

## 4.13 NOISE AND VIBRATION

This section is intended to satisfy the requirements of the City of Menifee (City) and County of Riverside (County) for a noise and vibration impact analysis by examining the construction and operational noise and vibration impacts of the Project on sensitive uses adjacent to the proposed Project area and by evaluating the effectiveness of mitigation measures.

### 4.13.1 Scoping

The City received 10 comment letters during the public review period of the Notice of Preparation (NOP). For copies of the NOP comment letters, refer to **Appendix A** of this Draft EIR. No comment letter(s) included comments related to noise and vibration.

### 4.13.2 Methodology

The evaluation of noise and vibration impacts associated with the proposed Project includes the following:

- Determination of construction noise impacts on off-site noise-sensitive uses based on the comparison of the City's Municipal Code and the County Code for the Project and the Project-related ambient noise level increase
- Determination of operational traffic noise impacts on off-site noise-sensitive uses based on the comparison of the noise standards in the City's General Plan Noise Element, the County's General Plan Noise Element, and the Project-related ambient noise level increase
- Determination of the construction and operational vibration impacts on off-site building structures and comparison of the building damage and/or human annoyance criteria recommended by the Federal Transit Administration (FTA)
- Determination of the required mitigation measures to reduce construction and operational noise and vibration impacts from all sources

### 4.13.3 Existing Setting

#### 4.13.3.1 Existing Noise Environment

The primary existing noise sources in the Project area are transportation facilities. Traffic on State Route 74 (SR-74), Menifee Road, Briggs Road, and other local streets contributes to the ambient noise levels in the Project vicinity. Noise from motor vehicles is generated by engines, the interaction between the tires and the road, and the vehicles' exhaust systems. Other noise sources include activities from Heritage High School, Heritage Lake Sports Park, and the Southern California Edison Menifee Service Center.

#### 4.13.3.2 Land Uses in the Project Vicinity

Land uses adjacent to the Project site include the following uses:

- **Northwest:** South California Edison Menifee Service Center in Menifee
- **North:** Vacant land in Menifee

- **Northeast:** Heritage High School in Menifee
- **East:** Single-family residences and vacant land in Riverside County
- **South:** Single-family residences and the Heritage Lake Sports Park in Menifee
- **West:** Southern California Edison Valley Substation in Menifee

#### 4.13.3.3 Ambient Noise Measurements

Short-term and long-term noise level measurements were conducted at adjacent land uses surrounding the Project site to document the existing noise environment in order to determine noise increase from the Project. Details of the short-term and long-term ambient noise level measurements are provided below.

**Short-Term Noise Measurements.** Short-term (20-minute) noise level measurements were conducted on October 26 and October 27, 2022, using a Larson Davis Model 831 Type 1 sound level meter. **Table 4.13.A** shows the results of the short-term noise level measurements along with a description of the measurement locations and noise sources that occurred during the measurements. As shown in **Table 4.13.A**, the measured average noise levels in the Project vicinity range from 40.0 to 48.8 A-weighted decibels of equivalent continuous sound level (dBA  $L_{eq}$ ). Short-term noise level measurement survey sheets are provided in the **Appendix I** of this EIR. **Figure 4.13-1** shows the short-term monitoring locations.

**Long-Term Noise Measurements.** The long-term (24-hour) noise level measurements were conducted from October 26 to October 27, 2022, using six Larson Davis Spark 703+ and 706RC Dosimeters. **Table 4.13.B** summarizes the results of the long-term noise level measurements along with a description of the measurement locations and noise sources that occurred during the measurements. As shown in **Table 4.13.B**, the calculated CNEL noise levels range from 51.3 to 76.9 dBA. The hourly  $L_{eq}$  results from the long-term noise level measurements are provided in **Appendix I** of this EIR. **Figure 4.13-1** shows the long-term monitoring locations.

#### 4.13.3.4 Existing Aircraft Noise

The nearest airport to the Project site is the Perris Valley Airport, which is located 3.8 miles northwest of the Project site. Based on the *Riverside County Airport Land Use Compatibility Plan*<sup>1</sup>, the Project site is located outside the 55 CNEL noise contours of the Perris Valley Airport. Additionally, there is a private helicopter pad located northwest of the Project site at the Southern California Edison Menifee Service Center.

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<sup>1</sup> Riverside County Airport Land Use Commission (ALUC). 2004. *Riverside County Airport Land Use Compatibility Plan*. October. Website: <https://rcaluc.org/riverside-county-airport-land-use-compatibility-plan> (accessed October 2023).

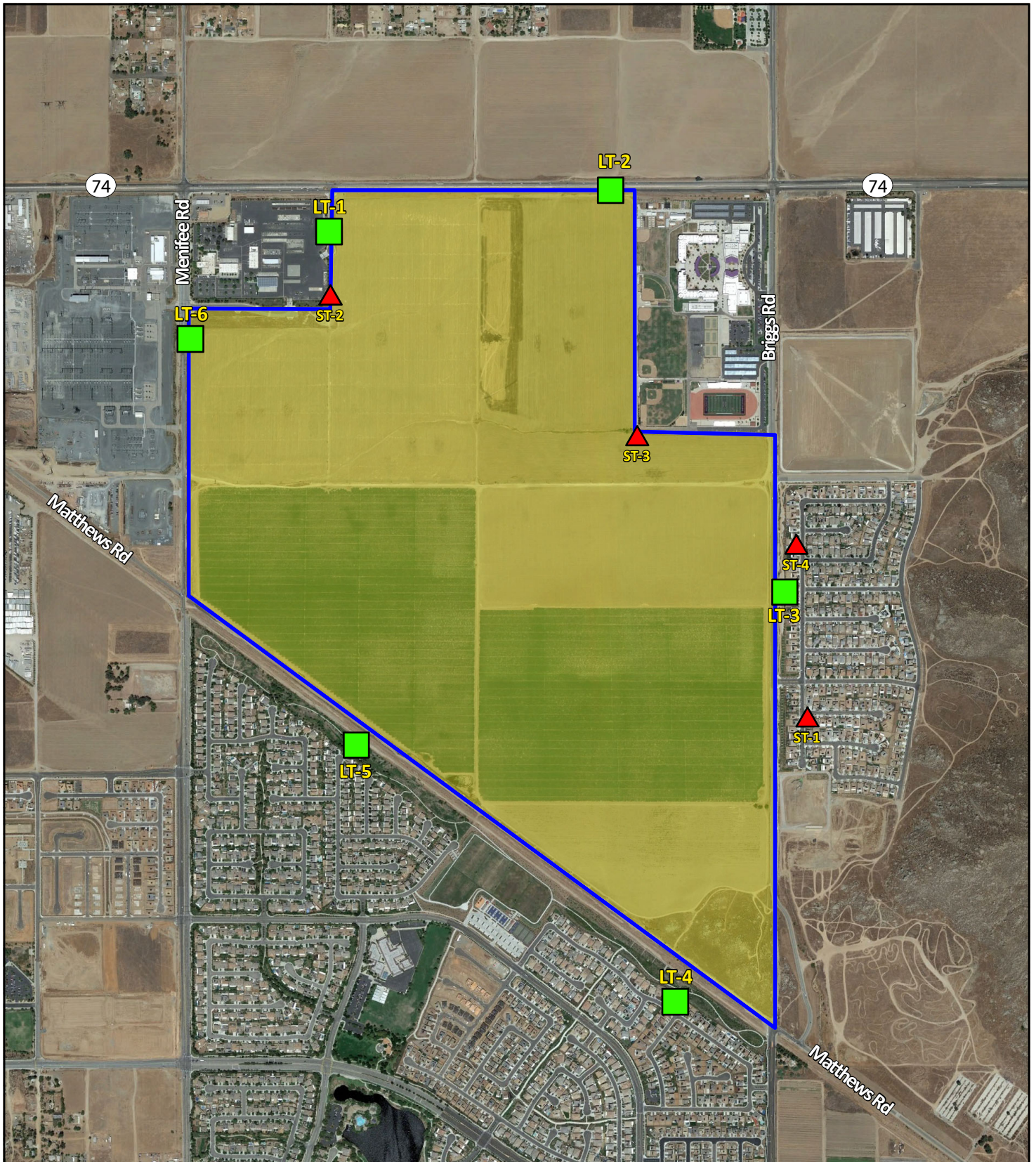
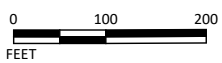


FIGURE 4.13-1

LSA

LEGEND

- Project Site Boundary
- Short-Term Noise Monitoring Location
- Long-Term Noise Monitoring Location



SOURCE: Google Earth 2021

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Menifee Valley Specific Plan  
Noise Monitoring Locations

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**Table 4.13.A: Short-Term Ambient Noise Level Measurements**

Monitor No.	Location	Start Time	Noise Level (dBA)			Noise Source(s)
			Leq	Lmax	Lmin	
ST-1	East of the Project site. On the sidewalk in front of a residence at 26899 Mountaingate Street.	11:52 AM	48.8	68.5	31.9	Traffic on Briggs Road and Mountaingate Street. Residences have a 6 ft high property wall along Briggs Road. Residences and property walls are higher in elevation than Briggs Road.
ST-2	Located at the northwest corner of the Project site near the Southern California Edison Menifee Service Center.	1:57 AM	46.8	58.9	39.2	Traffic on Menifee Road. Faint noise from truck loading and unloading activity at the Southern California Edison Menifee Service Center.
ST-3	Located at the northeastern corner of the Project site near Heritage High School's southern baseball field.	12:36 PM	40.0	70.0	35.3	Landscaping activity at the school near the parking spaces at the southern boundary.
ST-4	East of the Project site in the backyard of 26599 Mountaingate Street.	1:17 PM	48.3	62.4	32.2	Traffic on Briggs Road. Residences have a 5 ft high property wall along Briggs Road. Residences and property walls are slightly higher in elevation than Briggs Road.

Source: Compiled by LSA (2022).

Note: Short-term (20-minute) ambient noise level measurements were conducted on October 26 and October 27, 2022.

dBA = A-weighted decibels

L<sub>max</sub> = maximum measured sound level

ft = feet

L<sub>min</sub> = minimum measured sound level

L<sub>eq</sub> = equivalent continuous sound level

**Table 4.13.B: Long-Term Ambient Noise Monitoring Results**

Monitoring No.	Location	Noise Level (dBA)				CNEL	Noise Source(s)
		Daytime		Nighttime			
		Leq	Lmax	Leq	Lmax		
LT-1	Northwestern corner of the Project site. On a light pole on the south end of McKinley near the entrance to the Southern California Edison Menifee Service Center. Approximately 27 ft from the centerline of McKinley.	54.5-66.9	72.0-82.3	48.6-63.7	67.0-77.6	65.8	Traffic on SR-74.
LT-2	Northeastern corner of the Project site along SR-74. On a powerline pole near Heritage High School. Approximately 94 ft from the centerline of SR-74.	68.4-71.9	79.4-87.6	63.9-72.2	80.6-84.5	75.9	Traffic on SR-74.
LT-3	East of the Project site along Briggs Road. On a power line pole west of the residence at 26671 Mountaingate Street. Approximately 48 ft from the centerline of Briggs Road.	58.5-67.9	75.1-82.8	44.0-64.2	66.8-77.6	66.3	Traffic on Briggs Road.
LT-4	Southeastern corner of the Project site. On a light pole in front of a residence at 29704 Olympic Drive. Approximately 25 ft from the centerline of Olympic Drive.	47.1-61.4	63.1-83.2	37.2-48.1	53.4-68.6	54.7	Traffic on Olympic Drive.
LT-5	Southwestern corner of the Project site. On a tree in the meandering walkway near the residence at 26955 Back Bay Drive.	43.5-57.6	57.0-69.4	34.4-47.1	47.8-60.6	51.3	Landscaping activity. Agricultural activity north of Case Road.
LT-6	Western edge of the Project site along Menifee Road. On a powerline pole near the entrance to the Southern California Edison Menifee Service Center. Approximately 45 ft from the centerline of Menifee Road.	71.6-75.7	85.9-91.1	63.4-73.6	82.4-89.4	76.9	Traffic on Menifee Road.

Source: Compiled by LSA (2022).

Note: Long-term (24-hour) noise level measurements were conducted from October 26 to October 27, 2022.

dBA = A-weighted decibels

ft = feet

L<sub>max</sub> = maximum instantaneous noise level

CNEL = Community Noise Equivalent Level

L<sub>eq</sub> = equivalent continuous sound level

SR-74 = State Route 74

#### 4.13.3.5 Existing Traffic Noise

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108)<sup>2</sup> was used to evaluate traffic-related noise conditions along roadway segments in the Project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resulting noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The existing average daily traffic (ADT) volumes were obtained from the Menifee Valley Specific Plan Project Traffic Study<sup>3</sup>. A standard vehicle mix for Southern California roadways was used for passenger automotive vehicles on roadways and a truck mix from Caltrans was used for trucks on SR-74 in the Project vicinity.

