around mechanical equipment that effectively attenuate noise exposure to a state of compliance with the applicable General Plan and Municipal Code noise limits at existing residential uses.

Significance after Mitigation: ***Less than Significant***

Impact 9: Restaurant Drive-Through Operations Noise at Existing Residences

The project proposes the construction of two restaurants that would include drive-through lanes. The primary noise sources associated with drive-through operations are vehicle passages and outdoor speakers. The locations of the restaurant buildings are shown on Figure 2, identified as Drive-Through 1 and 2.

To quantify the noise exposure of restaurant vehicle passages from the proposed drive-through lanes at the nearest existing residences, BAC utilized noise measurement data collected for similar drive-through operations. According to BAC file data, drive-through speaker and vehicle idling noise levels are approximately 50 dB L_{eq} and 55 dB L_{max} at a reference distance of 50 feet.

The Visalia General Plan noise standards are provided in terms of both hourly average (L_{eq}) and individual maximum (L_{max}) noise levels. Because drive-through operations could occur throughout the course of an hour (i.e., in excess of 30 minutes), the applicable Visalia Municipal Code noise level descriptor for drive-through operations would be the median noise level metric (L_{50}).

The drive-through restaurant proposed nearest to existing residences is Drive-Through 2. Based on the project site plan, the drive-through lane associated with the Drive-Through 2 restaurant is located approximately 260 feet from the property line of the nearest existing residential use to the south. At this distance, hourly average and maximum noise levels associated with continuous drive-through lane usage is calculated to be 36 dB L_{eq} and 41 dB L_{max}. The median (L_{50}) drive-through noise level would be approximately 5 dB less than hourly average noise level (31 dB L_{50}).

The predicted drive-through operations noise levels of 36 dB L_{eq} and 41 dB L_{max} would satisfy the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the property line of the nearest existing residential use to the south. The predicted drive-through operations noise exposure at that residential use would also satisfy the Visalia Municipal Code adjusted daytime/evening and nighttime median (L_{50}) exterior noise level limits.

Based on the previously discussed noise level reduction achieved with standard residential construction (minimum 25 dB with windows closed, approximately 15 dB with windows open), drive-through operations noise levels are expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the nearest existing residences.

The predicted average hourly, maximum, and median drive-through operations noise levels are below measured ambient daytime and nighttime noise levels measured at the nearest existing residential uses (Table 7).

Because project drive-through operations noise levels are predicted to satisfy the applicable Visalia General Plan and Municipal Code noise level limits, and because drive-through operations noise levels are not predicted to significantly increase ambient noise levels at existing residential uses, this impact is identified as being ***less than significant***.

Impact 10: Parking Lot Activity Noise at Existing Residences

As a means of determining the noise levels due to parking lot activities at the project site, BAC utilized noise level data collected at various parking lots in the Sacramento region over the years. That data indicates that a typical Sound Exposure Level (SEL) due to automobile arrivals/departures, including car doors slamming and people conversing is approximately 70 dB, at a distance of 50 feet. The maximum noise level associated with parking lot activity typically did not exceed 65 dB L_{max} at the same reference distance.

The parking area proposed nearest to existing residences is located at the southern end of the project site adjacent to the Major 2 building. According to the project site plans, this parking area will accommodate approximately 130 parking spaces. It was assumed for the purposes of this analysis that all of the parking stalls could fill or empty during any given peak hour (worst-case). However, it is likely that parking area activity would be more spread out. Parking area noise exposure was determined using the following equation:

$$Peak\ Hour\ L_{eq} = 70+10*log\ (N) - 35.6$$

Where 70 is the mean Sound Exposure Level (SEL) for an automobile parking lot arrival or departure, N is the number of parking lot operations in a given hour, and 35.6 is 10 times the logarithm of the number of seconds in an hour.

The Visalia General Plan noise standards are provided in terms of both hourly average (L_{eq}) and individual maximum (L_{max}) noise levels. Because on-site traffic circulation (and parking) would occur throughout the course of an hour (i.e., in excess of 30 minutes), the applicable Visalia Municipal Code noise level descriptor for parking lot activity noise would be the median noise level metric (L_{50}).

The effective noise center of the parking area at the southern end of the project site is located approximately 180 feet from property line of the nearest existing residential use to the south. At that distance, the computed hourly L_{eq} using the formula provided above would be 44 dB L_{eq}. The median (L_{50}) parking lot noise level would be approximately 5 dB less than hourly average noise level (39 dB L_{50}). The parking area maximum noise level is calculated to be 54 dB L_{max} at this same distance. It should be noted that predicted parking area noise exposure at the nearest existing residential use would be further reduced after construction of a 6-foot tall solid noise barrier along the property line, as recommended in Mitigation Measure 7.

The predicted parking area noise levels of 44 dB L_{eq} and 54 dB L_{max} would satisfy the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the property line of the nearest existing residential use to the south. The predicted parking area noise exposure at that residential use would also satisfy the Visalia Municipal Code adjusted daytime/evening and nighttime median (L_{50}) exterior noise level limits.

Based on the previously discussed noise level reduction achieved with standard residential construction (minimum 25 dB with windows closed, approximately 15 dB with windows open), parking area noise levels are expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the nearest existing residences.

The predicted average hourly, maximum, and median parking area noise levels are below measured ambient daytime and nighttime noise levels measured at the nearest existing residential uses (Table 7).

Because project parking area noise levels are predicted to satisfy the applicable Visalia General Plan and Municipal Code noise level limits, and because parking area noise levels are not predicted to significantly increase ambient noise levels at existing residential uses, this impact is identified as being ***less than significant***.

Impact 11: Project Construction Noise at Existing Residences

During project construction, heavy equipment would be used for grading excavation, paving, and building construction, which would increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how it is operated, and how well it is maintained. Noise exposure at any single point outside the project work area would also vary depending upon the proximity of equipment activities to that point. The nearest existing noise-sensitive uses (residences) to the project site are located approximately 25 feet away.

Table 19 includes the range of maximum noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet. Not all these construction activities would be required of this project. The Table 19 data also include predicted maximum equipment noise levels at the nearest identified noise-sensitive (residential) uses located approximately 25 feet away, which assume a standard spherical spreading loss of 6 dB per doubling of distance.

Table 19
Typical Construction Equipment Noise

Equipment Description	Maximum Noise Level at 50 Feet, dBA	Predicted Maximum Noise Level at 25 feet, dBA
Air Compressor	80	86
Backhoe	80	86
Ballast Equalizer	82	88
Ballast Tamper	83	89
Compactor	82	88
Concrete Mixer	85	91
Concrete Pump	82	88
Concrete Vibrator	76	82
Crane, Mobile	83	89
Dozer	85	91
Generator	82	88
Grader	85	91
Impact Wrench	85	91
Jack Hammer	88	94
Loader	80	86
Paver	85	91
Pneumatic Tool	85	91
Pump	77	83
Rail Saw	90	96
Saw	76	82
Scarifier	83	89
Scraper	85	91
Shovel	82	88
Spike Driver	77	83
Tie Cutter	84	90
Tie Handler	80	86
Tie Inserter	85	91
Truck	84	90

Source: FTA Transit Noise and Vibration Impact Assessment Manual, Table 7-1.

Based on the equipment noise levels in Table 19, worst-case on-site project construction equipment noise levels at the nearest residential uses located 25 feet away are expected to range from approximately 82 to 96 dB. Thus, it is possible that a portion of the project construction equipment could result in substantial short-term increases over ambient maximum noise levels shown in Table 7. Further, it is possible that those noise levels could exceed the applicable Visalia General Plan and Municipal Code noise level limits. As a result, noise impacts associated with construction activities are identified as being ***potentially significant***.

Mitigation for Impact 11: Construction Noise Control Measures

MM-11: To the maximum extent practical, the following measures should be incorporated into the project construction operations:

- Pursuant to Visalia Municipal Code Section 8.36.050, the operation of construction equipment including jackhammers, portable generators, pneumatic equipment,

trenchers, or other such equipment shall not be operated on the project site between the weekday hours of 7:00 p.m. and 6:00 a.m., and between the weekend hours of 7:00 p.m. and 9:00 a.m.

- All noise-producing project equipment and vehicles using internal-combustion engines shall be equipped with manufacturers-recommended mufflers and be maintained in good working condition.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- Electrically powered equipment shall be used instead of pneumatic or internal-combustion-powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
- Project area and site access road speed limits shall be established and enforced during the construction period.
- Nearby residences shall be notified of construction schedules so that arrangements can be made, if desired, to limit their exposure to short-term increases in ambient noise levels.

Significance of Impact 11 following Mitigation: *Less than Significant*

Vibration Impacts Associated with Project Construction

Impact 12: Project Construction Vibration Levels

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest existing residential structures are located approximately 25 feet from construction activities which would occur within the project site.

Table 20 includes the range of vibration levels for equipment commonly used in general construction projects at a distance of 50 feet. The Table 20 data also include predicted equipment vibration levels at the nearest identified residences to the project site located approximately 25 feet away.

Table 20
Vibration Source Levels for Construction Equipment

Equipment	Maximum PPV (inches/second)[1]	
	Maximum PPV at 50 Feet[2]	Predicted PPV at 25 Feet
Hoe ram	0.032	0.089
Large bulldozer	0.032	0.089
Caisson drilling	0.032	0.089
Loaded trucks	0.027	0.076
Jackhammer	0.012	0.035
Small bulldozer	0.001	0.003

[1] PPV = Peak Particle Velocity
[2] Reference vibration level obtained from the FTA Transit Noise and Vibration Impact Assessment Manual (2018).

As indicated in Table 20, vibration levels generated from on-site construction activities at the nearest existing residences are predicted to be well below the strictest Caltrans thresholds for damage to residential structures of 0.30 in/sec PPV shown in Table 2. Further, the predicted vibration levels are well below the Caltrans thresholds for annoyance presented in Table 3. Therefore, on-site construction within the project area would not result in excessive groundborne vibration levels at nearby existing off-site sensitive receptors.

As indicated in Table 10, the measured average vibration levels at the project site were well below the strictest Caltrans thresholds for damage to structures and thresholds for annoyance. Therefore, the project would not result in the exposure of persons to excessive groundborne vibration levels at the project site.

It is our understanding that the development is not proposing equipment that would generate significant vibration levels. Therefore, it is not expected that the proposed uses of the development will experience excessive groundborne vibration.