**Table 4.13.C** lists the existing traffic noise levels on roadways in the Project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in **Appendix I** of this EIR.

#### 4.13.4 Regulatory Setting

##### 4.13.4.1 Federal Guidelines

**Federal Transit Administration.** Vibration standards included in the FTA *Transit Noise and Vibration Impact Assessment Manual*<sup>4</sup> were used in this analysis because the City exempts vibration levels generated from construction activities and the County does not have vibration standards. **Table 4.13.D** provides the criteria for assessing the potential for interference or annoyance from vibration levels in a building, while **Table 4.13.E** lists the potential vibration building damage criteria associated with construction activities.

##### 4.13.4.2 Local Regulations

The applicable local regulations for land uses north, south, and west of the Project site are the City's General Plan Noise Element and City's Municipal Code because they are located in Menifee. The applicable local regulations for land uses east of the Project site are the County's General Plan Noise Element and County Code because they are located in Riverside County.

#### City of Menifee.

**General Plan Noise Element.** The Noise Element of the City's General Plan<sup>5</sup> lists the Goals and Policies required to meet the City's noise-related goals. The following lists the applicable goals and policies for the Project.

<sup>2</sup> Federal Highway Administration (FHWA). 1977. Highway Traffic Noise Prediction Model, FHWA RD-77-108.

<sup>3</sup> LSA Associates, Inc. 2022. *Menifee Valley Specific Plan Project Traffic Study*. November.

<sup>4</sup> Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. September. Website: [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf) (accessed October 2023).

<sup>5</sup> City of Menifee. *General Plan Noise Element*. Website: <https://www.cityofmenifee.us/901/Noise-Element> (accessed October 2023).

**Table 4.13.C: Existing (2022) Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Central Avenue (SR-74) between I-15 NB Ramps and Dexter Avenue	58,940	198	420	901	75.6
Central Avenue (SR-74) between Dexter Avenue and Cambern Avenue	41,510	162	334	714	73.7
Central Avenue (SR-74) between Cambern Avenue and Conard Avenue	42,290	158	336	723	75.0
Central Avenue (SR-74) between Conard Avenue and El Toro Cut Off Road	37,930	148	313	672	74.2
SR-74 between El Toro Cut Off Road and Riverside Street	37,430	146	310	666	74.7
SR-74 between Riverside Street and Wasson Canyon Road	32,580	133	283	608	74.1
SR-74 between Wasson Canyon Road and Meadowbrook Avenue - Greenwald Avenue	32,920	134	285	612	74.1
SR-74 between Meadowbrook Avenue - Greenwald Avenue and River Road	28,580	122	259	557	73.5
SR-74 between River Road and Ellis Avenue	28,990	123	262	562	73.6
SR-74 between Ellis Avenue and Navajo Road	29,550	125	265	569	73.7
4th Street (SR-74) between Navajo Road and A Street	40,930	154	329	707	75.1
4th Street (SR-74) between A Street and C Street	35,690	141	300	646	74.5
4th Street (SR-74) between C Street and D Street	26,050	115	244	524	73.1
4th Street (SR-74) between D Street and Perris Boulevard	23,620	108	229	490	72.7
4th Street (SR-74) between Perris Boulevard and G Street	19,710	97	203	435	71.9
4th Street (SR-74) between G Street and Wilkerson Avenue	19,830	97	204	437	71.9
4th Street (SR-74) between Wilkerson Avenue and Redlands Avenue	21,850	103	217	466	72.3
SR-74 between I-215 NB Ramps and Trumble Road	34,670	157	336	721	75.2
SR-74 between Trumble Road and Sherman Road (West)	27,230	134	286	614	74.1
SR-74 between Sherman Road (West) and Sherman Road (East)	27,580	136	288	619	74.2
SR-74 between Sherman Road (East) and Antelope Road	29,660	142	303	650	74.5
SR-74 between Antelope Road and Palomar Road	27,990	137	291	625	74.3
SR-74 between Palomar Road and Menifee Road	26,550	132	281	604	74.0
SR-74 between Menifee Road and McKinley	30,430	144	308	661	74.6
SR-74 between McKinley and Malaga Road - Project Driveway 2	30,480	145	308	662	74.6
SR-74 between Malaga Road - Project Driveway 2 and Project Driveway 3	30,520	145	308	663	74.6
SR-74 between Project Driveway 3 and Briggs Road	30,520	145	308	663	74.6
SR-74 between Briggs Road and Juniper Flats Road	30,830	146	310	667	74.7
SR-74 between Juniper Flats Road and Vista Place - Winchester Road (SR-79)	27,540	135	288	619	74.2
Florida Avenue (SR-74/SR-79) between Vista Place - Winchester Road (SR-79) and Warren Road	37,270	107	226	485	72.6
Florida Avenue (SR-74/SR-79) between Warren Road and Cawston Avenue	24,060	82	170	362	70.7
Florida Avenue (SR-74/SR-79) between Cawston Avenue and Sanderson Avenue	20,410	74	152	325	70.0
Florida Avenue (SR-74/SR-79) between Sanderson Avenue and Kirby Street	25,720	85	177	379	71.0
Florida Avenue (SR-74/SR-79) between Kirby Street and Lyon Avenue	27,430	88	185	395	71.3
Florida Avenue (SR-74/SR-79) between Lyon Avenue and Palm Avenue	28,560	91	190	406	71.4
Florida Avenue (SR-74/SR-79) between Palm Avenue and State Street	28,150	90	188	402	71.4

**Table 4.13.C: Existing (2022) Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Florida Avenue (SR-74/SR-79) between State Street and Buena Vista Street	25,710	85	177	379	71.0
Florida Avenue (SR-74/SR-79) between Buena Vista Street and Santa Fe Street	25,640	85	177	378	71.0
Florida Avenue (SR-74/SR-79) between Santa Fe Street and San Jacinto Street (SR-79)	24,460	82	171	366	70.8
Redlands Avenue between 4th Street (SR-74) and I-215 SB Ramps	28,680	< 50	102	215	67.3
Nuevo Road between Dunlap Drive and Menifee Road	10,890	< 50	79	170	67.3
Ethanac Road between Goetz Road and Murrieta Road	14,910	< 50	100	210	67.1
Ethanac Road between Murrieta Road and Barnett Road	18,320	57	114	240	68.0
Ethanac Road between Barnett Road and Case Road	20,440	60	122	258	68.5
Ethanac Road between Case Road and I-215 SB Ramps	27,340	71	147	313	69.7
Ethanac Road between I-215 NB Ramps and Encanto Drive	16,340	< 50	103	222	68.7
Ethanac Road between Encanto Drive and Sherman Road	14,980	< 50	98	210	68.6
Ethanac Road between Sherman Road and Dawson Road	6,740	< 50	57	123	65.2
Ethanac Road between Dawson Road and Antelope Road	5,740	< 50	52	111	64.5
Matthews Road between Antelope Road and Palomar Road	5,520	< 50	60	129	65.5
Matthews Road between Palomar Road and Menifee Road	2,560	< 50	< 50	77	62.1
Case Road between Briggs Road (West) and Briggs Road (East)	6,330	< 50	< 50	78	62.2
McCall Boulevard between Murrieta Road and Sun City Boulevard	13,300	< 50	66	131	63.6
McCall Boulevard between Sun City Boulevard and Bradley Road	18,080	< 50	78	160	64.9
McCall Boulevard between Bradley Road and I-215 SB Ramps	29,380	< 50	105	219	67.1
McCall Boulevard between I-215 NB Ramps and Encanto Drive	32,960	80	166	355	70.6
McCall Boulevard between Encanto Drive and Sherman Road	25,330	68	140	298	69.4
McCall Boulevard between Sherman Road and Antelope Road	21,000	61	124	263	68.6
McCall Boulevard between Antelope Road and Junipero Road	19,680	< 50	77	166	67.1
McCall Boulevard between Junipero Road and Menifee Road	17,850	< 50	73	156	66.7
McCall Boulevard between Menifee Road and Heritage Lake Drive (West)	10,930	< 50	76	145	63.6
McCall Boulevard between Heritage Lake Drive (West) and Heritage Lake Drive (East)	6,450	< 50	< 50	106	61.3
McCall Boulevard between Heritage Lake Drive (East) and Briggs Road	4,570	< 50	< 50	87	59.8
Simpson Road between Menifee Road and Lindenberger Road	7,560	< 50	66	135	64.2
Simpson Road between Lindenberger Road and Briggs Road	7,670	< 50	64	135	65.0
Newport Road between Goetz Road and Berea Road - Murphy Ranch Road	33,100	114	234	498	71.9
Newport Road between Berea Road - Murphy Ranch Road and Murrieta Road	41,210	130	270	576	72.9
Newport Road between Murrieta Road and Evans Road	37,840	88	182	389	70.8
Newport Road between Evans Road and Bradley Road	41,720	97	196	415	70.7
Newport Road between Bradley Road and Avenida De Cortez - Town Center Drive	50,310	108	221	470	71.5
Newport Road between Avenida De Cortez - Town Center Drive and Haun Road	53,200	112	229	488	71.8
Newport Road between Haun Road and I-215 SB Ramps	71,930	134	279	596	73.1
Newport Road between I-215 NB Ramps and Antelope Road	74,580	140	287	611	72.8
Newport Road between Antelope Road and Menifee Road	56,390	114	237	507	72.3
Ramona Expressway between Warren Road and Sanderson Avenue (SR-79) - Sanderson Avenue	26,600	126	267	573	73.7
Sherman Road between SR-74 and Ethanac Road	5,520	< 50	< 50	72	61.6
Palomar Road between SR-74 and Matthews Road	2,630	< 50	< 50	67	60.3

**Table 4.13.C: Existing (2022) Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Menifee Road between Nuevo Road and Central Avenue/Porter Street	8,670	< 50	95	204	68.5
Menifee Road between Central Avenue/Porter Street and San Jacinto Avenue	9,530	< 50	102	218	67.9
Menifee Road between San Jacinto Avenue and Ellis Avenue	8,710	< 50	95	205	68.5
Menifee Road between Ellis Avenue and Mapes Road	9,080	< 50	98	211	68.7
Menifee Road between Mapes Road and Watson Road	7,020	< 50	83	177	67.5
Menifee Road between Watson Road and SR-74	7,460	< 50	86	185	67.8
Menifee Road between SR-74 and Biscayne Road	11,390	53	114	245	69.7
Menifee Road between Biscayne Road and McLaughlin Road	10,340	< 50	107	230	69.2
Menifee Road between McLaughlin Road and Project Driveway 1	10,340	< 50	107	230	69.2
Menifee Road between Project Driveway 1 and Matthews Road	10,340	< 50	107	230	69.2
Menifee Road between Matthews Road and McCall Boulevard	10,320	< 50	83	167	64.9
Menifee Road between McCall Boulevard and Coastline Avenue	11,710	< 50	86	179	66.1
Menifee Road between Coastline Avenue and Simpson Road	13,790	< 50	95	199	66.8
Menifee Road between Simpson Road and Aldergate Drive - Carnelian Way	13,120	< 50	95	194	65.9
Menifee Road between Aldergate Drive - Carnelian Way and Newport Road	14,010	< 50	99	203	66.2
Menifee Road between Newport Road and La Piedra Road	11,130	< 50	87	175	65.2
Menifee Road between La Piedra Road and Holland Road	10,530	< 50	84	169	65.0
Briggs Road between Watson Road and SR-74	5,110	< 50	< 50	103	63.2
Briggs Road between SR-74 and Heritage High School Driveway	6,950	< 50	61	127	64.2
Briggs Road between Heritage High School Driveway and McLaughlin Road	6,010	< 50	53	114	64.7
Briggs Road between McLaughlin Road and Project Driveway 4	5,670	< 50	53	110	63.7
Briggs Road between Project Driveway 4 and Project Driveway 5 - Meadow Oak Street	5,670	< 50	53	110	63.7
Briggs Road between Project Driveway 5 - Meadow Oak Street and Project Driveway 6	6,360	< 50	57	119	64.2
Briggs Road between Project Driveway 6 and Project Driveway 7	6,360	< 50	57	119	64.2
Briggs Road between Project Driveway 7 and Case Road	6,360	< 50	55	119	64.9
Briggs Road between Case Road and McCall Boulevard	6,030	< 50	56	116	63.6
Briggs Road between McCall Boulevard and Simpson Road	3,870	< 50	< 50	87	61.7
Warren Road between Ramona Expressway and Cottonwood Avenue	14,710	63	135	290	70.8
Warren Road between Cottonwood Avenue and Esplanade Avenue	13,850	60	130	279	70.5
Warren Road between Esplanade Avenue and Florida Avenue (SR-74/SR-79)	15,450	65	139	300	71.0

Source: Compiled by LSA (2022).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic  
 CNEL = Community Noise Equivalent Level  
 dBA = A-weighted decibels  
 ft = feet  
 I-15 = Interstate 15  
 I-215 = Interstate 215  
 NB = northbound  
 SB = southbound  
 SR-74 = State Route 74  
 SR-79 = State Route 79

**Table 4.13.D: Interpretation of Vibration Criteria for Detailed Analysis**

Land Use	Maximum $L_v$ (VdB) <sup>1</sup>	Description of Use
Workshop	90	Vibration that is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration that can be felt. Appropriate for offices and similar areas not as sensitive to vibration.
Residential Day	78	Vibration that is barely felt. Adequate for computer equipment and low-power optical microscopes (up to 20×).
Residential Night and Operating Rooms	72	Vibration is not felt, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100×) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

<sup>1</sup> As measured in 1/3-octave bands of frequency over the frequency range 8 to 80 Hz.

FTA = United States Federal Transit Administration

$L_v$  = velocity in decibels

Hz = hertz

VdB = vibration velocity decibels

**Table 4.13.E: Construction Vibration Damage Criteria**

Building Category	PPV (in/sec)	Approximate $L_v$ (VdB) <sup>1</sup>
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Nonengineered-timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

<sup>1</sup> RMS vibration velocity in decibels (VdB) is 1  $\mu$ in/sec.

$\mu$ in/sec = microinches per second

PPV = peak particle velocity

FTA = Federal Transit Administration

RMS = root-mean-square

in/sec = inches per second

VdB = vibration velocity decibels

$L_v$  = velocity in decibels

**Goal N-1:** Noise-sensitive land uses are protected from excessive noise and vibration exposure.

**Policy N-1.1:** Assess the compatibility of proposed land uses with the noise environment when preparing, revising, or reviewing development Project applications.

**Policy N-1.2:** Require new Projects to comply with the noise standards of local, regional, and state building code regulations, including but not limited to the City's Municipal Code, Title 24 of the California Code of Regulations, the California Green Building Code, and subdivision and development codes.

**Policy N-1.3:** Require noise abatement measures to enforce compliance with any applicable regulatory mechanisms, including building codes and subdivision and zoning regulations, and ensure that the recommended mitigation measures are implemented.

**Policy N-1.7:** Mitigate exterior and interior noises to the levels listed in Table N-1 [Table 4.13.F] to the extent feasible, for stationary sources adjacent to sensitive receptors.

**Table 4.13.F: Stationary Source Noise Standards**

Land Use	Period	Interior	Exterior
Residential	10:00 PM to 7:00 AM	40 dBA $L_{eq}$ (10-minute)	45 dBA $L_{eq}$ (10-minute)
	7:00 AM to 10:00 PM	55 dBA $L_{eq}$ (10-minute)	65 dBA $L_{eq}$ (10-minute)

Source: Table N-1, General Plan Noise Element (City of Menifee 2013).

dBA = A-weighted decibel

$L_{eq}$  = equivalent continuous sound level

**Policy N-1.8:** Locate new development in areas where noise levels are appropriate for the proposed uses. Consider federal, state, and city noise standards and guidelines as a part of new development review.

**Policy N-1.11:** Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation.

**Policy N-1.12:** Minimize potential noise impacts associated with the development of mixed-use projects (vertical or horizontal mixed-use) where residential units are located above or adjacent to noise-generating uses.

**Policy N-1.13:** Require new development to minimize vibration impacts to adjacent uses during demolition and construction.

**Policy N-1.17:** Prevent the construction of new noise-sensitive land uses within airport noise impact zones. New residential land uses within the 65 dBA CNEL contours of any public-use or military airports, as defined by the Riverside County Airport Land Use Commission, shall be prohibited.

**Municipal Code.** Section 8.01.010 of the City’s Municipal Code permits any construction within Menifee that is located within 0.25 mile from an occupied residence Monday through Saturday between the hours of 6:30 a.m. and 7:00 p.m., except on nationally recognized holidays. No construction shall be permitted on Sunday or nationally recognized holidays unless approval is obtained from the City Building Official or City Engineer.

Section 9.215.060(B)(10) of the City’s Development Code exempts sound emanating from heating and air conditioning equipment in proper repair.

Section 9.215.060(C) of the City’s Development Code allows exceptions to be requested from the standards set forth in Section 9.215.060 of the City’s Development Code and may be characterized as construction-related, single-event, or continuous-events exceptions:

- Private construction Projects, with or without a building permit, located 0.25 mile or more from an inhabited dwelling.
- Private construction Projects, with or without a building permit, located within 0.25 mile from an inhabited dwelling, shall be permitted Monday through Saturday, except on nationally recognized holidays, 6:30 a.m. to 7:00 p.m., or as specified in Section 8.01.010 of

the Municipal Code. There shall be no construction permitted on Sunday or nationally recognized holidays unless approval is obtained from the City Building Official or City Engineer.

- Construction-related exceptions:
  - If construction occurs during off hours or exceeds noise thresholds, an application for a construction-related exception shall be made using the temporary use application provided by the Community Development Director in Chapter 9.110 of the City's Development Code. For construction activities on Sunday or nationally recognized holidays, Section 8.01.010 of the Municipal Code shall prevail.
  - Section 9.215.060(D) of the City's Development Code prohibits the creation of any sound on any property that causes the exterior and interior sound level on any other occupied property to exceed the noise standards shown above in **Table 4.13.F**.
  - Section 9.215.070 of the City's Development Code states all uses shall be so operated so as not to generate vibration discernible without instruments by the average person while on or beyond the lot upon which the source is located or within an adjoining enclosed space if more than one establishment occupies a structure. Vibration caused by motor vehicles, trains and temporary construction is exempted from this standard.

### County of Riverside.

**General Plan Noise Element.** The County of Riverside's General Plan Noise Element<sup>6</sup> contains policies to protect noise-sensitive land uses from noise emitted by outside sources and prevent new Projects from generating adverse noise levels on adjacent properties. The County's land use compatibility categories for community noise level exposure are shown in **Table 4.13.G**, and stationary source land use noise standards are shown in **Table 4.13.H**. The goals, objectives, and policies in the County's General Plan are designed to provide noise-compatible land use relationships by establishing noise standards utilized for design and siting purposes and minimizing noise impacts from significant noise generators. The following policies are applicable to the Development Project:

**Policy N 1.3:** Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 dBA CNEL: schools; hospitals; rest homes; long-term care facilities; mental care facilities; residential uses; libraries; passive recreation; and places of worship.

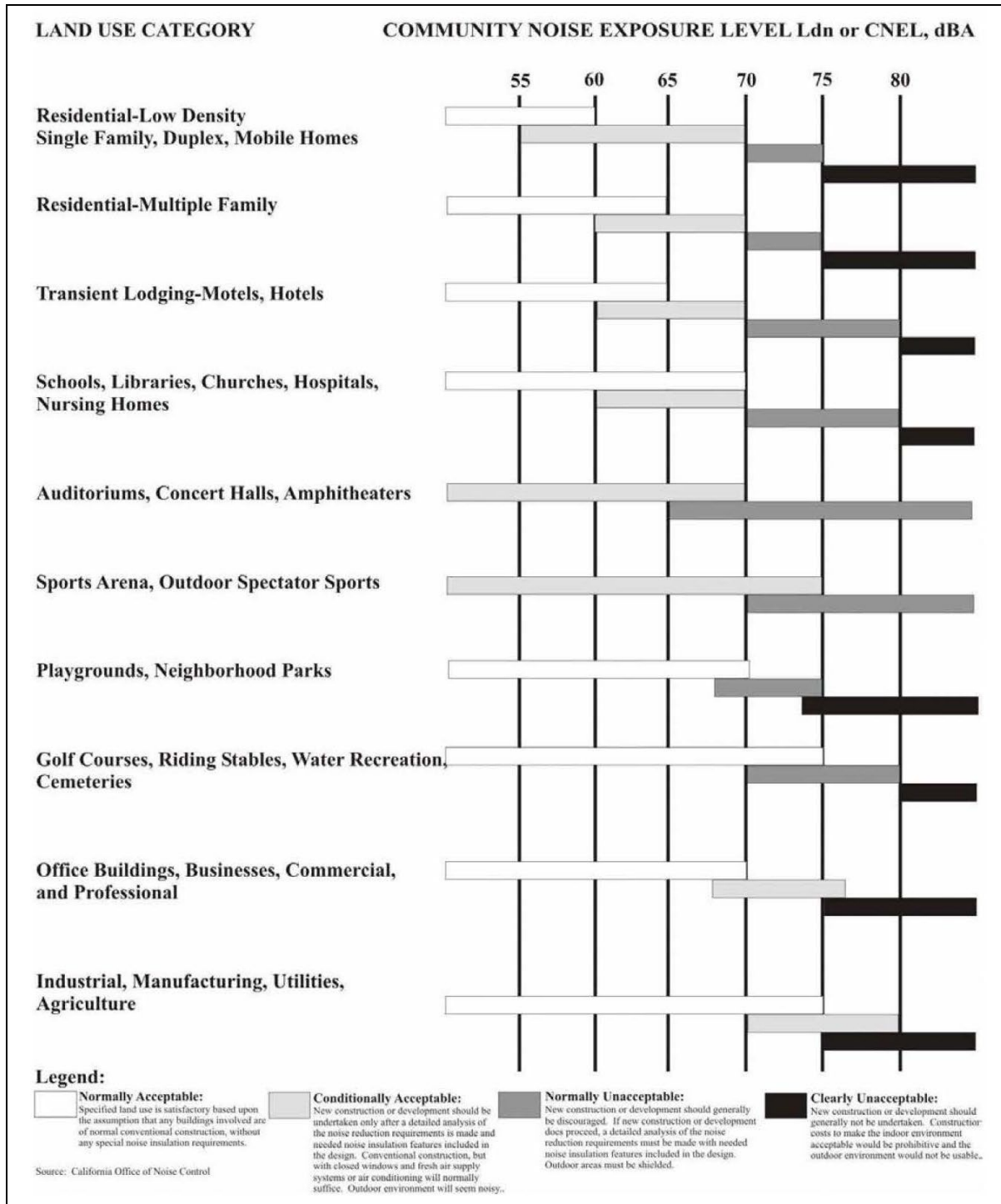
**Policy N 1.5:** Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

**Policy N 1.6:** Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.

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<sup>6</sup> County of Riverside. 2015. Noise Element of the County of Riverside General Plan. December 8.

**Table 4.13.G: Land Use Compatibility for Community Noise Exposure**



Source: Table N-1, General Plan Noise Element (County of Riverside 2015).

**Table 4.13.H: Stationary Source Land Use Noise Standards**

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

Source: Table N-2, General Plan Noise Element (County of Riverside 2015).

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

dBA = A-weighted decibels

$L_{eq}$  = equivalent continuous sound level

**Policy N 2.3:** Mitigate exterior and interior noises to the levels listed in the County’s General Plan Noise Element, Table N-2 [Table 4.13.H], to the extent feasible, for stationary sources.

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

**Policy N 4.1:** Prohibit facility-related noise received by any sensitive use from exceeding the following worst-case noise levels:

- a. 45 dBA—10-minute  $L_{eq}$  between 10:00 p.m. and 7:00 a.m.
- b. 65 dBA—10-minute  $L_{eq}$  between 7:00 a.m. and 10:00 p.m.

**Policy N 4.2:** Develop measures to control non-transportation noise impacts.

**Policy N 4.3:** Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed and ensure that the recommended mitigation measures are implemented.

**Policy N 4.4:** Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources.

**Policy N 7.1:** New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix I-1 of the General Plan and summarized in the Policy Area section of the affected Area Plan.

**Policy N 9.3:** Require development that generates increase traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.

**Policy N 13.1:** Minimize the impacts of construction on adjacent uses within acceptable practices.

**Policy N 13.2:** Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

**Policy N 13.3:** Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see Policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

- a. Temporary noise attenuation fences;
- b. Preferential location of equipment; and
- c. Use of current noise suppression technology and equipment.

**Policy N 13.4:** Require that all construction equipment utilize noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

**Riverside County Code.** Section 9.52.020(H) of the County's Code of Ordinances<sup>7</sup> exempts sound emanating from private construction projects located 0.25 mile or more from an inhabited dwelling. In addition, Section 9.52.020(I) limits the hours of private construction projects located within 0.25 mile from an inhabited dwelling. Construction shall not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, or between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Section 9.52.020(L) of the County's Code of Ordinances<sup>8</sup> exempts sound emanating from heating and air conditioning equipment.