Because vibration levels due to and upon the proposed project will satisfy the applicable Caltrans groundborne impact vibration criteria, this impact is considered to be ***less than significant***.

Noise Impacts Upon Future Outlot 1

The following impact discussions include assessments of project-generated commercial noise exposure at the adjacent currently undeveloped Outlot 1 parcel. It is our understanding that the Outlot 1 parcel will contain a future senior housing development.

Impact 13: On-Site Delivery Truck Circulation Noise Levels at Outlot 1

As shown on Figure 2, a portion of the on-site delivery truck route is located adjacent to the northeastern boundary of Outlot 1. Based on the proximity of the proposed truck lane to Outlot 1, it is possible that noise levels from delivery truck passbys could impact future noise-sensitive uses proposed within Outlot 1.

An analysis of predicted on-site delivery truck circulation noise exposure at existing residences was presented in **Impact 6**. Based on conservative estimates of future delivery truck volumes,

results from that analysis indicate that project on-site delivery truck circulation noise levels associated with the Major 1 building (adjacent to Outlot 1) compute to approximately 51 dB L_{eq} and 74 dB L_{max} at a distance of 50 feet from the truck delivery lane.

The property boundary of Outlot 1 is located approximately 15 feet from the center of the proposed on-site delivery truck lane. At this distance, on-site delivery truck noise exposure is calculated to be 62 dB L_{eq} and 84 dB L_{max}. The median (L_{50}) on-site truck circulation noise level would be approximately 5 dB less than the hourly L_{eq} noise level (57 dB L_{50}).

The predicted on-site delivery truck circulation noise levels of 62 dB L_{eq} and 84 dB L_{max} would exceed the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the property boundary of Outlot 1. The predicted truck circulation noise exposure would also exceed the Visalia Municipal Code (unadjusted) daytime/evening and nighttime median exterior noise level limits at the property boundary of Outlot 1. Lastly, depending on the location of the future residential structures within Outlot 1, it is possible that on-site delivery truck circulation noise levels could exceed the Visalia Municipal Code interior noise level criteria applicable to residential uses. As a result, this impact is considered to be ***potentially significant.***

Mitigation Impact 13:

In order to satisfy the applicable Visalia General Plan and Visalia Municipal Code exterior and interior noise level limits at future noise-sensitive uses within Outlot 1, the following noise mitigation measure should be implemented:

MM 13: A site specific noise impact study that addresses adjacent commercial delivery truck circulation noise levels should be completed by a qualified noise consultant once specific proposals for such plans are filed. Specifically, the noise impact study should include an analysis of exterior and interior commercial delivery truck circulation noise exposure at Outlot 1. The analysis should include associated mitigation measures (as appropriate) to reduce commercial delivery truck circulation noise levels to a state of compliance with applicable Visalia General Plan and Municipal Code noise level limits at the noise-sensitive uses of Outlot 1.

Specific mitigation measures could include but are not limited to the following:

- The construction of a solid noise barrier along the boundary of the project property and Outlot 1.
- The restriction of truck deliveries to daytime hours only.

Significance of Impact 13 following Mitigation: *Less than Significant*

Impact 14: On-Site Truck Delivery Operations Noise Levels at Outlot 1

As shown on Figure 2, the nearest delivery truck loading/unloading areas to Outlot 1 are the proposed loading docks of buildings Major 1 and 2. Based on the proximity of the loading docks

to Outlot 1, it is possible that loading dock noise levels could impact future noise-sensitive uses proposed within Outlot 1.

An analysis of predicted on-site delivery truck operations noise exposure at existing residences was presented in **Impact 7**. Based on BAC reference noise level data presented in that analysis, truck delivery operations average and maximum noise levels are approximately 63 dB L_{eq} and 75 dB L_{max} at a reference distance of 50 feet from the truck loading docks. The median (L_{50}) loading dock noise level would be approximately 5 dB less than the hourly L_{eq} noise level (58 dB L_{50}). The property boundary of Outlot 1 is located approximately 50 and 75 feet from the center of the loading dock areas proposed at buildings Major 1 and 2, respectively.

Based on the information above, noise levels associated with loading dock operations at buildings Major 1 and 2 would exceed the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the property boundary of Outlot 1. Noise levels from loading dock operations would also exceed the Visalia Municipal Code (unadjusted) daytime/evening and nighttime median exterior noise level limits at the property boundary of Outlot 1. Lastly, depending on the location of the future residential structures within Outlot 1, it is possible that noise from delivery truck activities could exceed the Visalia Municipal Code interior noise level criteria applicable to residential uses. As a result, this impact is considered to be ***potentially significant.***

Mitigation Impact 14:

In order to satisfy the applicable Visalia General Plan and Visalia Municipal Code exterior and interior noise level limits at future noise-sensitive uses within Outlot 1, the following noise mitigation measure should be implemented:

MM 14: A site specific noise impact study that addresses noise levels associated with adjacent commercial loading dock operations should be completed by a qualified noise consultant once specific proposals for such plans are filed. Specifically, the noise impact study should include an analysis of exterior and interior commercial loading dock operations noise exposure at Outlot 1. The analysis should include associated mitigation measures (as appropriate) to reduce commercial loading dock operations noise levels to a state of compliance with applicable Visalia General Plan and Municipal Code noise level limits at the noise-sensitive uses of Outlot 1.

Specific mitigation measures could include but are not limited to the following:

- The construction of a solid noise barrier along the boundary of the project property and Outlot 1.
- The restriction of truck deliveries to daytime hours only.
- The implementation of window construction upgrades.

Significance of Impact 14 following Mitigation: *Less than Significant*

Impact 15: Commercial HVAC Equipment Noise Levels at Outlot 1

An analysis of predicted commercial HVAC equipment noise exposure at existing residences was presented in **Impact 8**. Based on that analysis, it was assumed that the HVAC systems for the future commercial buildings of the development would consist of packaged rooftop air conditioning systems. Such HVAC units frequently generate a noise level of approximately 45 dB L_{eq} at a reference distance of 100 feet from the building facade, including shielding by a building parapet.

Based on the project site plans, the Major 2 building is proposed to be located closest to Outlot 1. Based on the above-mentioned HVAC reference noise level, and after consideration of the shielding that would be provided by the building parapet, rooftop HVAC equipment noise exposure from the Major 2 building are expected to satisfy the Visalia General Plan daytime hourly average (L_{eq}) and Municipal Code daytime median (L_{50}) exterior noise level limits at the property boundary of Outlot 1. In addition, based on the previously discussed noise level reduction achieved with standard residential construction (minimum 25 dB with windows closed, approximately 15 dB with windows open), rooftop HVAC equipment noise levels are expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the nearest existing residences. However, it is possible that noise level exposure associated with the Major 2 building could exceed the applicable Visalia General Plan and Municipal Code exterior nighttime noise level standards at the noise-sensitive uses of Outlot 1. As a result, this impact is considered to be ***potentially significant.***

Mitigation Impact 15:

In order to satisfy the applicable Visalia General Plan and Visalia Municipal Code nighttime exterior noise level limits at future noise-sensitive uses within Outlot 1, the following noise mitigation measure should be implemented:

MM 15: A site specific noise impact study that addresses proposed commercial HVAC equipment noise levels should be completed by a qualified noise consultant once specific proposals for such plans are filed. Specifically, the noise impact study should include an analysis of HVAC equipment noise exposure at the future noise-sensitive uses of Outlot 1. The analysis should include associated mitigation measures (as appropriate) to reduce commercial HVAC equipment noise levels to a state of compliance with applicable Visalia General Plan and Municipal Code noise level limits at the noise-sensitive uses of Outlot 1.

Specific mitigation measures could include but are not limited to the following:

- Ensure that noise exposure associated with the selected mechanical equipment satisfies the applicable General Plan and Municipal Code noise level limits at the noise-sensitive uses of Outlot 1.

- Locate mechanical equipment on the rooftop of commercial buildings away from noise-sensitive uses (to the extent feasible), and screen the equipment behind building parapets.

- The construction of localized noise barriers around mechanical equipment that effectively attenuate noise exposure to a state of compliance with the applicable General Plan and Municipal Code noise limits at noise-sensitive uses of Outlot 1.

Significance after Mitigation: ***Less than Significant***

Impact 16: Restaurant Drive-Through Operations Noise at Outlot 1

An analysis of predicted restaurant drive-through operations noise exposure at existing residences was presented in **Impact 9**. According to BAC file data referenced in that analysis, drive-through speaker and vehicle idling noise levels are approximately 50 dB L_{eq} and 55 dB L_{max} at a reference distance of 50 feet. The median (L_{50}) drive-through operations noise level would be approximately 5 dB less than the hourly L_{eq} noise level (45 dB L_{50}).

The property boundary of Outlot 1 is located approximately 400 feet from the nearest restaurant drive-through lane (Drive-Through 2). At that distance, drive-through noise exposure is calculated to be 32 dB L_{eq} and 37 dB L_{max}. The median (L_{50}) drive-through noise level would be approximately 5 dB less than the hourly L_{eq} noise level (27 dB L_{50}).

The predicted drive-through operations noise levels of 32 dB L_{eq} and 37 dB L_{max} would satisfy the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the property line of Outlot 1. The predicted drive-through operations noise level of 27 dB L_{50} would also satisfy the Visalia Municipal Code (unadjusted) daytime and nighttime median exterior noise level limits. Lastly, standard residential construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. Based on this information, restaurant drive-through operations noise exposure is expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the noise-sensitive uses of Outlot 1. As a result, this impact is considered to be ***less than significant***.

Impact 17: Parking Lot Activity Noise Levels at Outlot 1

The parking area proposed nearest to Outlot 1 is located in between buildings Major 1, Major 2 and Drive-Through 1. Based on the project site plan, it was conservatively estimated that worst-case parking area noise exposure at Outlot 1 would be associated with parking movements from approximately 200 nearby stalls. The effective noise center of this parking area is located approximately 300 feet from property line of Outlot 1.

Using the same parking area reference noise levels and associated methodology presented in **Impact 10**, and assuming that 200 of the closest parking stalls to Outlot 1 could fill or empty during any given peak hour (worst-case), the hourly L_{eq} is computed to be 42 dB L_{eq} at a distance of 300 feet. The median (L_{50}) parking lot noise level would be approximately 5 dB less than the hourly average noise level (37 dB L_{50}). The parking area maximum noise level is calculated to be 49 dB L_{max} at this same distance.