#### 4.13.5 Thresholds of Significance

The City has not established local California Environmental Quality Act (CEQA) significance thresholds as described in Section 15064.7 of the CEQA Guidelines. Therefore, significance determinations utilized in this section are from Appendix G of the CEQA Guidelines. According to Section XIII of Appendix G to the CEQA Guidelines, the Project would result in a significant noise and vibration impact if the Project would result in:

**Threshold 4.13-1:**      **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**Threshold 4.13-2:**      **Generation of excessive groundborne vibration or groundborne noise levels?**

<sup>7</sup> County of Riverside. 2022. Code of Ordinances. March 22.

<sup>8</sup> Ibid.

**Threshold 4.13-3:** 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 2 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?

#### 4.13.6 Project Impacts

##### 4.13.6.1 Temporary or Permanent Noise Increase in Ambient Noise Levels in Excess of Established Standards

**Threshold 4.13.1:** Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

**Construction Noise Impacts.** Two types of construction-related noise impacts could occur with development of the proposed Project.

***Construction Crew Commutes and Transport of Construction Equipment and Materials.*** First, construction crew commutes and the transport of construction equipment and materials to the site for the Project would incrementally increase noise levels on roadways leading to the site. The pieces of heavy equipment for construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the Project vicinity.

**On-Site Improvements.** Construction crew commutes to and from the proposed Project would occur on a daily basis, beginning in 2023 until completion of the entire Project in 2031. The construction of the proposed Project would generate up to 8,144 daily trips based on the estimated Project construction schedule and the number of construction crew trips provided by the California Emissions Estimator Model (CalEEMod, Version 2020.4.0) results contained in **Appendix C** of this EIR. Construction of the proposed Project would use SR-74, Menifee Road, and Briggs Road to access the Project site. Based on the information in **Table 4.13.C**, SR-74, Menifee Road, and Briggs Road have an estimated existing average daily traffic (ADT) volume of 26,550, 10,320, and 3,870, respectively, near the Project site. Assuming Project construction trips are evenly distributed on SR-74, Menifee Road, and Briggs Road, construction-related traffic noise would increase by up to 2.3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment.<sup>9</sup> Therefore, noise impacts from short-term construction-related traffic associated with worker commutes and transport of construction equipment and material to the Project site would be **less than significant**.

**Off-Site Improvements.** Construction crew commutes to and from the off-site roadway and infrastructure improvement locations would occur on a daily basis, beginning in 2024 until 2025. The construction of off-site roadway and infrastructure improvements would

<sup>9</sup> California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol (TeNS)*. September. Website: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf> (accessed October 2023).

generate up to 18 daily trips based on the estimated Project construction schedule and the number of construction crew trips provided by the CalEEMod (Version 2020.4.0) results contained in **Appendix C** of this EIR. Off-site roadway and infrastructure improvements would use SR-74, Menifee Road, and Briggs Road to access the improvement locations. Based on the information in **Table 4.13.C**, SR-74, Menifee Road, and Briggs Road have an estimated existing ADT volume of 26,550, 10,320, and 3,870, respectively, leading to the improvement locations. Based on the information above, construction-related traffic noise would increase by up to 0.02 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, noise impacts from short-term, construction-related traffic associated with worker commutes and transport of construction equipment and material to the off-site roadway and infrastructure locations would be **less than significant**.

Off-Site Roadway Improvements. Implementation of the Project would also result in off-site roadway improvements to address traffic impacts in conflict with the General Plan Circulation Element policies that strive to maintain desired LOS. These roadway improvements, which include widening and additional turn lanes as required, include Matthews Road/Case Road (between McLaughlin Road and Ethanac Road), McLaughlin Road (between Matthews Road/Case Road and Menifee Road), and McCall Boulevard (between Encanto Drive and Menifee Road). These roadway improvements were identified in the General Plan Circulation Element and included in the Final General Plan Environmental Impact Report (EIR) certified by the City on December 18, 2013 (Certified 2013 EIR).

Construction crew commutes to and from the off-site roadway improvements would occur on a daily basis, beginning in 2024 until 2026. The construction of off-site roadway improvements would generate up to 20 daily trips based on the estimated Project construction schedule and the number of construction crew trips provided by the CalEEMod (Version 2020.4.0) results contained in **Appendix C** of this EIR. Off-site roadway improvements would use SR-74, Ethanac Road, Case Road, Matthews Road, Menifee Road, and McCall Boulevard to access the off-site roadway improvement locations. Based on the information in **Table 4.13.C**, SR-74, Ethanac Road, Case Road, Matthews Road, Menifee Road, and McCall Boulevard have estimated existing ADT volumes of 26,550, 5,740, 6,330, 2,560, 10,320, and 17,850, respectively, leading to the off-site roadway improvement locations. Based on the information above, construction-related traffic noise would increase by up to 0.03 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, noise impacts from short-term construction-related traffic associated with worker commutes and transport of construction equipment and material to the off-site roadway improvement locations would be **less than significant**.

**Construction Activities.** The second type of short-term noise impact is related to noise generated during site preparation, grading, building construction, paving, and architectural coating on the Project site. Construction is undertaken in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various

sequential phases change the character of the noise generated on a Project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. **Table 4.13.I** lists the maximum noise levels ( $L_{max}$ ) recommended for noise impact assessments for typical construction equipment included in the FHWA *Highway Construction Noise Handbook*<sup>10</sup> based on a distance of 50 feet between the equipment and a noise receptor.

**Table 4.13.I: Typical Construction Equipment Noise Levels**

Equipment Description	Acoustical Usage Factor <sup>1</sup>	Maximum Noise Level ( $L_{max}$ ) at 50 ft <sup>2</sup>
Backhoe	40	80
Compactor (ground)	20	80
Compressor	40	80
Crane	16	85
Dozer	40	85
Dump Truck	40	84
Excavator	40	85
Flatbed Truck	40	84
Forklift	20	85
Front-End Loader	40	80
Grader	40	85
Impact Pile Driver	20	95
Jackhammer	20	85
Pickup Truck	40	55
Pneumatic Tools	50	85
Pump	50	77
Rock Drill	20	85
Roller	20	85
Scraper	40	85
Tractor	40	84
Welder	40	73

Source: Table 9.1, *FHWA Highway Construction Noise Handbook* (FHWA 2006).

Note: The noise levels reported in this table are rounded to the nearest whole number.

<sup>1</sup> Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

<sup>2</sup> Maximum noise levels were developed based on Spec 721.560 from the CA/T program to be consistent with the City of Boston, Massachusetts, Noise Code for the “Big Dig” project.

CA/T = Central Artery/Tunnel

FHWA = Federal Highway Administration

ft = feet

$L_{max}$  = maximum instantaneous noise level

<sup>10</sup> FHWA. 2006. FHWA Highway Construction Noise Handbook. Roadway Construction Noise Model, FHWA HEP-06-015. DOT-VNTSC-FHWA-06-02. NTIS No. PB2006-109012. August.

On-Site Improvements. **Table 4.13.J** shows the combined noise level at 50 feet from the list of construction equipment for each construction phase based on the CalEEMod (Version 2020.4.0) results contained in **Appendix C** of this EIR as well as equipment quantity, acoustical usage factor, reference  $L_{max}$  noise level at 50 feet, and the total noise level ( $L_{max}$  and  $L_{eq}$ ) based on the equipment quantity. As shown in **Table 4.13.J**, combined construction noise levels would reach up to 93.2 dBA  $L_{max}$  (89.2 dBA  $L_{eq}$ ) at a distance of 50 feet.

**Table 4.13.K** shows the noise levels generated from construction activities from the center of the closest project phase during the noisiest construction phase at the closest residential property lines to the east in Riverside County and south in Menifee. As shown in **Table 4.13.K**, residential property lines to the east and south would be exposed to construction noise levels of 68.9 dBA  $L_{max}$  (64.9 dBA  $L_{eq}$ ) and 65.7 dBA  $L_{max}$  (61.7 dBA  $L_{eq}$ ), respectively.

Off-Site Improvements. **Table 4.13.L** shows the combined noise level at 50 feet from the list of construction equipment for the off-site roadway and infrastructure improvements based on the CalEEMod (Version 2020.4.0) results contained in **Appendix C** of this EIR as well as equipment quantity, acoustical usage factor, reference  $L_{max}$  noise level at 50 feet, and the total noise level ( $L_{max}$  and  $L_{eq}$ ) based on the equipment quantity. As shown in **Table 4.13.L**, construction noise levels would reach up to 93.2 dBA  $L_{max}$  (88.1 dBA  $L_{eq}$ ) at a distance of 50 feet. The closest residential property lines are located within 50 feet from the Project construction boundary from off-site roadway and infrastructure improvements and would be exposed to construction noise levels of 93.2 dBA  $L_{max}$  (88.1 dBA  $L_{eq}$ ) or higher.

Off-Site Roadway Improvements. Implementation of the Project would also result in off-site roadway improvements to address traffic impacts in conflict with the General Plan Circulation Element policies that strive to maintain desired LOS. These roadway improvements, which include widening and additional turn lanes as required, include Matthews Road/Case Road (between McLaughlin Road and Ethanac Road), McLaughlin Road (between Matthews Road/Case Road and Menifee Road), and McCall Boulevard (between Encanto Drive and Menifee Road). These roadway improvements were identified in the General Plan Circulation Element and included in the Certified 2013 EIR.

**Table 4.13.M** shows the combined noise level at 50 feet from the list of construction equipment for the off-site roadway improvements based on the CalEEMod (Version 2020.4.0) results contained in **Appendix C** of this EIR as well as equipment quantity, acoustical usage factor, reference  $L_{max}$  noise level at 50 feet, and the total noise level ( $L_{max}$  and  $L_{eq}$ ) based on the equipment quantity. As shown in **Table 4.13.M**, construction noise levels would reach up to 92.8 dBA  $L_{max}$  or 88.5 dBA  $L_{eq}$  at a distance of 50 feet. The closest residential property lines are located within 50 feet from the Project construction boundary for the off-site roadway and infrastructure improvements and would be exposed to construction noise levels of 92.8 dBA  $L_{max}$ , 88.5 dBA  $L_{eq}$ , or higher.

**Table 4.13.J: Summary of On-Site Construction Phase, Equipment, and Noise Levels**

Construction Phase	Construction Equipment	Quantity	Acoustical Usage Factor <sup>1</sup> (%)	Reference Noise Level at 50 ft (dBA L <sub>max</sub> )	Total Reference Noise Level at 50 ft (dBA)		Combined Noise Level at 50 ft (dBA)	
					L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>
<b>Phase 1</b>								
Mass Grading	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Utility Trenching – Business Park	Backhoe	1	40	80	80.0	76.0	80.0	76.0
Fine Grading – Business Park	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Building Construction	Crane	1	16	85	85.0	77.0	92.4	86.5
	Man Lift	3	20	85	89.8	82.8		
	Generator	1	50	82	82.0	79.0		
	Backhoe	3	40	80	84.8	80.8		
	Welder / Torch	1	40	73	73.0	69.0		
Rough Grading	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Utility Trenching – Residential	Backhoe	1	40	80	80.0	76.0	80.0	76.0
Asphalt Paving – Business Park	Paver	2	50	85	88.0	85.0	92.8	87.5
	Pavement Scarafier	2	20	85	88.0	81.0		
	Roller	2	20	85	88.0	81.0		
Architectural Coating – Business Park	Compressor (air)	1	40	80	80.0	76.0	80.0	76.0
Finish Landscaping – Business Park	Front End Loader	1	40	80	80.0	76.0	80.0	76.0
Finish Landscaping – Residential	Front End Loader	1	40	80	80.0	76.0	80.0	76.0
Asphalt Paving	Paver	2	50	85	88.0	85.0	92.8	87.5
	Pavement Scarafier	2	20	85	88.0	81.0		
	Roller	2	20	85	88.0	81.0		
Fine Grading – Residential	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Building Construction - Residential	Crane	1	16	85	85.0	77.0	92.4	86.5
	Man Lift	3	20	85	89.8	82.8		
	Generator	1	50	82	82.0	79.0		
	Backhoe	3	40	80	84.8	80.8		
	Welder / Torch	1	40	73	73.0	69.0		
Architectural Coating – Residential	Compressor (air)	1	40	80	80.0	76.0	80.0	76.0
<b>Phase 2</b>								
Fine Grading – Business Park	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		