The predicted parking area noise levels of 42 dB L_{eq} and 49 dB L_{max} would satisfy the Visalia General Plan hourly average (L_{eq}) and maximum (L_{max}) daytime and nighttime noise level standards at the property line of Outlot 1. The predicted parking area noise levels would also satisfy the Visalia Municipal Code (unadjusted) daytime/evening and nighttime median exterior noise level limits. Lastly, standard residential construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. Based on this information, parking area noise exposure is expected to satisfy the strictest Visalia Municipal Code interior noise level criteria within the noise-sensitive uses of Outlot 1. As a result, this impact is considered to be ***less than significant***.

This concludes BAC's noise and vibration assessment of the Visalia Parkway & S. Mooney Boulevard Retail Development project in Visalia, California. Please contact BAC at (916) 663-0500 or dariog@bacnoise.com if you have any comments or questions regarding this report.

Appendix A

Acoustical Terminology

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of an acoustic signal.

A-Weighting A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.

Decibel or dB Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.

CNEL Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.

Ldn Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

Leq Equivalent or energy-averaged sound level.

Lmax The highest root-mean-square (RMS) sound level measured over a given period of time.

Loudness A subjective term for the sensation of the magnitude of sound.

Masking The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

Noise Unwanted sound.

Peak Noise The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.

RT_{60} The time it takes reverberant sound to decay by 60 dB once the source has been removed.

Sabin The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.

SEL A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.

Threshold of Hearing The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.

Threshold of Pain Approximately 120 dB above the threshold of hearing.

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 01 Existing
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	7,770	80	20	2	1	40	50
2		South	7,170	80	20	2	1	40	50
3		East	7,840	80	20	2	1	40	50
4		West	10,480	80	20	2	1	40	50
5	Mooney / Whitendale	North	12,060	80	20	2	1	40	50
6		South	13,950	80	20	2	1	40	50
7		East	7,870	80	20	2	1	40	50
8		West	7,400	80	20	2	1	40	50
9	Mooney / Sunnyside	North	14,500	80	20	2	1	40	50
10		South	12,960	80	20	2	1	40	50
11		East	1,210	80	20	2	1	25	50
12		West	1,450	80	20	2	1	25	50
13	Mooney / Orchard	North	12,390	80	20	2	1	40	50
14		South	12,030	80	20	2	1	40	50
15		East	1,250	80	20	2	1	30	50
16		West	190	80	20	2	1	30	50
17	Demaree / Caldwell	North	12,760	80	20	2	1	45	50
18		South	11,580	80	20	2	1	45	50
19		East	12,540	80	20	2	1	45	50
20		West	13,940	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	12,960	80	20	2	1	45	50
24		West	12,970	80	20	2	1	45	50
25	County Center / Caldwell	North	5,640	80	20	2	1	40	50
26		South	5,100	80	20	2	1	40	50
27		East	10,030	80	20	2	1	40	50
28		West	12,430	80	20	2	1	45	50
29	Shady / Caldwell	North	350	80	20	2	1	25	50
30		South	770	80	20	2	1	25	50
31		East	10,190	80	20	2	1	40	50
32		West	10,170	80	20	2	1	40	50
33	Mooney / Caldwell	North	12,240	80	20	2	1	40	50
34		South	12,460	80	20	2	1	40	50

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 01 Existing
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	10,210	80	20	2	1	40	50
36		West	10,970	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,220	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	10,030	80	20	2	1	40	50
40		West	8,900	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,220	80	20	2	1	25	50
42		South	50	80	20	2	1	25	50
43		East	9,970	80	20	2	1	50	50
44		West	9,940	80	20	2	1	40	50
45	County Center / Cameron	North	5,580	80	20	2	1	40	50
46		South	3,180	80	20	2	1	40	50
47		East	3,600	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	11,550	80	20	2	1	40	50
50		South	11,010	80	20	2	1	45	50
51		East	6,530	80	20	2	1	40	50
52		West	4,250	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	4,470	80	20	2	1	35	50
55		East	10,300	80	20	2	1	40	50
56		West	6,010	80	20	2	1	40	50
57	West / Cameron	North	1,860	80	20	2	1	35	50
58		South	500	80	20	2	1	35	50
59		East	6,360	80	20	2	1	45	50
60		West	8,220	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	11,580	80	20	2	1	50	50
62		South	11,570	80	20	2	1	50	50
63		East	7,660	80	20	2	1	45	50
64		West	7,130	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,210	80	20	2	1	25	50
66		South	120	80	20	2	1	25	50
67		East	6,720	80	20	2	1	40	50
68		West	8,230	80	20	2	1	45	50

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 01 Existing
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	3,170	80	20	2	1	40	50
70		South							
71		East	6,540	80	20	2	1	40	50
72		West	7,550	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South							
75		East	6,280	80	20	2	1	40	50
76		West	6,280	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	700	80	20	2	1	25	50
78		South					1		50
79		East	5,980	80	20	2	1	40	50
80		West	6,280	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	1,570	80	20	2	1	25	50
82		South					1		50
83		East	6,260	80	20	2	1	40	50
84		West	5,970	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	10,610	80	20	2	1	45	50
86		South	14,060	80	20	2	1	45	50
87		East	5,720	80	20	2	1	40	50
88		West	5,530	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	4,350	80	20	2	1	35	50
90		South					1	35	50
91		East					1	40	50
92		West	4,350	80	20	2	1	40	50
93	Mooney / North Site Access	North	14,060	80	20	2	1	45	50
94		South	14,060	80	20	2	1	45	50
95		East					1		50
96		West					1		50
97	Mooney / South Site Access	North	14,060	80	20	2	1	45	50
98		South	14,060	80	20	2	1	45	50
99		East					1		50
100		West					1		50
101	Mooney / Midvalley	North	14,310	80	20	2	1	45	50
102		South	13,760	80	20	2	1	45	50

Appendix B-1
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 01 Existing
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	830	80	20	2	1	35	50
105	Demaree / Avenue 272	North	12,080	80	20	2	1	60	50
106		South	11,580	80	20	2	1	60	50
107		East	2,530	80	20	2	1	55	50
108		West	1,790	80	20	2	1	55	50
109	Mooney / Avenue 272	North	13,610	80	20	2	1	45	50
110		South	15,630	80	20	2	1	45	50
111		East	880	80	20	2	1	55	50
112		West	2,440	80	20	2	1	55	50
113	Mooney / Avenue 268	North	14,710	80	20	2	1	45	50
114		South	14,260	80	20	2	1	45	50
115		East	1,040	80	20	2	1	45	50
116		West	1,830	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 02 Existing Plus Project Phase 1
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	7,770	80	20	2	1	40	50
2		South	7,170	80	20	2	1	40	50
3		East	7,970	80	20	2	1	40	50
4		West	10,610	80	20	2	1	40	50
5	Mooney / Whitendale	North	13,020	80	20	2	1	40	50
6		South	15,210	80	20	2	1	40	50
7		East	8,040	80	20	2	1	40	50
8		West	7,530	80	20	2	1	40	50
9	Mooney / Sunnyside	North	15,760	80	20	2	1	40	50
10		South	14,280	80	20	2	1	40	50
11		East	1,240	80	20	2	1	25	50
12		West	1,480	80	20	2	1	25	50
13	Mooney / Orchard	North	13,710	80	20	2	1	40	50
14		South	13,490	80	20	2	1	40	50
15		East	1,320	80	20	2	1	30	50
16		West	260	80	20	2	1	30	50
17	Demaree / Caldwell	North	12,870	80	20	2	1	45	50
18		South	11,790	80	20	2	1	45	50
19		East	13,110	80	20	2	1	45	50
20		West	14,610	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	13,530	80	20	2	1	45	50
24		West	13,540	80	20	2	1	45	50
25	County Center / Caldwell	North	6,120	80	20	2	1	40	50
26		South	5,520	80	20	2	1	40	50
27		East	10,660	80	20	2	1	40	50
28		West	13,000	80	20	2	1	45	50
29	Shady / Caldwell	North	350	80	20	2	1	25	50
30		South	770	80	20	2	1	25	50
31		East	10,820	80	20	2	1	40	50
32		West	10,800	80	20	2	1	40	50
33	Mooney / Caldwell	North	13,700	80	20	2	1	40	50
34		South	15,100	80	20	2	1	40	50

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 02 Existing Plus Project Phase 1
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	10,760	80	20	2	1	40	50
36		West	11,600	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,290	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	10,510	80	20	2	1	40	50
40		West	9,450	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,290	80	20	2	1	25	50
42		South	50	80	20	2	1	25	50
43		East	10,380	80	20	2	1	50	50
44		West	10,420	80	20	2	1	40	50
45	County Center / Cameron	North	6,000	80	20	2	1	40	50
46		South	3,600	80	20	2	1	40	50
47		East	3,600	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	14,190	80	20	2	1	40	50
50		South	14,280	80	20	2	1	45	50
51		East	6,950	80	20	2	1	40	50
52		West	4,460	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	4,820	80	20	2	1	35	50
55		East	11,070	80	20	2	1	40	50
56		West	6,430	80	20	2	1	40	50
57	West / Cameron	North	2,070	80	20	2	1	35	50
58		South	530	80	20	2	1	35	50
59		East	6,890	80	20	2	1	45	50
60		West	8,990	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	11,790	80	20	2	1	50	50
62		South	11,680	80	20	2	1	50	50
63		East	8,200	80	20	2	1	45	50
64		West	7,350	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,280	80	20	2	1	25	50
66		South	140	80	20	2	1	25	50
67		East	7,350	80	20	2	1	40	50
68		West	8,770	80	20	2	1	45	50

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 02 Existing Plus Project Phase 1
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	3,620	80	20	2	1	40	50
70		South							
71		East	7,620	80	20	2	1	40	50
72		West	8,180	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South							
75		East	7,360	80	20	2	1	40	50
76		West	7,360	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	1,600	80	20	2	1	25	50
78		South	4,430	80	20	2	1	25	50
79		East	8,980	80	20	2	1	40	50
80		West	7,390	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	670	80	20	2	1	25	50
82		South	1,580	80	20	2	1	25	50
83		East	9,640	80	20	2	1	40	50
84		West	8,930	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	13,880	80	20	2	1	45	50
86		South	15,280	80	20	2	1	45	50
87		East	6,070	80	20	2	1	40	50
88		West	9,030	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	4,700	80	20	2	1	35	50
90		South							
91		East							
92		West	4,700	80	20	2	1	40	50
93	Mooney / North Site Access	North	15,280	80	20	2	1	45	50
94		South	14,700	80	20	2	1	45	50
95		East							
96		West	1,860	80	20	2	1	25	50
97	Mooney / South Site Access	North	14,770	80	20	2	1	45	50
98		South	16,220	80	20	2	1	45	50
99		East							
100		West	3,350	80	20	2	1	25	50
101	Mooney / Midvalley	North	16,540	80	20	2	1	45	50
102		South	15,860	80	20	2	1	45	50

Appendix B-2
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 02 Existing Plus Project Phase 1
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	960	80	20	2	1	35	50
105	Demaree / Avenue 272	North	12,190	80	20	2	1	60	50
106		South	11,690	80	20	2	1	60	50
107		East	2,600	80	20	2	1	55	50
108		West	1,860	80	20	2	1	55	50
109	Mooney / Avenue 272	North	15,710	80	20	2	1	45	50
110		South	17,660	80	20	2	1	45	50
111		East	880	80	20	2	1	55	50
112		West	2,510	80	20	2	1	55	50
113	Mooney / Avenue 268	North	16,740	80	20	2	1	45	50
114		South	16,290	80	20	2	1	45	50
115		East	1,040	80	20	2	1	45	50
116		West	1,830	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 03 Existing Plus Project Phases 1 & 2
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	7,770	80	20	2	1	40	50
2		South	7,170	80	20	2	1	40	50
3		East	7,970	80	20	2	1	40	50
4		West	10,610	80	20	2	1	40	50
5	Mooney / Whitendale	North	13,060	80	20	2	1	40	50
6		South	15,250	80	20	2	1	40	50
7		East	8,040	80	20	2	1	40	50
8		West	7,530	80	20	2	1	40	50
9	Mooney / Sunnyside	North	15,810	80	20	2	1	40	50
10		South	14,330	80	20	2	1	40	50
11		East	1,240	80	20	2	1	25	50
12		West	1,480	80	20	2	1	25	50
13	Mooney / Orchard	North	13,760	80	20	2	1	40	50
14		South	13,540	80	20	2	1	40	50
15		East	1,320	80	20	2	1	30	50
16		West	260	80	20	2	1	30	50
17	Demaree / Caldwell	North	12,870	80	20	2	1	45	50
18		South	11,790	80	20	2	1	45	50
19		East	13,130	80	20	2	1	45	50
20		West	14,630	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	13,550	80	20	2	1	45	50
24		West	13,560	80	20	2	1	45	50
25	County Center / Caldwell	North	6,130	80	20	2	1	40	50
26		South	5,520	80	20	2	1	40	50
27		East	10,690	80	20	2	1	40	50
28		West	13,020	80	20	2	1	45	50
29	Shady / Caldwell	North	350	80	20	2	1	25	50
30		South	770	80	20	2	1	25	50
31		East	10,840	80	20	2	1	40	50
32		West	10,820	80	20	2	1	40	50
33	Mooney / Caldwell	North	13,760	80	20	2	1	40	50
34		South	15,200	80	20	2	1	40	50

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 03 Existing Plus Project Phases 1 & 2
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	10,780	80	20	2	1	40	50
36		West	11,620	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,290	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	10,530	80	20	2	1	40	50
40		West	9,470	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,290	80	20	2	1	25	50
42		South	50	80	20	2	1	25	50
43		East	10,400	80	20	2	1	50	50
44		West	10,440	80	20	2	1	40	50
45	County Center / Cameron	North	6,020	80	20	2	1	40	50
46		South	3,620	80	20	2	1	40	50
47		East	3,600	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	14,300	80	20	2	1	40	50
50		South	14,410	80	20	2	1	45	50
51		East	6,970	80	20	2	1	40	50
52		West	4,460	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	4,840	80	20	2	1	35	50
55		East	11,110	80	20	2	1	40	50
56		West	6,450	80	20	2	1	40	50
57	West / Cameron	North	2,070	80	20	2	1	35	50
58		South	530	80	20	2	1	35	50
59		East	6,910	80	20	2	1	45	50
60		West	9,010	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	11,790	80	20	2	1	50	50
62		South	11,680	80	20	2	1	50	50
63		East	8,200	80	20	2	1	45	50
64		West	7,350	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,280	80	20	2	1	25	50
66		South	140	80	20	2	1	25	50
67		East	7,370	80	20	2	1	40	50
68		West	8,790	80	20	2	1	45	50

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 03 Existing Plus Project Phases 1 & 2
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	3,640	80	20	2	1	40	50
70		South							
71		East	7,660	80	20	2	1	40	50
72		West	8,200	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South	90	80	20	2	1	25	50
75		East	7,470	80	20	2	1	40	50
76		West	7,400	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	1,600	80	20	2	1	25	50
78		South	4,480	80	20	2	1	25	50
79		East	9,050	80	20	2	1	40	50
80		West	7,470	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	670	80	20	2	1	25	50
82		South	1,630	80	20	2	1	25	50
83		East	9,760	80	20	2	1	40	50
84		West	9,020	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	14,010	80	20	2	1	45	50
86		South	15,340	80	20	2	1	45	50
87		East	6,080	80	20	2	1	40	50
88		West	9,150	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	4,720	80	20	2	1	35	50
90		South							
91		East							
92		West	4,720	80	20	2	1	40	50
93	Mooney / North Site Access	North	15,350	80	20	2	1	45	50
94		South	14,750	80	20	2	1	45	50
95		East							
96		West	1,920	80	20	2	1	25	50
97	Mooney / South Site Access	North	14,820	80	20	2	1	45	50
98		South	16,310	80	20	2	1	45	50
99		East							
100		West	3,450	80	20	2	1	25	50
101	Mooney / Midvalley	North	16,630	80	20	2	1	45	50
102		South	15,950	80	20	2	1	45	50

Appendix B-3
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 03 Existing Plus Project Phases 1 & 2
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	960	80	20	2	1	35	50
105	Demaree / Avenue 272	North	12,190	80	20	2	1	60	50
106		South	11,690	80	20	2	1	60	50
107		East	2,600	80	20	2	1	55	50
108		West	1,860	80	20	2	1	55	50
109	Mooney / Avenue 272	North	15,790	80	20	2	1	45	50
110		South	17,740	80	20	2	1	45	50
111		East	880	80	20	2	1	55	50
112		West	2,510	80	20	2	1	55	50
113	Mooney / Avenue 268	North	16,820	80	20	2	1	45	50
114		South	16,370	80	20	2	1	45	50
115		East	1,040	80	20	2	1	45	50
116		West	1,830	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 04 Five Year Cumulative No Project
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	8,110	80	20	2	1	40	50
2		South	7,460	80	20	2	1	40	50
3		East	8,260	80	20	2	1	40	50
4		West	10,950	80	20	2	1	40	50
5	Mooney / Whitendale	North	13,390	80	20	2	1	40	50
6		South	15,650	80	20	2	1	40	50
7		East	8,340	80	20	2	1	40	50
8		West	7,800	80	20	2	1	40	50
9	Mooney / Sunnyside	North	15,870	80	20	2	1	40	50
10		South	14,230	80	20	2	1	40	50
11		East	1,230	80	20	2	1	25	50
12		West	3,130	80	20	2	1	25	50
13	Mooney / Orchard	North	13,630	80	20	2	1	40	50
14		South	13,230	80	20	2	1	40	50
15		East	1,310	80	20	2	1	30	50
16		West	210	80	20	2	1	30	50
17	Demaree / Caldwell	North	13,560	80	20	2	1	45	50
18		South	12,650	80	20	2	1	45	50
19		East	12,880	80	20	2	1	45	50
20		West	14,390	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	13,780	80	20	2	1	45	50
24		West	13,790	80	20	2	1	45	50
25	County Center / Caldwell	North	6,010	80	20	2	1	40	50
26		South	5,440	80	20	2	1	40	50
27		East	10,450	80	20	2	1	40	50
28		West	12,880	80	20	2	1	45	50
29	Shady / Caldwell	North	360	80	20	2	1	25	50
30		South	780	80	20	2	1	25	50
31		East	10,950	80	20	2	1	40	50
32		West	10,930	80	20	2	1	40	50
33	Mooney / Caldwell	North	13,970	80	20	2	1	40	50
34		South	13,970	80	20	2	1	40	50

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 04 Five Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	10,830	80	20	2	1	40	50
36		West	11,590	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,240	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	10,540	80	20	2	1	40	50
40		West	9,390	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,220	80	20	2	1	25	50
42		South	310	80	20	2	1	25	50
43		East	10,500	80	20	2	1	50	50
44		West	10,490	80	20	2	1	40	50
45	County Center / Cameron	North	6,130	80	20	2	1	40	50
46		South	3,580	80	20	2	1	40	50
47		East	3,790	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	13,200	80	20	2	1	40	50
50		South	12,140	80	20	2	1	45	50
51		East	7,300	80	20	2	1	40	50
52		West	4,600	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	4,990	80	20	2	1	35	50
55		East	10,910	80	20	2	1	40	50
56		West	6,820	80	20	2	1	40	50
57	West / Cameron	North	2,020	80	20	2	1	35	50
58		South	530	80	20	2	1	35	50
59		East	7,080	80	20	2	1	45	50
60		West	9,090	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	12,590	80	20	2	1	50	50
62		South	12,420	80	20	2	1	50	50
63		East	8,920	80	20	2	1	45	50
64		West	8,010	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,210	80	20	2	1	25	50
66		South	120	80	20	2	1	25	50
67		East	7,750	80	20	2	1	40	50
68		West	9,260	80	20	2	1	45	50