**Table 4.13.J: Summary of On-Site Construction Phase, Equipment, and Noise Levels**

Construction Phase	Construction Equipment	Quantity	Acoustical Usage Factor <sup>1</sup> (%)	Reference Noise Level at 50 ft (dBA L <sub>max</sub> )	Total Reference Noise Level at 50 ft (dBA)		Combined Noise Level at 50 ft (dBA)	
					L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Rough Grading	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Utility Trenching	Backhoe	1	40	80	80.0	76.0	80.0	76.0
Architectural Coating – Business Park	Compressor (air)	1	40	80	80.0	76.0	80.0	76.0
Finishing/ Landscaping – Business Park	Front End Loader	1	40	80	80.0	76.0	80.0	76.0
Asphalt Paving	Paver	2	50	85	88.0	85.0	92.8	87.5
	Pavement Scarafier	2	20	85	88.0	81.0		
	Roller	2	20	85	88.0	81.0		
Finishing/ Landscaping – Residential	Front End Loader	1	40	80	80.0	76.0	80.0	76.0
Fine Grading – Residential	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Building Construction	Crane	1	16	85	85.0	77.0	92.4	86.5
	Man Lift	3	20	85	89.8	82.8		
	Generator	1	50	82	82.0	79.0		
	Backhoe	3	40	80	84.8	80.8		
	Welder / Torch	1	40	73	73.0	69.0		
Architectural Coating – Residential	Compressor (air)	1	40	80	80.0	76.0	80.0	76.0
<b>Phase 3</b>								
Fine Grading	Excavator	2	40	85	88.0	84.0	93.2	89.2
	Grader	1	40	85	85.0	81.0		
	Dozer	1	40	85	85.0	81.0		
	Scraper	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Building Construction	Crane	1	16	85	85.0	77.0	92.4	86.5
	Man Lift	3	20	85	89.8	82.8		
	Generator	1	50	82	82.0	79.0		
	Backhoe	3	40	80	84.8	80.8		
	Welder / Torch	1	40	73	73.0	69.0		
Asphalt Paving	Paver	2	50	85	88.0	85.0	92.8	87.5
	Pavement Scarafier	2	20	85	88.0	81.0		
	Roller	2	20	85	88.0	81.0		
Architectural Coating	Compressor (air)	1	40	80	80.0	76.0	80.0	76.0
Finishing/Landscaping	Front End Loader	1	40	80	80.0	76.0	80.0	76.0

Source: Compiled by LSA (2022).

<sup>1</sup> The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

dBA = A-weighted decibels  
ft = feet

L<sub>eq</sub> = equivalent continuous sound level  
L<sub>max</sub> = maximum instantaneous noise level

**Table 4.13.K: On-Site Construction Noise Levels**

Land Use	Direction	Reference Noise Level at 50 ft (dBA)		Distance <sup>1</sup> (ft)	Distance Attenuation (dBA)	Noise Level (dBA)	
		L <sub>max</sub>	L <sub>eq</sub>			L <sub>max</sub>	L <sub>eq</sub>
Residential	East	93.2	89.2	820	24.3	68.9	64.9
Residential	South	93.2	89.2	1,180	27.5	65.7	61.7

Source: Compiled by LSA Associates, Inc. (2022).

<sup>1</sup> Distance from the center of the closest Project phase to the off-site property line.

<sup>2</sup> Mount San Jacinto College.

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous sound level

ft = foot/feet

L<sub>max</sub> = maximum measured sound level

**Table 4.13.L: Summary of Off-Site Improvements Construction Phase, Equipment, and Noise Levels**

Construction Phase	Construction Equipment	Quantity	Acoustical Usage Factor <sup>1</sup> (%)	Reference Noise Level at 50 ft (dBA L <sub>max</sub> )	Total Reference Noise Level at 50 ft (dBA)		Combined Noise Level at 50 ft (dBA)	
					L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>
Finishing/Landscaping	Front-End Loader	1	40	80	80.0	76.0	93.2	88.1
Utility Trenching	Backhoe	1	40	80	80.0	76.0		
Paving	Paver	2	50	85	88.0	85.0		
	Pavement Scarafier	2	20	85	88.0	81.0		
	Roller	2	20	85	88.0	81.0		

Source: Compiled by LSA (2022).

<sup>1</sup> The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous sound level

ft = feet

L<sub>max</sub> = maximum instantaneous noise level

**Table 4.13.M: Summary of Off-Site Roadway Improvements Construction Phase, Equipment, and Noise Levels**

Construction Phase	Construction Equipment	Quantity	Acoustical Usage Factor <sup>1</sup> (%)	Reference Noise Level at 50 ft (dBA L <sub>max</sub> )	Total Reference Noise Level at 50 ft (dBA)		Combined Noise Level at 50 ft (dBA)	
					L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>
Site Preparation	Dozer	3	40	85	89.8	85.8	91.3	87.3
	Backhoe	4	40	80	86.0	82.0		
Grading	Excavator	2	40	85	88.0	84.0	92.5	88.5
	Grader	1	40	85	85.0	81.0		
	Dozer	2	40	85	88.0	84.0		
	Backhoe	2	40	80	83.0	79.0		
Paving	Paver	2	50	85	88.0	85.0	92.8	87.5
	Pavement Scarafier	2	20	85	88.0	81.0		
	Roller	2	20	85	88.0	81.0		
Architectural Coating	Compressor (air)	1	40	80	80.0	76.0	80.0	76.0

Source: Compiled by LSA (2023).

<sup>1</sup> The acoustical usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous sound level

ft = feet

L<sub>max</sub> = maximum instantaneous noise level

Although the noise generated by Project construction activities would be higher than the ambient noise levels, construction noise would stop once Project construction is completed. Implementation of **Regulatory Compliance Measure (RCM) N-1** would be required to minimize construction noise at residential land uses, and construction noise impacts would be **less than significant**.

#### **Operational Traffic Noise Impacts.**

**On-Site Improvements.** The FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108)<sup>11</sup> was used to evaluate traffic-related noise conditions along street segments in the Project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resulting noise levels are weighted and summed over 24-hour periods to determine the CNEL values. The Existing (2022), Opening Year Phase 1 Cumulative (2025), Opening Year Phases 2 and 3 Cumulative (2026), and Horizon Year (2045) ADT volumes were obtained from the Meniffee Valley Specific Plan Traffic Study<sup>12</sup> in **Appendix J** of this EIR.

The standard vehicle mix for Southern California roadways was used for roadways in the Project vicinity under the No Project scenario. **Table 4.13.N** shows the existing (2022) Without and With Project scenarios. **Table 4.13.O** shows the opening year phase 1 (2025) Without and With Project scenarios. **Table 4.13.P** shows the opening year phases 2 and 3 Cumulative (2026) Without and With Project scenarios. **Table 4.13.Q** shows the horizon year (2045) Without and With Project scenarios. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in **Appendix I** of this EIR.

Although the Project-related traffic noise increase under the existing (2022) with project condition would reach up to 4 dBA as shown in **Table 4.13.N**, the actual Project-related traffic noise increase would reach up to 1.7 dBA under the opening year (2025) phase 1 cumulative with project condition as shown in **Table 4.13.O** and up to 3.5 dBA under the opening year (2026) phases 2 and 3 cumulative with project condition as shown in **Table 4.13.P**. In addition, the project-related traffic noise increase would reach up to 2.2 dBA under the Horizon Year (2045) with project condition as shown in **Table 4.13.Q**. Also, the traffic noise levels results shown in both **Table 4.13.P** and **Table 4.13.Q** indicate that the project-related traffic noise increase under the opening year (2026) Phases 2 and 3 would diminish over time to less than substantial due to ambient growth in the Project area. The following is a detailed discussion of the roadway segments that would have a Project-related traffic noise increase of 3 dBA or more under the opening year (2026) Phases 2 and 3 with project condition.

<sup>11</sup> FHWA. 1977. Highway Traffic Noise Prediction Model, FHWA RD 77-108.

<sup>12</sup> LSA Associates, Inc. 2022. *Meniffee Valley Specific Plan Traffic Study*. November.

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Central Avenue (SR-74) between I-15 NB Ramps and Dexter Avenue	58,940	198	420	901	75.6	59,740	200	424	909	75.7	0.1
Central Avenue (SR-74) between Dexter Avenue and Cambern Avenue	41,510	162	334	714	73.7	42,310	164	339	723	73.8	0.1
Central Avenue (SR-74) between Cambern Avenue and Conard Avenue	42,290	158	336	723	75.0	43,090	160	341	732	75.1	0.1
Central Avenue (SR-74) between Conard Avenue and El Toro Cut Off Road	37,930	148	313	672	74.2	38,730	150	318	681	74.3	0.1
SR-74 between El Toro Cut Off Road and Riverside Street	37,430	146	310	666	74.7	38,230	148	314	676	74.8	0.1
SR-74 between Riverside Street and Wasson Canyon Road	32,580	133	283	608	74.1	33,380	135	287	617	74.2	0.1
SR-74 between Wasson Canyon Road and Meadowbrook Avenue – Greenwald Avenue	32,920	134	285	612	74.1	33,720	136	289	622	74.2	0.1
SR-74 between Meadowbrook Avenue – Greenwald Avenue and River Road	28,580	122	259	557	73.5	29,520	125	265	569	73.6	0.1
SR-74 between River Road and Ellis Avenue	28,990	123	262	562	73.6	29,930	126	267	574	73.7	0.1
SR-74 between Ellis Avenue and Navajo Road	29,550	125	265	569	73.7	30,490	127	271	581	73.8	0.1
4th Street (SR-74) between Navajo Road and A Street	40,930	154	329	707	75.1	42,020	157	335	720	75.2	0.1
4th Street (SR-74) between A Street and C Street	35,690	141	300	646	74.5	37,220	145	309	664	74.7	0.2
4th Street (SR-74) between C Street and D Street	26,050	115	244	524	73.1	27,580	120	253	544	73.4	0.3
4th Street (SR-74) between D Street and Perris Boulevard	23,620	108	229	490	72.7	25,150	113	238	511	73.0	0.3
4th Street (SR-74) between Perris Boulevard and G Street	19,710	97	203	435	71.9	21,400	102	214	459	72.3	0.4
4th Street (SR-74) between G Street and Wilkerson Avenue	19,830	97	204	437	71.9	21,790	103	217	465	72.3	0.4
4th Street (SR-74) between Wilkerson Avenue and Redlands Avenue	21,850	103	217	466	72.3	23,800	109	230	493	72.7	0.4
SR-74 between I-215 NB Ramps and Trumble Road	34,670	157	336	721	75.2	45,270	187	401	861	76.4	1.2

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-74 between Trumble Road and Sherman Road (West)	27,230	134	286	614	74.1	37,850	166	356	765	75.6	1.5
SR-74 between Sherman Road (West) and Sherman Road (East)	27,580	136	288	619	74.2	38,240	168	358	770	75.6	1.4
SR-74 between Sherman Road (East) and Antelope Road	29,660	142	303	650	74.5	40,660	174	373	802	75.9	1.4
SR-74 between Antelope Road and Palomar Road	27,990	137	291	625	74.3	39,670	172	367	789	75.8	1.5
SR-74 between Palomar Road and Menifee Road	26,550	132	281	604	74.0	39,270	171	364	784	75.7	1.7
SR-74 between Menifee Road and McKinley	30,430	144	308	661	74.6	48,280	195	418	899	76.6	2.0
SR-74 between McKinley and Malaga Road – Project Driveway 2	30,480	145	308	662	74.6	46,910	192	410	882	76.5	1.9
SR-74 between Malaga Road – Project Driveway 2 and Project Driveway 3	30,520	145	308	663	74.6	41,460	177	378	812	76.0	1.4
SR-74 between Project Driveway 3 and Briggs Road	30,520	145	308	663	74.6	42,230	179	382	823	76.1	1.5
SR-74 between Briggs Road and Juniper Flats Road	30,830	146	310	667	74.7	40,090	173	369	795	75.8	1.1
SR-74 between Juniper Flats Road and Vista Place – Winchester Road (SR-79)	27,540	135	288	619	74.2	35,240	159	339	729	75.3	1.1
Florida Avenue (SR-74/SR-79) between Vista Place – Winchester Road (SR-79) and Warren Road	37,270	107	226	485	72.6	43,360	118	250	536	73.3	0.7
Florida Avenue (SR-74/SR-79) between Warren Road and Cawston Avenue	24,060	82	170	362	70.7	27,410	88	185	395	71.3	0.6
Florida Avenue (SR-74/SR-79) between Cawston Avenue and Sanderson Avenue	20,410	74	152	325	70.0	22,430	78	162	346	70.4	0.4
Florida Avenue (SR-74/SR-79) between Sanderson Avenue and Kirby Street	25,720	85	177	379	71.0	27,020	88	183	391	71.2	0.2
Florida Avenue (SR-74/SR-79) between Kirby Street and Lyon Avenue	27,430	88	185	395	71.3	28,440	90	189	405	71.4	0.1
Florida Avenue (SR-74/SR-79) between Lyon Avenue and Palm Avenue	28,560	91	190	406	71.4	29,300	92	193	413	71.6	0.2