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 04 Five Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	3,580	80	20	2	1	40	50
70		South							
71		East	7,340	80	20	2	1	40	50
72		West	8,560	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South							
75		East	7,140	80	20	2	1	40	50
76		West	7,140	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	700	80	20	2	1	25	50
78		South							
79		East	6,820	80	20	2	1	40	50
80		West	7,120	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	1,570	80	20	2	1	25	50
82		South							
83		East	7,080	80	20	2	1	40	50
84		West	6,790	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	11,840	80	20	2	1	45	50
86		South	15,650	80	20	2	1	45	50
87		East	6,860	80	20	2	1	40	50
88		West	6,310	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	4,720	80	20	2	1	35	50
90		South	110	80	20	2	1	35	50
91		East	260	80	20	2	1	40	50
92		West	4,870	80	20	2	1	40	50
93	Mooney / North Site Access	North	15,450	80	20	2	1	45	50
94		South	15,450	80	20	2	1	45	50
95		East							
96		West							
97	Mooney / South Site Access	North	15,450	80	20	2	1	45	50
98		South	15,450	80	20	2	1	45	50
99		East							
100		West							
101	Mooney / Midvalley	North	15,670	80	20	2	1	45	50
102		South	15,120	80	20	2	1	45	50

Appendix B-4
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 04 Five Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	830	80	20	2	1	35	50
105	Demaree / Avenue 272	North	13,330	80	20	2	1	60	50
106		South	12,710	80	20	2	1	60	50
107		East	2,610	80	20	2	1	55	50
108		West	1,950	80	20	2	1	55	50
109	Mooney / Avenue 272	North	14,970	80	20	2	1	45	50
110		South	17,080	80	20	2	1	45	50
111		East	910	80	20	2	1	55	50
112		West	2,540	80	20	2	1	55	50
113	Mooney / Avenue 268	North	16,090	80	20	2	1	45	50
114		South	15,620	80	20	2	1	45	50
115		East	1,060	80	20	2	1	45	50
116		West	1,870	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 05 Five Year Cumulative with Project
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	8,110	80	20	2	1	40	50
2		South	7,460	80	20	2	1	40	50
3		East	8,390	80	20	2	1	40	50
4		West	11,080	80	20	2	1	40	50
5	Mooney / Whitendale	North	14,380	80	20	2	1	40	50
6		South	16,960	80	20	2	1	40	50
7		East	8,520	80	20	2	1	40	50
8		West	7,940	80	20	2	1	40	50
9	Mooney / Sunnyside	North	17,180	80	20	2	1	40	50
10		South	15,600	80	20	2	1	40	50
11		East	1,260	80	20	2	1	25	50
12		West	3,160	80	20	2	1	25	50
13	Mooney / Orchard	North	15,010	80	20	2	1	40	50
14		South	14,750	80	20	2	1	40	50
15		East	1,380	80	20	2	1	30	50
16		West	280	80	20	2	1	30	50
17	Demaree / Caldwell	North	13,670	80	20	2	1	45	50
18		South	12,860	80	20	2	1	45	50
19		East	13,470	80	20	2	1	45	50
20		West	15,080	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	14,380	80	20	2	1	45	50
24		West	14,390	80	20	2	1	45	50
25	County Center / Caldwell	North	6,520	80	20	2	1	40	50
26		South	5,880	80	20	2	1	40	50
27		East	11,110	80	20	2	1	40	50
28		West	13,470	80	20	2	1	45	50
29	Shady / Caldwell	North	360	80	20	2	1	25	50
30		South	780	80	20	2	1	25	50
31		East	11,600	80	20	2	1	40	50
32		West	11,580	80	20	2	1	40	50
33	Mooney / Caldwell	North	15,490	80	20	2	1	40	50
34		South	16,710	80	20	2	1	40	50

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 05 Five Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	11,400	80	20	2	1	40	50
36		West	12,240	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,310	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	11,030	80	20	2	1	40	50
40		West	9,950	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,290	80	20	2	1	25	50
42		South	310	80	20	2	1	25	50
43		East	10,920	80	20	2	1	50	50
44		West	10,980	80	20	2	1	40	50
45	County Center / Cameron	North	6,620	80	20	2	1	40	50
46		South	4,110	80	20	2	1	40	50
47		East	3,830	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	15,950	80	20	2	1	40	50
50		South	15,560	80	20	2	1	45	50
51		East	7,740	80	20	2	1	40	50
52		West	4,830	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	5,360	80	20	2	1	35	50
55		East	11,720	80	20	2	1	40	50
56		West	7,260	80	20	2	1	40	50
57	West / Cameron	North	2,230	80	20	2	1	35	50
58		South	560	80	20	2	1	35	50
59		East	7,630	80	20	2	1	45	50
60		West	9,880	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	12,800	80	20	2	1	50	50
62		South	12,550	80	20	2	1	50	50
63		East	9,490	80	20	2	1	45	50
64		West	8,240	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,280	80	20	2	1	25	50
66		South	140	80	20	2	1	25	50
67		East	8,400	80	20	2	1	40	50
68		West	9,820	80	20	2	1	45	50

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 05 Five Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	4,140	80	20	2	1	40	50
70		South							
71		East	8,560	80	20	2	1	40	50
72		West	9,220	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South	90	80	20	2	1	25	50
75		East	8,420	80	20	2	1	40	50
76		West	8,350	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	1,600	80	20	2	1	25	50
78		South	4,570	80	20	2	1	25	50
79		East	9,880	80	20	2	1	40	50
80		West	8,390	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	670	80	20	2	1	25	50
82		South	1,630	80	20	2	1	25	50
83		East	10,580	80	20	2	1	40	50
84		West	9,840	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	15,250	80	20	2	1	45	50
86		South	16,940	80	20	2	1	45	50
87		East	7,220	80	20	2	1	40	50
88		West	9,950	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	5,090	80	20	2	1	35	50
90		South	110	80	20	2	1	35	50
91		East	260	80	20	2	1	40	50
92		West	5,240	80	20	2	1	40	50
93	Mooney / North Site Access	North	16,720	80	20	2	1	45	50
94		South	16,120	80	20	2	1	45	50
95		East							
96		West	1,920	80	20	2	1	25	50
97	Mooney / South Site Access	North	16,190	80	20	2	1	45	50
98		South	17,790	80	20	2	1	45	50
99		East							
100		West	3,560	80	20	2	1	25	50
101	Mooney / Midvalley	North	18,090	80	20	2	1	45	50
102		South	17,410	80	20	2	1	45	50

Appendix B-5
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 05 Five Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	960	80	20	2	1	35	50
105	Demaree / Avenue 272	North	13,440	80	20	2	1	60	50
106		South	12,820	80	20	2	1	60	50
107		East	2,690	80	20	2	1	55	50
108		West	2,030	80	20	2	1	55	50
109	Mooney / Avenue 272	North	17,260	80	20	2	1	45	50
110		South	19,290	80	20	2	1	45	50
111		East	910	80	20	2	1	55	50
112		West	2,620	80	20	2	1	55	50
113	Mooney / Avenue 268	North	18,310	80	20	2	1	45	50
114		South	17,840	80	20	2	1	45	50
115		East	1,060	80	20	2	1	45	50
116		West	1,870	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 06 Ten Year Cumulative No Project
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	8,770	80	20	2	1	40	50
2		South	7,960	80	20	2	1	40	50
3		East	8,930	80	20	2	1	40	50
4		West	11,700	80	20	2	1	40	50
5	Mooney / Whitendale	North	14,550	80	20	2	1	40	50
6		South	16,920	80	20	2	1	40	50
7		East	8,930	80	20	2	1	40	50
8		West	8,400	80	20	2	1	40	50
9	Mooney / Sunnyside	North	16,430	80	20	2	1	40	50
10		South	14,790	80	20	2	1	40	50
11		East	1,230	80	20	2	1	25	50
12		West	3,130	80	20	2	1	25	50
13	Mooney / Orchard	North	14,160	80	20	2	1	40	50
14		South	13,760	80	20	2	1	40	50
15		East	1,310	80	20	2	1	30	50
16		West	210	80	20	2	1	30	50
17	Demaree / Caldwell	North	14,410	80	20	2	1	45	50
18		South	13,500	80	20	2	1	45	50
19		East	13,080	80	20	2	1	45	50
20		West	14,810	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	14,870	80	20	2	1	45	50
24		West	14,880	80	20	2	1	45	50
25	County Center / Caldwell	North	6,620	80	20	2	1	40	50
26		South	5,900	80	20	2	1	40	50
27		East	10,730	80	20	2	1	40	50
28		West	13,170	80	20	2	1	45	50
29	Shady / Caldwell	North	360	80	20	2	1	25	50
30		South	780	80	20	2	1	25	50
31		East	11,860	80	20	2	1	40	50
32		West	11,840	80	20	2	1	40	50
33	Mooney / Caldwell	North	15,290	80	20	2	1	40	50
34		South	15,280	80	20	2	1	40	50

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 06 Ten Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	11,440	80	20	2	1	40	50
36		West	12,190	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,240	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	10,880	80	20	2	1	40	50
40		West	9,730	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,220	80	20	2	1	25	50
42		South	310	80	20	2	1	25	50
43		East	10,920	80	20	2	1	50	50
44		West	10,910	80	20	2	1	40	50
45	County Center / Cameron	North	6,570	80	20	2	1	40	50
46		South	4,010	80	20	2	1	40	50
47		East	3,820	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	14,540	80	20	2	1	40	50
50		South	13,400	80	20	2	1	45	50
51		East	7,750	80	20	2	1	40	50
52		West	4,970	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	4,990	80	20	2	1	35	50
55		East	11,180	80	20	2	1	40	50
56		West	7,090	80	20	2	1	40	50
57	West / Cameron	North	2,330	80	20	2	1	35	50
58		South	600	80	20	2	1	35	50
59		East	7,670	80	20	2	1	45	50
60		West	9,960	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	13,170	80	20	2	1	50	50
62		South	12,610	80	20	2	1	50	50
63		East	9,370	80	20	2	1	45	50
64		West	8,630	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,210	80	20	2	1	25	50
66		South	120	80	20	2	1	25	50
67		East	8,250	80	20	2	1	40	50
68		West	9,760	80	20	2	1	45	50

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 06 Ten Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	4,010	80	20	2	1	40	50
70		South							
71		East	7,820	80	20	2	1	40	50
72		West	9,010	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South							
75		East	7,730	80	20	2	1	40	50
76		West	7,730	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	700	80	20	2	1	25	50
78		South					1		50
79		East	7,360	80	20	2	1	40	50
80		West	7,660	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	1,570	80	20	2	1	25	50
82		South							
83		East	7,590	80	20	2	1	40	50
84		West	7,300	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	13,080	80	20	2	1	45	50
86		South	17,500	80	20	2	1	45	50
87		East	7,900	80	20	2	1	40	50
88		West	6,740	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	4,720	80	20	2	1	35	50
90		South	110	80	20	2	1	35	50
91		East	260	80	20	2	1	40	50
92		West	4,870	80	20	2	1	40	50
93	Mooney / North Site Access	North	16,780	80	20	2	1	45	50
94		South	16,780	80	20	2	1	45	50
95		East							
96		West							
97	Mooney / South Site Access	North	16,780	80	20	2	1	45	50
98		South	16,780	80	20	2	1	45	50
99		East							
100		West							
101	Mooney / Midvalley	North	16,950	80	20	2	1	45	50
102		South	16,400	80	20	2	1	45	50