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Florida Avenue (SR-74/SR-79) between Palm Avenue and State Street	28,150	90	188	402	71.4	28,750	91	191	408	71.5	0.1
Florida Avenue (SR-74/SR-79) between State Street and Buena Vista Street	25,710	85	177	379	71.0	26,320	86	180	385	71.1	0.1
Florida Avenue (SR-74/SR-79) between Buena Vista Street and Santa Fe Street	25,640	85	177	378	71.0	26,230	86	179	384	71.1	0.1
Florida Avenue (SR-74/SR-79) between Santa Fe Street and San Jacinto Street (SR-79)	24,460	82	171	366	70.8	25,050	84	174	372	70.9	0.1
Redlands Avenue between 4th Street (SR-74) and I-215 SB Ramps	28,680	< 50	102	215	67.3	30,630	< 50	106	224	67.6	0.3
Nuevo Road between Dunlap Drive and Menifee Road	10,890	< 50	79	170	67.3	11,740	< 50	83	178	67.6	0.3
Ethanac Road between Goetz Road and Murrieta Road	14,910	< 50	100	210	67.1	15,910	< 50	104	219	67.4	0.3
Ethanac Road between Murrieta Road and Barnett Road	18,320	57	114	240	68.0	19,630	59	119	252	68.3	0.3
Ethanac Road between Barnett Road and Case Road	20,440	60	122	258	68.5	21,750	63	127	269	68.8	0.3
Ethanac Road between Case Road and I-215 SB Ramps	27,340	71	147	313	69.7	28,650	73	152	323	70.0	0.3
Ethanac Road between I-215 NB Ramps and Encanto Drive	16,340	< 50	103	222	68.7	17,650	51	109	234	69.0	0.3
Ethanac Road between Encanto Drive and Sherman Road	14,980	< 50	98	210	68.6	16,440	< 50	104	223	69.0	0.4
Ethanac Road between Sherman Road and Dawson Road	6,740	< 50	57	123	65.2	8,580	< 50	67	145	66.2	1.0
Ethanac Road between Dawson Road and Antelope Road	5,740	< 50	52	111	64.5	7,610	< 50	62	134	65.7	1.2
Matthews Road between Antelope Road and Palomar Road	5,520	< 50	60	129	65.5	7,420	< 50	73	157	66.7	1.2
Matthews Road between Palomar Road and Menifee Road	2,560	< 50	< 50	77	62.1	3,640	< 50	< 50	98	63.6	1.5
Case Road between Briggs Road (West) and Briggs Road (East)	6,330	< 50	< 50	78	62.2	6,880	< 50	< 50	83	62.6	0.4

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
McCall Boulevard between Murrieta Road and Sun City Boulevard	13,300	< 50	66	131	63.6	14,200	< 50	68	137	63.9	0.3
McCall Boulevard between Sun City Boulevard and Bradley Road	18,080	< 50	78	160	64.9	19,720	< 50	82	169	65.3	0.4
McCall Boulevard between Bradley Road and I-215 SB Ramps	29,380	< 50	105	219	67.1	31,330	< 50	109	228	67.3	0.2
McCall Boulevard between I-215 NB Ramps and Encanto Drive	32,960	80	166	355	70.6	44,300	96	202	432	71.8	1.2
McCall Boulevard between Encanto Drive and Sherman Road	25,330	68	140	298	69.4	36,750	85	178	381	71.0	1.6
McCall Boulevard between Sherman Road and Antelope Road	21,000	61	124	263	68.6	32,980	80	166	355	70.6	2.0
McCall Boulevard between Antelope Road and Junipero Road	19,680	< 50	77	166	67.1	32,080	< 50	107	230	69.3	2.2
McCall Boulevard between Junipero Road and Menifee Road	17,850	< 50	73	156	66.7	30,250	< 50	103	222	69.0	2.3
McCall Boulevard between Menifee Road and Heritage Lake Drive (West)	10,930	< 50	76	145	63.6	16,240	< 50	93	186	65.3	1.7
McCall Boulevard between Heritage Lake Drive (West) and Heritage Lake Drive (East)	6,450	< 50	< 50	106	61.3	11,440	< 50	77	149	63.8	2.5
McCall Boulevard between Heritage Lake Drive (East) and Briggs Road	4,570	< 50	< 50	87	59.8	9,660	< 50	71	134	63.1	3.3
Simpson Road between Menifee Road and Lindenberger Road	7,560	< 50	66	135	64.2	9,690	< 50	77	158	65.2	1.0
Simpson Road between Lindenberger Road and Briggs Road	7,670	< 50	64	135	65	9,670	< 50	74	157	66.0	1.0
Newport Road between Goetz Road and Berea Road – Murphy Ranch Road	33,100	114	234	498	71.9	33,770	115	237	505	72.0	0.1
Newport Road between Berea Road – Murphy Ranch Road and Murrieta Road	41,210	130	270	576	72.9	42,010	131	273	584	72.9	0.0
Newport Road between Murrieta Road and Evans Road	37,840	88	182	389	70.8	38,910	90	186	396	71.0	0.2
Newport Road between Evans Road and Bradley Road	41,720	97	196	415	70.7	43,080	99	200	424	70.8	0.1

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Newport Road between Bradley Road and Avenida De Cortez - Town Center Drive	50,310	108	221	470	71.5	52,270	111	226	482	71.7	0.2
Newport Road between Avenida De Cortez - Town Center Drive and Haun Road	53,200	112	229	488	71.8	55,730	115	236	503	72.0	0.2
Newport Road between Haun Road and I-215 SB Ramps	71,930	134	279	596	73.1	74,870	137	286	612	73.2	0.1
Newport Road between I-215 NB Ramps and Antelope Road	74,580	140	287	611	72.8	75,850	141	290	617	72.8	0.0
Newport Road between Antelope Road and Menifee Road	56,390	114	237	507	72.3	57,910	116	241	516	72.4	0.1
Ramona Expressway between Warren Road and Sanderson Avenue (SR-79) – Sanderson Avenue	26,600	126	267	573	73.7	27,270	128	271	582	73.8	0.1
Sherman Road between SR-74 and Ethanac Road	5,520	< 50	< 50	72	61.6	5,730	< 50	< 50	73	61.8	0.2
Palomar Road between SR-74 and Matthews Road	2,630	< 50	< 50	67	60.3	3,580	< 50	< 50	82	61.7	1.4
Menifee Road between Nuevo Road and Central Avenue/Porter Street	8,670	< 50	95	204	68.5	10,490	< 50	108	232	69.3	0.8
Menifee Road between Central Avenue/ Porter Street and San Jacinto Avenue	9,530	< 50	102	218	67.9	11,690	56	117	249	68.8	0.9
Menifee Road between San Jacinto Avenue and Ellis Avenue	8,710	< 50	95	205	68.5	11,650	54	116	249	69.7	1.2
Menifee Road between Ellis Avenue and Mapes Road	9,080	< 50	98	211	68.7	12,610	57	122	262	70.1	1.4
Menifee Road between Mapes Road and Watson Road	7,020	< 50	83	177	67.5	10,890	52	110	238	69.5	2.0
Menifee Road between Watson Road and SR-74	7,460	< 50	86	185	67.8	12,360	56	120	259	70.0	2.2
Menifee Road between SR-74 and Biscayne Road	11,390	53	114	245	69.7	22,840	84	181	389	72.7	3.0
Menifee Road between Biscayne Road and McLaughlin Road	10,340	< 50	107	230	69.2	21,420	81	173	373	72.4	3.2
Menifee Road between McLaughlin Road and Project Driveway 1	10,340	< 50	107	230	69.2	25,660	91	195	421	73.2	4.0

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Menifee Road between Project Driveway 1 and Matthews Road	10,340	< 50	107	230	69.2	25,790	91	196	422	73.2	4.0
Menifee Road between Matthews Road and McCall Boulevard	10,320	< 50	83	167	64.9	24,690	71	140	294	68.7	3.8
Menifee Road between McCall Boulevard and Coastline Avenue	11,710	< 50	86	179	66.1	16,270	< 50	105	222	67.5	1.4
Menifee Road between Coastline Avenue and Simpson Road	13,790	< 50	95	199	66.8	18,020	56	112	238	67.9	1.1
Menifee Road between Simpson Road and Aldergate Drive – Carnelian Way	13,120	< 50	95	194	65.9	18,160	61	115	240	67.4	1.5
Menifee Road between Aldergate Drive – Carnelian Way and Newport Road	14,010	< 50	99	203	66.2	18,120	61	115	240	67.4	1.2
Menifee Road between Newport Road and La Piedra Road	11,130	< 50	87	175	65.2	13,250	< 50	96	196	66.0	0.8
Menifee Road between La Piedra Road and Holland Road	10,530	< 50	84	169	65.0	11,550	< 50	88	179	65.4	0.4
Briggs Road between Watson Road and SR-74	5,110	< 50	< 50	103	63.2	6,260	< 50	56	118	64.1	0.9
Briggs Road between SR-74 and Heritage High School Driveway	6,950	< 50	61	127	64.2	15,710	< 50	102	217	67.8	3.6
Briggs Road between Heritage High School Driveway and McLaughlin Road	6,010	< 50	53	114	64.7	14,900	< 50	97	209	68.6	3.9
Briggs Road between McLaughlin Road and Project Driveway 4	5,670	< 50	53	110	63.7	12,310	< 50	86	184	67.0	3.3
Briggs Road between Project Driveway 4 and Project Driveway 5 – Meadow Oak Street	5,670	< 50	53	110	63.7	11,920	< 50	85	180	66.9	3.2
Briggs Road between Project Driveway 5 – Meadow Oak Street and Project Driveway 6	6,360	< 50	57	119	64.2	12,980	< 50	89	191	67.3	3.1
Briggs Road between Project Driveway 6 and Project Driveway 7	6,360	< 50	57	119	64.2	12,890	< 50	89	190	67.2	3.0
Briggs Road between Project Driveway 7 and Case Road	6,360	< 50	55	119	64.9	14,370	< 50	95	204	68.5	3.6
Briggs Road between Case Road and McCall Boulevard	6,030	< 50	56	116	63.6	13,490	< 50	92	196	67.1	3.5
Briggs Road between McCall Boulevard and Simpson Road	3,870	< 50	< 50	87	61.7	6,090	< 50	56	116	63.7	2.0

**Table 4.13.N: Existing (2022) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Warren Road between Ramona Expressway and Cottonwood Avenue	14,710	63	135	290	70.8	15,380	65	139	299	71.0	0.2
Warren Road between Cottonwood Avenue and Esplanade Avenue	13,850	60	130	279	70.5	15,080	64	137	295	70.9	0.4
Warren Road between Esplanade Avenue and Florida Avenue (SR-74/SR-79)	15,450	65	139	300	71.0	17,150	70	149	322	71.4	0.4

Source: Compiled by LSA (2022).