Appendix B-6
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 06 Ten Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	830	80	20	2	1	35	50
105	Demaree / Avenue 272	North	14,410	80	20	2	1	60	50
106		South	13,790	80	20	2	1	60	50
107		East	2,790	80	20	2	1	55	50
108		West	2,090	80	20	2	1	55	50
109	Mooney / Avenue 272	North	16,270	80	20	2	1	45	50
110		South	18,580	80	20	2	1	45	50
111		East	1,000	80	20	2	1	55	50
112		West	2,790	80	20	2	1	55	50
113	Mooney / Avenue 268	North	17,410	80	20	2	1	45	50
114		South	16,930	80	20	2	1	45	50
115		East	1,110	80	20	2	1	45	50
116		West	1,950	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 07 Ten Year Cumulative with Project
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	8,770	80	20	2	1	40	50
2		South	7,960	80	20	2	1	40	50
3		East	9,080	80	20	2	1	40	50
4		West	11,850	80	20	2	1	40	50
5	Mooney / Whitendale	North	15,550	80	20	2	1	40	50
6		South	18,230	80	20	2	1	40	50
7		East	9,110	80	20	2	1	40	50
8		West	8,530	80	20	2	1	40	50
9	Mooney / Sunnyside	North	17,740	80	20	2	1	40	50
10		South	16,160	80	20	2	1	40	50
11		East	1,260	80	20	2	1	25	50
12		West	3,160	80	20	2	1	25	50
13	Mooney / Orchard	North	15,530	80	20	2	1	40	50
14		South	15,270	80	20	2	1	40	50
15		East	1,380	80	20	2	1	30	50
16		West	280	80	20	2	1	30	50
17	Demaree / Caldwell	North	14,530	80	20	2	1	45	50
18		South	13,740	80	20	2	1	45	50
19		East	13,670	80	20	2	1	45	50
20		West	15,520	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	15,460	80	20	2	1	45	50
24		West	15,470	80	20	2	1	45	50
25	County Center / Caldwell	North	7,130	80	20	2	1	40	50
26		South	6,340	80	20	2	1	40	50
27		East	11,390	80	20	2	1	40	50
28		West	13,760	80	20	2	1	45	50
29	Shady / Caldwell	North	360	80	20	2	1	25	50
30		South	780	80	20	2	1	25	50
31		East	12,520	80	20	2	1	40	50
32		West	12,500	80	20	2	1	40	50
33	Mooney / Caldwell	North	16,810	80	20	2	1	40	50
34		South	18,050	80	20	2	1	40	50

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 07 Ten Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	12,020	80	20	2	1	40	50
36		West	12,860	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,310	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	11,380	80	20	2	1	40	50
40		West	10,300	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,290	80	20	2	1	25	50
42		South	310	80	20	2	1	25	50
43		East	11,340	80	20	2	1	50	50
44		West	11,400	80	20	2	1	40	50
45	County Center / Cameron	North	7,060	80	20	2	1	40	50
46		South	4,540	80	20	2	1	40	50
47		East	3,860	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	17,290	80	20	2	1	40	50
50		South	16,800	80	20	2	1	45	50
51		East	8,190	80	20	2	1	40	50
52		West	5,180	80	20	2	1	40	50
53	Stonebrook / Cameron	North							
54		South	5,360	80	20	2	1	35	50
55		East	11,990	80	20	2	1	40	50
56		West	7,530	80	20	2	1	40	50
57	West / Cameron	North	2,540	80	20	2	1	35	50
58		South	630	80	20	2	1	35	50
59		East	8,220	80	20	2	1	45	50
60		West	10,750	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	13,380	80	20	2	1	50	50
62		South	12,730	80	20	2	1	50	50
63		East	9,920	80	20	2	1	45	50
64		West	8,850	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,280	80	20	2	1	25	50
66		South	140	80	20	2	1	25	50
67		East	8,910	80	20	2	1	40	50
68		West	10,330	80	20	2	1	45	50

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 07 Ten Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	4,570	80	20	2	1	40	50
70		South							
71		East	9,030	80	20	2	1	40	50
72		West	9,660	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South	90	80	20	2	1	25	50
75		East	9,010	80	20	2	1	40	50
76		West	8,940	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	1,600	80	20	2	1	25	50
78		South	4,570	80	20	2	1	25	50
79		East	10,440	80	20	2	1	40	50
80		West	8,950	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	670	80	20	2	1	25	50
82		South	1,630	80	20	2	1	25	50
83		East	11,090	80	20	2	1	40	50
84		West	10,350	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	16,490	80	20	2	1	45	50
86		South	18,780	80	20	2	1	45	50
87		East	8,270	80	20	2	1	40	50
88		West	10,380	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	5,090	80	20	2	1	35	50
90		South	110	80	20	2	1	35	50
91		East	260	80	20	2	1	40	50
92		West	5,240	80	20	2	1	40	50
93	Mooney / North Site Access	North	18,060	80	20	2	1	45	50
94		South	17,460	80	20	2	1	45	50
95		East							
96		West	1,920	80	20	2	1	25	50
97	Mooney / South Site Access	North	17,530	80	20	2	1	45	50
98		South	19,130	80	20	2	1	45	50
99		East							
100		West	3,560	80	20	2	1	25	50
101	Mooney / Midvalley	North	19,370	80	20	2	1	45	50
102		South	18,690	80	20	2	1	45	50

Appendix B-7
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 07 Ten Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	960	80	20	2	1	35	50
105	Demaree / Avenue 272	North	14,520	80	20	2	1	60	50
106		South	13,900	80	20	2	1	60	50
107		East	2,860	80	20	2	1	55	50
108		West	2,160	80	20	2	1	55	50
109	Mooney / Avenue 272	North	18,550	80	20	2	1	45	50
110		South	20,790	80	20	2	1	45	50
111		East	1,000	80	20	2	1	55	50
112		West	2,860	80	20	2	1	55	50
113	Mooney / Avenue 268	North	19,630	80	20	2	1	45	50
114		South	19,150	80	20	2	1	45	50
115		East	1,110	80	20	2	1	45	50
116		West	1,950	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-8
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 08 Twenty Year Cumulative No Project
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	9,330	80	20	2	1	40	50
2		South	8,380	80	20	2	1	40	50
3		East	9,480	80	20	2	1	40	50
4		West	12,290	80	20	2	1	40	50
5	Mooney / Whitendale	North	15,030	80	20	2	1	40	50
6		South	17,320	80	20	2	1	40	50
7		East	9,390	80	20	2	1	40	50
8		West	8,940	80	20	2	1	40	50
9	Mooney / Sunnyside	North	16,760	80	20	2	1	40	50
10		South	15,120	80	20	2	1	40	50
11		East	1,230	80	20	2	1	25	50
12		West	3,150	80	20	2	1	25	50
13	Mooney / Orchard	North	14,310	80	20	2	1	40	50
14		South	13,910	80	20	2	1	40	50
15		East	1,310	80	20	2	1	30	50
16		West	210	80	20	2	1	30	50
17	Demaree / Caldwell	North	14,840	80	20	2	1	45	50
18		South	13,840	80	20	2	1	45	50
19		East	13,200	80	20	2	1	45	50
20		West	15,040	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	15,590	80	20	2	1	45	50
24		West	15,600	80	20	2	1	45	50
25	County Center / Caldwell	North	7,110	80	20	2	1	40	50
26		South	6,270	80	20	2	1	40	50
27		East	10,910	80	20	2	1	40	50
28		West	13,350	80	20	2	1	45	50
29	Shady / Caldwell	North	360	80	20	2	1	25	50
30		South	780	80	20	2	1	25	50
31		East	12,430	80	20	2	1	40	50
32		West	12,410	80	20	2	1	40	50
33	Mooney / Caldwell	North	15,720	80	20	2	1	40	50
34		South	15,760	80	20	2	1	40	50

Appendix B-8
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 08 Twenty Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	11,830	80	20	2	1	40	50
36		West	12,510	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,260	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	10,930	80	20	2	1	40	50
40		West	9,760	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,790	80	20	2	1	25	50
42		South	4,070	80	20	2	1	25	50
43		East	14,640	80	20	2	1	50	50
44		West	12,620	80	20	2	1	40	50
45	County Center / Cameron	North	6,780	80	20	2	1	40	50
46		South	4,280	80	20	2	1	40	50
47		East	3,800	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	15,180	80	20	2	1	40	50
50		South	14,090	80	20	2	1	45	50
51		East	7,970	80	20	2	1	40	50
52		West	5,160	80	20	2	1	40	50
53	Stonebrook / Cameron	North	3,630	80	20	2	1	35	50
54		South	7,750	80	20	2	1	35	50
55		East	12,490	80	20	2	1	40	50
56		West	8,990	80	20	2	1	40	50
57	West / Cameron	North	2,670	80	20	2	1	35	50
58		South	680	80	20	2	1	35	50
59		East	7,880	80	20	2	1	45	50
60		West	10,450	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	13,400	80	20	2	1	50	50
62		South	12,840	80	20	2	1	50	50
63		East	9,640	80	20	2	1	45	50
64		West	8,860	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,210	80	20	2	1	25	50
66		South	120	80	20	2	1	25	50
67		East	8,350	80	20	2	1	40	50
68		West	9,860	80	20	2	1	45	50

Appendix B-8
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 08 Twenty Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	4,290	80	20	2	1	40	50
70		South							
71		East	8,150	80	20	2	1	40	50
72		West	9,160	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South							
75		East	7,840	80	20	2	1	40	50
76		West	7,840	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	700	80	20	2	1	25	50
78		South							
79		East	7,480	80	20	2	1	40	50
80		West	7,780	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	1,570	80	20	2	1	25	50
82		South							
83		East	7,660	80	20	2	1	40	50
84		West	7,370	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	13,940	80	20	2	1	45	50
86		South	18,630	80	20	2	1	45	50
87		East	8,490	80	20	2	1	40	50
88		West	7,000	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	7,430	80	20	2	1	35	50
90		South							
91		East	6,030	80	20	2	1	40	50
92		West	9,320	80	20	2	1	40	50
93	Mooney / North Site Access	North	17,330	80	20	2	1	45	50
94		South	17,330	80	20	2	1	45	50
95		East							
96		West							
97	Mooney / South Site Access	North	17,330	80	20	2	1	45	50
98		South	17,330	80	20	2	1	45	50
99		East							
100		West							
101	Mooney / Midvalley	North	17,440	80	20	2	1	45	50
102		South	16,890	80	20	2	1	45	50

Appendix B-8
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 08 Twenty Year Cumulative No Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	830	80	20	2	1	35	50
105	Demaree / Avenue 272	North	14,900	80	20	2	1	60	50
106		South	14,190	80	20	2	1	60	50
107		East	2,960	80	20	2	1	55	50
108		West	2,290	80	20	2	1	55	50
109	Mooney / Avenue 272	North	16,780	80	20	2	1	45	50
110		South	19,270	80	20	2	1	45	50
111		East	1,100	80	20	2	1	55	50
112		West	3,010	80	20	2	1	55	50
113	Mooney / Avenue 268	North	17,930	80	20	2	1	45	50
114		South	17,430	80	20	2	1	45	50
115		East	1,160	80	20	2	1	45	50
116		West	2,020	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Appendix B-9
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 09 Twenty Year Cumulative with Project
Model Run Date: 11/5/2019

Segment	Intersection	Direction	ADT	Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
1	County Center / Whitendale	North	9,330	80	20	2	1	40	50
2		South	8,380	80	20	2	1	40	50
3		East	9,610	80	20	2	1	40	50
4		West	12,420	80	20	2	1	40	50
5	Mooney / Whitendale	North	16,020	80	20	2	1	40	50
6		South	18,620	80	20	2	1	40	50
7		East	9,560	80	20	2	1	40	50
8		West	9,080	80	20	2	1	40	50
9	Mooney / Sunnyside	North	18,070	80	20	2	1	40	50
10		South	16,490	80	20	2	1	40	50
11		East	1,260	80	20	2	1	25	50
12		West	3,180	80	20	2	1	25	50
13	Mooney / Orchard	North	15,690	80	20	2	1	40	50
14		South	15,430	80	20	2	1	40	50
15		East	1,380	80	20	2	1	30	50
16		West	280	80	20	2	1	30	50
17	Demaree / Caldwell	North	14,950	80	20	2	1	45	50
18		South	14,050	80	20	2	1	45	50
19		East	13,800	80	20	2	1	45	50
20		West	15,740	80	20	2	1	45	50
21	Dans / Caldwell	North	860	80	20	2	1	25	50
22		South	2,410	80	20	2	1	25	50
23		East	16,190	80	20	2	1	45	50
24		West	16,200	80	20	2	1	45	50
25	County Center / Caldwell	North	7,600	80	20	2	1	40	50
26		South	6,700	80	20	2	1	40	50
27		East	11,560	80	20	2	1	40	50
28		West	13,940	80	20	2	1	45	50
29	Shady / Caldwell	North	360	80	20	2	1	25	50
30		South	780	80	20	2	1	25	50
31		East	13,080	80	20	2	1	40	50
32		West	13,060	80	20	2	1	40	50
33	Mooney / Caldwell	North	17,230	80	20	2	1	40	50
34		South	18,500	80	20	2	1	40	50

Appendix B-9
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 09 Twenty Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
35		East	12,400	80	20	2	1	40	50
36		West	13,170	80	20	2	1	40	50
37	Fairway / Caldwell	North	2,330	80	20	2	1	30	50
38		South	1,790	80	20	2	1	30	50
39		East	11,420	80	20	2	1	40	50
40		West	10,320	80	20	2	1	40	50
41	Stonebrook / Caldwell	North	1,860	80	20	2	1	25	50
42		South	4,070	80	20	2	1	25	50
43		East	15,060	80	20	2	1	50	50
44		West	13,110	80	20	2	1	40	50
45	County Center / Cameron	North	7,260	80	20	2	1	40	50
46		South	4,800	80	20	2	1	40	50
47		East	3,840	80	20	2	1	40	50
48		West							
49	Mooney / Cameron	North	17,930	80	20	2	1	40	50
50		South	17,500	80	20	2	1	45	50
51		East	8,400	80	20	2	1	40	50
52		West	5,390	80	20	2	1	40	50
53	Stonebrook / Cameron	North	3,630	80	20	2	1	35	50
54		South	8,120	80	20	2	1	35	50
55		East	13,300	80	20	2	1	40	50
56		West	9,430	80	20	2	1	40	50
57	West / Cameron	North	2,880	80	20	2	1	35	50
58		South	710	80	20	2	1	35	50
59		East	8,430	80	20	2	1	45	50
60		West	11,240	80	20	2	1	45	50
61	Demaree / Visalia Parkway	North	13,610	80	20	2	1	50	50
62		South	12,960	80	20	2	1	50	50
63		East	10,200	80	20	2	1	45	50
64		West	9,090	80	20	2	1	45	50
65	Dans / Visalia Parkway	North	4,280	80	20	2	1	25	50
66		South	140	80	20	2	1	25	50
67		East	9,000	80	20	2	1	40	50
68		West	10,420	80	20	2	1	45	50

Appendix B-9
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 09 Twenty Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
69	County Center / Visalia Parkway	North	4,850	80	20	2	1	40	50
70		South							
71		East	9,360	80	20	2	1	40	50
72		West	9,810	80	20	2	1	40	50
73	Outlet 1 Access / Visalia Parkway	North							
74		South	90	80	20	2	1	25	50
75		East	9,120	80	20	2	1	40	50
76		West	9,050	80	20	2	1	40	50
77	Main Site Access / Visalia Parkway	North	1,020	80	20	2	1	25	50
78		South	5,150	80	20	2	1	25	50
79		East	10,560	80	20	2	1	40	50
80		West	9,070	80	20	2	1	40	50
81	East Site Access / Visalia Parkway	North	1,570	80	20	2	1	25	50
82		South	1,630	80	20	2	1	25	50
83		East	11,160	80	20	2	1	40	50
84		West	10,160	80	20	2	1	40	50
85	Mooney / Visalia Parkway	North	17,340	80	20	2	1	45	50
86		South	19,900	80	20	2	1	45	50
87		East	8,840	80	20	2	1	40	50
88		West	10,620	80	20	2	1	40	50
89	Stonebrook / Visalia Parkway	North	7,800	80	20	2	1	35	50
90		South							
91		East	6,030	80	20	2	1	40	50
92		West	9,690	80	20	2	1	40	50
93	Mooney / North Site Access	North	18,610	80	20	2	1	45	50
94		South	18,010	80	20	2	1	45	50
95		East							
96		West	1,920	80	20	2	1	25	50
97	Mooney / South Site Access	North	18,080	80	20	2	1	45	50
98		South	19,680	80	20	2	1	45	50
99		East							
100		West	3,560	80	20	2	1	25	50
101	Mooney / Midvalley	North	19,860	80	20	2	1	45	50
102		South	19,180	80	20	2	1	45	50

Appendix B-9
FHWA Highway Traffic Noise Prediction Model Data Inputs
Visalia Parkway S. Mooney Retail Development
File Name: 2019-195 09 Twenty Year Cumulative with Project
Model Run Date: 11/5/2019

Segment		Direction		Day %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance
103		East	280	80	20	2	1	35	50
104		West	960	80	20	2	1	35	50
105	Demaree / Avenue 272	North	15,010	80	20	2	1	60	50
106		South	14,300	80	20	2	1	60	50
107		East	3,030	80	20	2	1	55	50
108		West	2,360	80	20	2	1	55	50
109	Mooney / Avenue 272	North	19,070	80	20	2	1	45	50
110		South	21,490	80	20	2	1	45	50
111		East	1,100	80	20	2	1	55	50
112		West	3,080	80	20	2	1	55	50
113	Mooney / Avenue 268	North	20,150	80	20	2	1	45	50
114		South	19,650	80	20	2	1	45	50
115		East	1,160	80	20	2	1	45	50
116		West	2,020	80	20	2	1	45	50

Note: Blank cells represent roadways for which no traffic data was provided.

Legend

- A LT-1: 36°17'18.52"N, 119°18'55.00"W
- B LT-1: 36°17'18.52"N, 119°18'55.00"W
- C LT-2: 36°17'25.55"N, 119°19'5.15"W
- D LT-2: 36°17'25.55"N, 119°19'5.15"W

Note: Long-term noise surveys completed on September 26, 2019.

Visalia Parkway & S. Mooney Boulevard
Retail Development
Visalia, California

Photographs of Long-Term
Noise Survey Locations

Appendix C-1

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Legend

A ST: 36°17'19.22"N, 119°19'4.26"W

B ST: 36°17'19.22"N, 119°19'4.26"W

C V-2: 36°17'27.81"N, 119°19'4.64"W

D V-3: 36°17'19.49"N, 119°19'4.75"W

Note: Short-term noise and vibration surveys completed on September 25, 2019.