<sup>1</sup> Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

I-215 = Interstate 215

NB = northbound

SB = southbound

SR-74 = State Route 74

SR-79 = State Route 79

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Central Avenue (SR-74) between I-15 NB Ramps and Dexter Avenue	61,160	203	430	923	75.8	61,600	204	432	928	75.8	0.0
Central Avenue (SR-74) between Dexter Avenue and Cambern Avenue	42,880	165	342	729	73.8	43,320	166	344	734	73.9	0.1
Central Avenue (SR-74) between Cambern Avenue and Conard Avenue	43,640	161	343	738	75.2	44,080	162	346	743	75.2	0.0
Central Avenue (SR-74) between Conard Avenue and El Toro Cut Off Road	39,770	153	323	694	74.4	40,210	154	326	699	74.5	0.1
SR-74 between El Toro Cut Off Road and Riverside Street	40,470	153	327	702	75.0	40,910	154	329	707	75.1	0.1
SR-74 between Riverside Street and Wasson Canyon Road	35,070	140	297	638	74.4	35,510	141	299	643	74.5	0.1
SR-74 between Wasson Canyon Road and Meadowbrook Avenue – Greenwald Avenue	35,710	141	301	646	74.5	36,150	142	303	651	74.5	0.0
SR-74 between Meadowbrook Avenue – Greenwald Avenue and River Road	31,400	130	276	593	73.9	31,920	131	279	599	74.0	0.1
SR-74 between River Road and Ellis Avenue	31,880	131	279	599	74.0	32,400	133	282	605	74.1	0.1
SR-74 between Ellis Avenue and Navajo Road	31,200	129	275	590	73.9	31,720	131	278	597	74.0	0.1
4th Street (SR-74) between Navajo Road and A Street	42,300	158	336	723	75.2	42,820	159	339	729	75.3	0.1
4th Street (SR-74) between A Street and C Street	36,450	143	305	655	74.6	37,030	145	308	662	74.6	0.0
4th Street (SR-74) between C Street and D Street	26,670	117	248	532	73.2	27,250	119	251	539	73.3	0.1
4th Street (SR-74) between D Street and Perris Boulevard	25,130	113	238	511	72.9	25,710	114	242	519	73.0	0.1
4th Street (SR-74) between Perris Boulevard and G Street	20,500	99	208	446	72.1	21,080	101	212	455	72.2	0.1
4th Street (SR-74) between G Street and Wilkerson Avenue	21,170	101	213	456	72.2	21,890	103	218	466	72.3	0.1
4th Street (SR-74) between Wilkerson Avenue and Redlands Avenue	23,200	107	226	485	72.6	23,920	109	231	495	72.7	0.1

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-74 between I-215 NB Ramps and Trumble Road	37,250	165	352	757	75.5	41,880	178	380	818	76.0	0.5
SR-74 between Trumble Road and Sherman Road (West)	29,040	140	298	641	74.4	33,670	154	329	707	75.1	0.7
SR-74 between Sherman Road (West) and Sherman Road (East)	29,580	142	302	649	74.5	34,210	156	333	715	75.1	0.6
SR-74 between Sherman Road (East) and Antelope Road	31,170	147	313	672	74.7	35,800	161	343	737	75.3	0.6
SR-74 between Antelope Road and Palomar Road	29,670	142	303	650	74.5	34,410	156	334	718	75.2	0.7
SR-74 between Palomar Road and Menifee Road	28,390	138	294	631	74.3	33,240	153	326	701	75.0	0.7
SR-74 between Menifee Road and McKinley	33,460	154	328	704	75.0	36,960	164	350	753	75.5	0.5
SR-74 between McKinley and Malaga Road – Project Driveway 2	33,520	154	328	705	75.0	37,300	165	352	757	75.5	0.5
SR-74 between Malaga Road – Project Driveway 2 and Project Driveway 3	33,370	153	327	703	75.0	36,810	163	349	751	75.5	0.5
SR-74 between Project Driveway 3 and Briggs Road	33,370	153	327	703	75.0	36,810	163	349	751	75.5	0.5
SR-74 between Briggs Road and Juniper Flats Road	33,960	155	331	711	75.1	37,040	164	351	754	75.5	0.4
SR-74 between Juniper Flats Road and Vista Place – Winchester Road (SR-79)	29,470	141	301	647	74.5	32,030	149	318	684	74.9	0.4
Florida Avenue (SR-74/SR-79) between Vista Place - Winchester Road (SR-79) and Warren Road	38,770	110	232	498	72.8	40,830	113	240	515	73.0	0.2
Florida Avenue (SR-74/SR-79) between Warren Road and Cawston Avenue	25,420	84	176	376	70.9	26,480	86	181	386	71.1	0.2
Florida Avenue (SR-74/SR-79) between Cawston Avenue and Sanderson Avenue	21,150	75	156	333	70.1	21,930	77	160	341	70.3	0.2
Florida Avenue (SR-74/SR-79) between Sanderson Avenue and Kirby Street	26,330	86	180	385	71.1	26,820	87	182	389	71.2	0.1
Florida Avenue (SR-74/SR-79) between Kirby Street and Lyon Avenue	28,290	90	189	404	71.4	28,700	91	190	407	71.5	0.1

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Florida Avenue (SR-74/SR-79) between Lyon Avenue and Palm Avenue	29,300	92	193	413	71.6	29,680	93	195	417	71.6	0.0
Florida Avenue (SR-74/SR-79) between Palm Avenue and State Street	28,880	91	191	409	71.5	29,200	92	192	412	71.5	0.0
Florida Avenue (SR-74/SR-79) between State Street and Buena Vista Street	26,400	86	180	385	71.1	26,720	87	182	388	71.2	0.1
Florida Avenue (SR-74/SR-79) between Buena Vista Street and Santa Fe Street	26,300	86	180	384	71.1	26,620	87	181	388	71.1	0.0
Florida Avenue (SR-74/SR-79) between Santa Fe Street and San Jacinto Street (SR-79)	25,090	84	174	373	70.9	25,410	84	176	376	70.9	0.0
Redlands Avenue between 4th Street (SR-74) and I-215 SB Ramps	31,130	< 50	107	227	67.6	31,850	< 50	109	230	67.7	0.1
Nuevo Road between Dunlap Drive and Menifee Road	14,020	< 50	93	201	68.4	14,290	< 50	94	203	68.4	0.0
Ethanac Road between Goetz Road and Murrieta Road	16,980	< 50	108	229	67.7	17,230	< 50	109	231	67.7	0.0
Ethanac Road between Murrieta Road and Barnett Road	20,560	61	122	259	68.5	20,900	61	124	262	68.6	0.1
Ethanac Road between Barnett Road and Case Road	23,030	65	132	280	69.0	23,370	65	133	282	69.1	0.1
Ethanac Road between Case Road and I-215 SB Ramps	29,930	75	156	333	70.1	30,270	76	157	335	70.2	0.1
Ethanac Road between I-215 NB Ramps and Encanto Drive	18,710	53	113	243	69.3	19,050	54	115	246	69.4	0.1
Ethanac Road between Encanto Drive and Sherman Road	16,450	< 50	104	223	69.0	16,790	< 50	105	226	69.1	0.1
Ethanac Road between Sherman Road and Dawson Road	7,660	< 50	63	134	65.7	8,160	< 50	65	140	66.0	0.3
Ethanac Road between Dawson Road and Antelope Road	6,700	< 50	57	123	65.1	7,200	< 50	60	129	65.5	0.4
Matthews Road between Antelope Road and Palomar Road	6,530	< 50	67	144	66.2	7,030	< 50	70	151	66.5	0.3
Matthews Road between Palomar Road and Menifee Road	3,460	< 50	< 50	94	63.4	3,850	< 50	< 50	101	63.9	0.5

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Case Road between Briggs Road (West) and Briggs Road (East)	7,250	< 50	< 50	86	62.8	7,410	< 50	< 50	87	62.9	0.1
McCall Boulevard between Murrieta Road and Sun City Boulevard	14,200	< 50	68	137	63.9	14,420	< 50	69	138	64.0	0.1
McCall Boulevard between Sun City Boulevard and Bradley Road	19,290	< 50	81	166	65.2	19,710	< 50	82	169	65.3	0.1
McCall Boulevard between Bradley Road and I-215 SB Ramps	31,120	< 50	109	227	67.3	31,540	< 50	109	229	67.4	0.1
McCall Boulevard between I-215 NB Ramps and Encanto Drive	35,440	84	174	372	70.9	40,450	91	190	406	71.4	0.5
McCall Boulevard between Encanto Drive and Sherman Road	27,230	71	147	312	69.7	32,260	79	164	350	70.5	0.8
McCall Boulevard between Sherman Road and Antelope Road	23,150	65	132	281	69.0	28,300	73	150	321	69.9	0.9
McCall Boulevard between Antelope Road and Junipero Road	21,610	< 50	82	177	67.5	26,840	< 50	95	205	68.5	1.0
McCall Boulevard between Junipero Road and Menifee Road	19,490	< 50	77	165	67.1	24,720	< 50	90	194	68.1	1.0
McCall Boulevard between Menifee Road and Heritage Lake Drive (West)	12,110	< 50	79	154	64.1	14,320	< 50	87	171	64.8	0.7
McCall Boulevard between Heritage Lake Drive (West) and Heritage Lake Drive (East)	7,320	< 50	< 50	114	61.9	9,590	< 50	71	134	63.0	1.1
McCall Boulevard between Heritage Lake Drive (East) and Briggs Road	5,200	< 50	< 50	93	60.4	7,570	< 50	64	116	62.0	1.6
Simpson Road between Menifee Road and Lindenberger Road	8,670	< 50	72	147	64.8	9,700	< 50	77	158	65.2	0.4
Simpson Road between Lindenberger Road and Briggs Road	8,830	< 50	70	148	65.6	9,890	< 50	75	159	66.1	0.5
Newport Road between Goetz Road and Berea Road – Murphy Ranch Road	34,450	117	240	512	72.1	34,810	117	242	515	72.1	0.0
Newport Road between Berea Road – Murphy Ranch Road and Murrieta Road	43,200	134	278	595	73.1	43,620	134	280	599	73.1	0.0
Newport Road between Murrieta Road and Evans Road	39,040	90	186	397	71.0	39,600	91	188	401	71.0	0.0

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Newport Road between Evans Road and Bradley Road	43,080	99	200	424	70.8	43,700	100	202	428	70.9	0.1
Newport Road between Bradley Road and Avenida De Cortez – Town Center Drive	51,310	109	224	476	71.6	52,010	110	226	481	71.7	0.1
Newport Road between Avenida De Cortez - Town Center Drive and Haun Road	55,110	114	234	499	71.9	55,950	115	237	504	72.0	0.1
Newport Road between Haun Road and I-215 SB Ramps	74,030	136	284	607	73.2	75,070	137	287	613	73.3	0.1
Newport Road between I-215 NB Ramps and Antelope Road	76,500	142	292	621	72.9	76,920	143	293	623	72.9	0.0
Newport Road between Antelope Road and Menifee Road	57,470	116	240	513	72.4	57,920	116	241	516	72.4	0.0
Ramona Expressway between Warren Road and Sanderson Avenue (SR-79) – Sanderson Avenue	27,950	130	276	592	73.9	28,300	131	278	597	74.0	0.1
Sherman Road between SR-74 and Ethanac Road	6,400	< 50	< 50	79	62.3	6,480	< 50	< 50	80	62.3	0.0
Palomar Road between SR-74 and Matthews Road	3,790	< 50	< 50	85	61.9	3,900	< 50	< 50	87	62.0	0.1
Menifee Road between Nuevo Road and Central Avenue/Porter Street	11,110	52	112	241	69.5	11,640	54	115	248	69.7	0.2
Menifee Road between Central Avenue/ Porter Street and San Jacinto Avenue	11,970	57	119	253	68.9	12,500	59	122	261	69.1	0.2
Menifee Road between San Jacinto Avenue and Ellis Avenue	11,000	52	111	239	69.5	11,740	54	116	250	69.8	0.3
Menifee Road between Ellis Avenue and Mapes Road	11,560	54	115	247	69.7	12,430	56	121	260	70.0	0.3
Menifee Road between Mapes Road and Watson Road	9,070	< 50	98	210	68.7	9,990	< 50	104	224	69.1	0.4
Menifee Road between Watson Road and SR-74	8,920	< 50	97	208	68.6	10,100	< 50	105	226	69.1	0.5
Menifee Road between SR-74 and Biscayne Road	13,130	58	125	269	70.3	15,650	65	141	303	71.0	0.7
Menifee Road between Biscayne Road and McLaughlin Road	12,070	55	118	254	69.9	14,230	61	132	284	70.6	0.7

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Menifee Road between McLaughlin Road and Project Driveway 1	12,160	55	119	256	69.9	16,730	68	147	316	71.3	1.4
Menifee Road between Project Driveway 1 and Matthews Road	12,160	55	119	256	69.9	16,730	68	147	316	71.3	1.4
Menifee Road between Matthews Road and McCall Boulevard	12,770	< 50	94	191	65.8	17,060	< 50	111	230	67.1	1.3
Menifee Road between McCall Boulevard and Coastline Avenue	13,530	< 50	94	197	66.7	14,310	< 50	97	204	66.9	0.2
Menifee Road between Coastline Avenue and Simpson Road	15,630	< 50	103	217	67.3	16,330	< 50	106	223	67.5	0.2
Menifee Road between Simpson Road and Aldergate Drive – Carnelian Way	14,470	< 50	101	207	66.4	15,660	< 50	106	218	66.7	0.3
Menifee Road between Aldergate Drive – Carnelian Way and Newport Road	14,940	< 50	103	211	66.5	15,930	< 50	107	220	66.8	0.3
Menifee Road between Newport Road and La Piedra Road	13,990	< 50	99	203	66.2	14,490	< 50	101	207	66.4	0.2
Menifee Road between La Piedra Road and Holland Road	11,660	< 50	89	180	65.4	11,870	< 50	90	182	65.5	0.1
Briggs Road between Watson Road and SR-74	5,580	< 50	52	109	63.6	5,920	< 50	54	114	63.9	0.3
Briggs Road between SR-74 and Heritage High School Driveway	9,000	< 50	72	150	65.4	12,540	< 50	88	187	66.8	1.4
Briggs Road between Heritage High School Driveway and McLaughlin Road	8,060	< 50	65	139	65.9	11,660	< 50	83	177	67.6	1.7
Briggs Road between McLaughlin Road and Project Driveway 4	7,850	< 50	65	137	65.1	10,980	< 50	80	171	66.5	1.4
Briggs Road between Project Driveway 4 and Project Driveway 5 – Meadow Oak Street	7,830	< 50	65	137	65.1	10,960	< 50	80	171	66.5	1.4
Briggs Road between Project Driveway 5 - Meadow Oak Street and Project Driveway 6	8,390	< 50	68	143	65.4	10,500	< 50	78	166	66.3	0.9
Briggs Road between Project Driveway 6 and Project Driveway 7	8,330	< 50	67	142	65.3	10,350	< 50	77	164	66.3	1.0