Visalia Parkway & S. Mooney Boulevard
Retail Development
Visalia, California

Photographs of Short-Term
Noise & Vibration Survey Locations

Appendix C-2

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Appendix D-1
Ambient Noise Monitoring Results
Visalia Parkway & S. Mooney Boulevard Retail Development - Visalia, California - LT-1
Thursday, September 26, 2019

Hour	Leq	Lmax	L50	L90
12:00 AM	56	84	50	45
1:00 AM	49	65	43	38
2:00 AM	49	65	41	38
3:00 AM	51	68	43	39
4:00 AM	51	63	48	41
5:00 AM	55	66	52	46
6:00 AM	55	66	55	50
7:00 AM	57	70	57	53
8:00 AM	53	66	52	49
9:00 AM	50	60	49	46
10:00 AM	51	65	48	44
11:00 AM	50	64	48	44
12:00 PM	48	56	47	43
1:00 PM	50	66	48	44
2:00 PM	49	57	48	46
3:00 PM	49	68	48	46
4:00 PM	51	70	49	47
5:00 PM	50	63	49	47
6:00 PM	54	68	52	49
7:00 PM	57	69	56	51
8:00 PM	57	68	56	51
9:00 PM	55	73	54	49
10:00 PM	54	78	51	45
11:00 PM	50	66	47	42

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	57	48	53	56	49	53
Lmax (Maximum)	73	56	66	84	63	69
L50 (Median)	57	47	51	55	41	48
L90 (Background)	53	43	47	50	38	43

Computed Ldn, dB	59
% Daytime Energy	65%
% Nighttime Energy	35%

GPS Coordinates	36°17'18.52"N
	119°18'55.00"W

BOLLARD
Acoustical Consultants

Appendix D-2
Ambient Noise Monitoring Results
Visalia Parkway & S. Mooney Boulevard Retail Development - Visalia, California - LT-2
Thursday, September 26, 2019

Hour	Leq	Lmax	L50	L90
12:00 AM	49	72	46	41
1:00 AM	43	58	40	35
2:00 AM	42	57	38	34
3:00 AM	44	60	40	37
4:00 AM	48	59	45	39
5:00 AM	50	60	49	44
6:00 AM	54	74	53	49
7:00 AM	57	69	56	54
8:00 AM	53	65	52	49
9:00 AM	47	54	46	44
10:00 AM	47	64	45	42
11:00 AM	45	53	44	42
12:00 PM	45	56	44	41
1:00 PM	48	65	45	41
2:00 PM	47	55	45	40
3:00 PM	51	62	50	41
4:00 PM	52	63	51	44
5:00 PM	51	62	50	44
6:00 PM	50	65	48	43
7:00 PM	50	61	49	46
8:00 PM	49	63	48	44
9:00 PM	47	58	45	41
10:00 PM	45	61	42	39
11:00 PM	45	61	43	38

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	57	45	51	54	42	48
Lmax (Maximum)	69	53	61	74	57	62
L50 (Median)	56	44	48	53	38	44
L90 (Background)	54	40	44	49	34	40

Computed Ldn, dB	55
% Daytime Energy	74%
% Nighttime Energy	26%

GPS Coordinates	36°17'18.52"N
	119°18'55.00"W

BOLLARD
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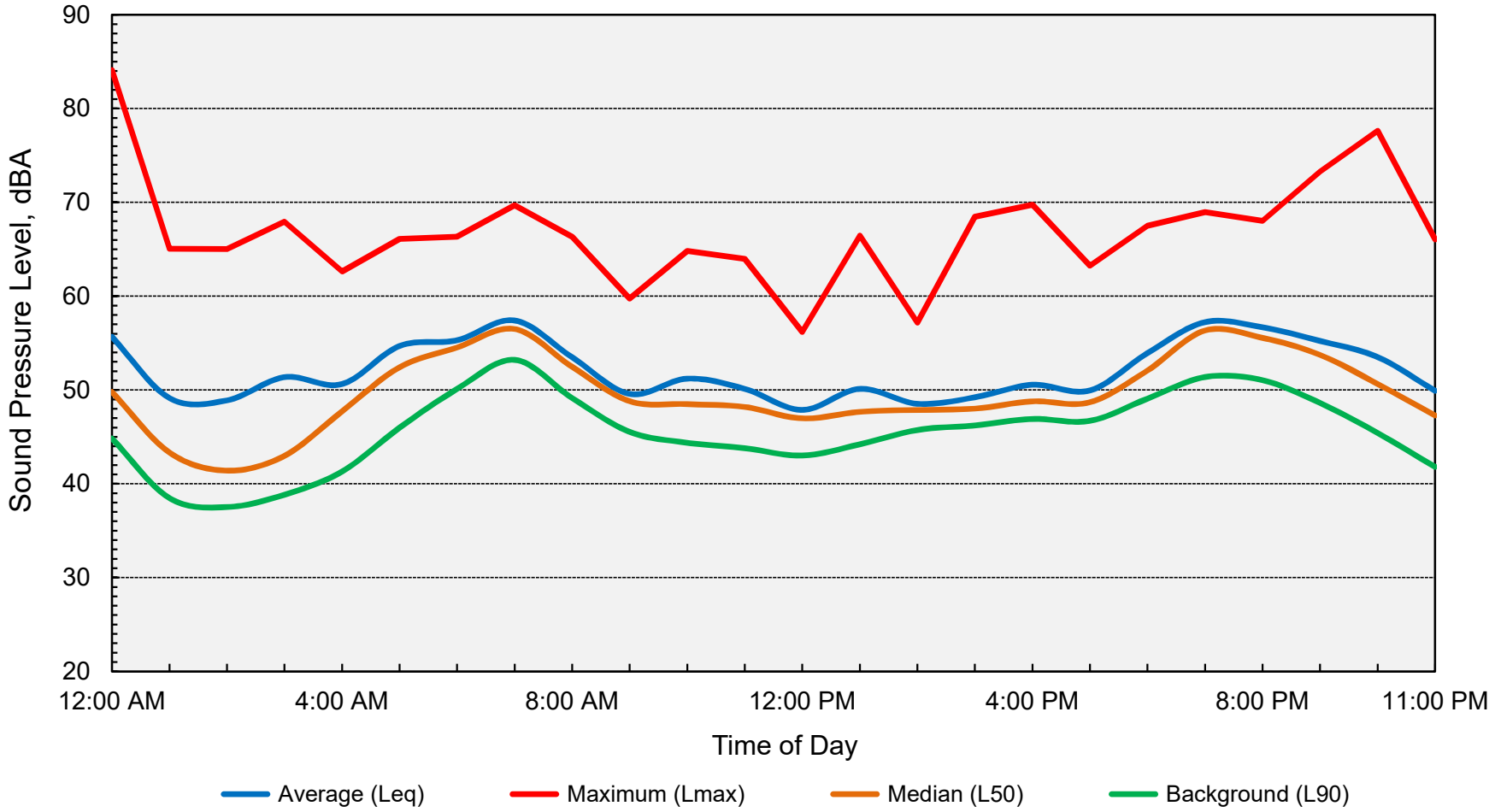
Appendix E-1
Ambient Noise Monitoring Results
Visalia Parkway & S. Mooney Boulevard Retail Development - Visalia, California - LT-1
Thursday, September 26, 2019



Computed Ldn = 59 dB

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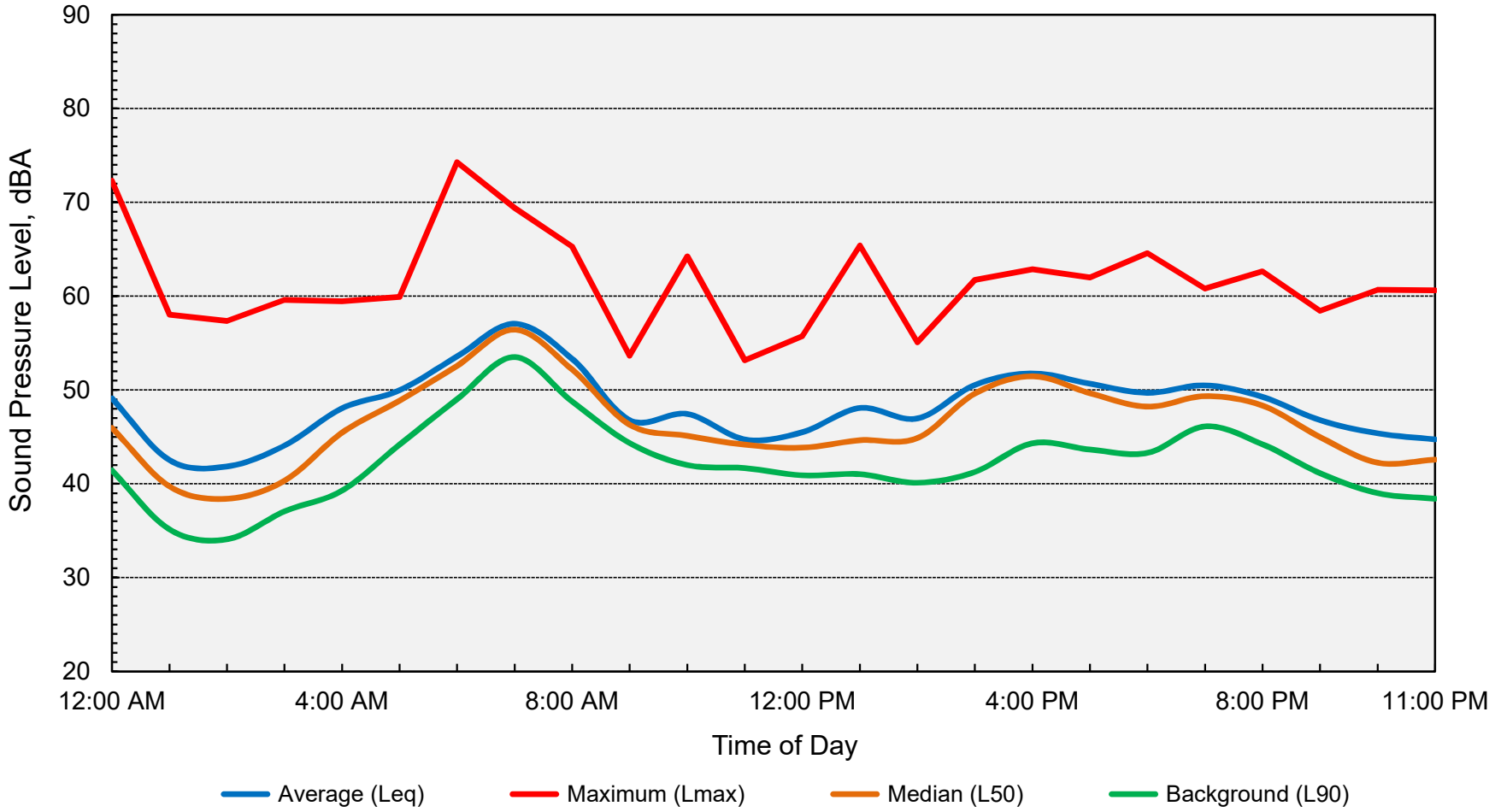
Appendix E-2
Ambient Noise Monitoring Results
Visalia Parkway & S. Mooney Boulevard Retail Development - Visalia, California - LT-2
Thursday, September 26, 2019



Computed Ldn = 55 dB

BOLLARD
Acoustical Consultants