**Table 4.13.O: Phase 1 Opening Year Cumulative (2025) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Briggs Road between Project Driveway 7 and Case Road	8,330	< 50	66	142	66.1	11,830	< 50	83	179	67.6	1.5
Briggs Road between Case Road and McCall Boulevard	8,060	< 50	67	140	64.9	11,410	< 50	83	176	66.4	1.5
Briggs Road between McCall Boulevard and Simpson Road	5,240	< 50	< 50	106	63.0	6,220	< 50	57	118	63.7	0.7
Warren Road between Ramona Expressway and Cottonwood Avenue	16,120	67	143	309	71.2	16,470	68	145	313	71.3	0.1
Warren Road between Cottonwood Avenue and Esplanade Avenue	15,220	64	138	297	70.9	15,780	66	141	304	71.1	0.2
Warren Road between Esplanade Avenue and Florida Avenue (SR-74/SR-79)	17,520	71	152	326	71.5	18,310	73	156	336	71.7	0.2

Source: Compiled by LSA Associates, Inc. (2022).

<sup>1</sup> Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

I-215 = Interstate 215

NB = northbound

SB = southbound

SR-74 = State Route 74

SR-79 = State Route 79

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Central Avenue (SR-74) between I-15 NB Ramps and Dexter Avenue	61,890	205	434	931	75.8	62,690	206	437	939	75.9	0.1
Central Avenue (SR-74) between Dexter Avenue and Cambern Avenue	43,330	166	344	734	73.9	44,130	168	348	743	73.9	0.0
Central Avenue (SR-74) between Cambern Avenue and Conard Avenue	44,090	162	346	743	75.2	44,890	164	350	752	75.3	0.1
Central Avenue (SR-74) between Conard Avenue and El Toro Cut Off Road	40,380	154	327	701	74.5	41,180	156	331	710	74.6	0.1
SR-74 between El Toro Cut Off Road and Riverside Street	41,480	156	332	714	75.1	42,280	158	336	723	75.2	0.1
SR-74 between Riverside Street and Wasson Canyon Road	35,900	142	302	648	74.5	36,700	144	306	658	74.6	0.1
SR-74 between Wasson Canyon Road and Meadowbrook Avenue – Greenwald Avenue	36,640	144	306	657	74.6	37,440	146	310	666	74.7	0.1
SR-74 between Meadowbrook Avenue – Greenwald Avenue and River Road	32,340	132	281	605	74.0	33,280	135	287	616	74.2	0.2
SR-74 between River Road and Ellis Avenue	32,850	134	284	611	74.1	33,790	136	290	622	74.2	0.1
SR-74 between Ellis Avenue and Navajo Road	31,750	131	278	597	74.0	32,690	133	283	609	74.1	0.1
4th Street (SR-74) between Navajo Road and A Street	42,760	159	339	728	75.3	43,850	161	344	740	75.4	0.1
4th Street (SR-74) between A Street and C Street	36,710	144	306	658	74.6	38,240	148	315	676	74.8	0.2
4th Street (SR-74) between C Street and D Street	26,870	118	249	534	73.2	28,400	122	258	554	73.5	0.3
4th Street (SR-74) between D Street and Perris Boulevard	25,640	114	241	518	73.0	27,170	118	251	538	73.3	0.3
4th Street (SR-74) between Perris Boulevard and G Street	20,760	100	210	450	72.1	22,450	105	221	474	72.5	0.4
4th Street (SR-74) between G Street and Wilkerson Avenue	21,620	102	216	462	72.3	23,580	108	228	490	72.7	0.4
4th Street (SR-74) between Wilkerson Avenue and Redlands Avenue	23,640	108	229	491	72.7	25,590	114	241	517	73.0	0.3
SR-74 between I-215 NB Ramps and Trumble Road	38,100	167	357	768	75.6	48,700	196	420	904	76.7	1.1

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-74 between Trumble Road and Sherman Road (West)	29,650	142	302	650	74.5	40,270	173	371	797	75.8	1.3
SR-74 between Sherman Road (West) and Sherman Road (East)	30,250	144	307	659	74.6	40,910	175	374	805	75.9	1.3
SR-74 between Sherman Road (East) and Antelope Road	31,680	148	316	679	74.8	42,680	180	385	828	76.1	1.3
SR-74 between Antelope Road and Palomar Road	30,220	144	306	658	74.6	41,900	178	380	818	76.0	1.4
SR-74 between Palomar Road and Meniffee Road	29,000	140	298	640	74.4	41,720	177	379	816	76.0	1.6
SR-74 between Meniffee Road and McKinley	34,470	157	334	718	75.2	52,320	206	441	949	77.0	1.8
SR-74 between McKinley and Malaga Road – Project Driveway 2	34,530	157	335	719	75.2	50,960	202	433	932	76.9	1.7
SR-74 between Malaga Road – Project Driveway 2 and Project Driveway 3	34,320	156	333	716	75.2	45,260	187	400	861	76.4	1.2
SR-74 between Project Driveway 3 and Briggs Road	34,320	156	333	716	75.2	46,030	189	405	871	76.4	1.2
SR-74 between Briggs Road and Juniper Flats Road	35,000	158	338	726	75.2	44,260	184	395	849	76.3	1.1
SR-74 between Juniper Flats Road and Vista Place – Winchester Road (SR-79)	30,120	143	306	657	74.6	37,820	166	355	764	75.6	1.0
Florida Avenue (SR-74/SR-79) between Vista Place – Winchester Road (SR-79) and Warren Road	39,260	111	234	502	72.8	45,350	121	257	552	73.5	0.7
Florida Avenue (SR-74/SR-79) between Warren Road and Cawston Avenue	25,870	85	178	380	71.0	29,220	92	193	412	71.5	0.5
Florida Avenue (SR-74/SR-79) between Cawston Avenue and Sanderson Avenue	21,400	76	157	335	70.2	23,420	80	167	356	70.6	0.4
Florida Avenue (SR-74/SR-79) between Sanderson Avenue and Kirby Street	26,530	87	181	387	71.1	27,830	89	187	399	71.3	0.2
Florida Avenue (SR-74/SR-79) between Kirby Street and Lyon Avenue	28,580	91	190	406	71.4	29,590	93	194	416	71.6	0.2
Florida Avenue (SR-74/SR-79) between Lyon Avenue and Palm Avenue	29,550	93	194	415	71.6	30,290	94	197	422	71.7	0.1

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Florida Avenue (SR-74/SR-79) between Palm Avenue and State Street	29,120	92	192	411	71.5	29,720	93	195	417	71.6	0.1
Florida Avenue (SR-74/SR-79) between State Street and Buena Vista Street	26,620	87	181	388	71.1	27,230	88	184	393	71.2	0.1
Florida Avenue (SR-74/SR-79) between Buena Vista Street and Santa Fe Street	26,520	87	181	387	71.1	27,110	88	183	392	71.2	0.1
Florida Avenue (SR-74/SR-79) between Santa Fe Street and San Jacinto Street (SR-79)	25,300	84	175	375	70.9	25,890	85	178	380	71.0	0.1
Redlands Avenue between 4th Street (SR-74) and I-215 SB Ramps	31,940	< 50	109	231	67.7	33,890	57	113	240	68.0	0.3
Nuevo Road between Dunlap Drive and Meniffee Road	15,060	< 50	98	210	68.7	15,910	< 50	101	218	68.9	0.2
Ethanac Road between Goetz Road and Murrieta Road	17,670	56	111	235	67.9	18,670	57	115	243	68.1	0.2
Ethanac Road between Murrieta Road and Barnett Road	21,300	62	125	266	68.7	22,610	64	130	276	68.9	0.2
Ethanac Road between Barnett Road and Case Road	23,890	66	135	287	69.2	25,200	68	139	297	69.4	0.2
Ethanac Road between Case Road and I-215 SB Ramps	30,790	77	159	339	70.3	32,100	79	163	349	70.4	0.1
Ethanac Road between I-215 NB Ramps and Encanto Drive	19,490	55	116	250	69.5	20,800	57	121	261	69.8	0.3
Ethanac Road between Encanto Drive and Sherman Road	16,940	< 50	106	228	69.2	18,400	52	112	240	69.5	0.3
Ethanac Road between Sherman Road and Dawson Road	7,970	< 50	64	138	65.9	9,810	< 50	74	158	66.8	0.9
Ethanac Road between Dawson Road and Antelope Road	7,010	< 50	59	126	65.3	8,880	< 50	69	148	66.4	1.1
Matthews Road between Antelope Road and Palomar Road	6,870	< 50	69	149	66.4	8,770	< 50	81	175	67.5	1.1
Matthews Road between Palomar Road and Meniffee Road	3,760	< 50	< 50	100	63.8	4,840	< 50	55	118	64.9	1.1
Case Road between Briggs Road (West) and Briggs Road (East)	7,550	< 50	< 50	88	63.0	8,100	< 50	< 50	92	63.3	0.3

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
McCall Boulevard between Murrieta Road and Sun City Boulevard	14,490	< 50	69	138	64.0	15,390	< 50	72	144	64.2	0.2
McCall Boulevard between Sun City Boulevard and Bradley Road	19,690	< 50	82	169	65.3	21,330	< 50	86	178	65.7	0.4
McCall Boulevard between Bradley Road and I-215 SB Ramps	31,700	< 50	110	230	67.4	33,650	59	114	239	67.6	0.2
McCall Boulevard between I-215 NB Ramps and Encanto Drive	36,260	85	177	378	71.0	47,600	100	211	453	72.2	1.2
McCall Boulevard between Encanto Drive and Sherman Road	27,860	72	149	317	69.8	39,280	89	186	398	71.3	1.5
McCall Boulevard between Sherman Road and Antelope Road	23,870	66	135	286	69.2	35,850	84	175	375	70.9	1.7
McCall Boulevard between Antelope Road and Junipero Road	22,260	< 50	84	181	67.7	34,660	53	113	243	69.6	1.9
McCall Boulevard between Junipero Road and Menifee Road	20,040	< 50	78	168	67.2	32,440	50	108	232	69.3	2.1
McCall Boulevard between Menifee Road and Heritage Lake Drive (West)	12,500	< 50	81	157	64.2	17,810	< 50	98	197	65.7	1.5
McCall Boulevard between Heritage Lake Drive (West) and Heritage Lake Drive (East)	7,610	< 50	64	116	62.0	12,600	< 50	81	158	64.2	2.2
McCall Boulevard between Heritage Lake Drive (East) and Briggs Road	5,410	< 50	< 50	96	60.6	10,500	< 50	74	141	63.4	2.8
Simpson Road between Menifee Road and Lindenberger Road	9,040	< 50	73	151	64.9	11,170	< 50	83	174	65.9	1.0
Simpson Road between Lindenberger Road and Briggs Road	9,210	< 50	72	152	65.8	11,210	< 50	81	173	66.6	0.8
Newport Road between Goetz Road and Berea Road – Murphy Ranch Road	34,900	118	242	516	72.1	35,570	119	245	523	72.2	0.1
Newport Road between Berea Road - Murphy Ranch Road and Murrieta Road	43,860	135	281	601	73.1	44,660	136	284	608	73.2	0.1
Newport Road between Murrieta Road and Evans Road	39,440	91	187	400	71.0	40,510	92	191	407	71.1	0.1
Newport Road between Evans Road and Bradley Road	43,530	100	201	427	70.9	44,890	101	205	436	71.0	0.1

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Newport Road between Bradley Road and Avenida De Cortez – Town Center Drive	51,640	110	225	478	71.6	53,600	112	230	490	71.8	0.2
Newport Road between Avenida De Cortez – Town Center Drive and Haun Road	55,740	115	236	503	72.0	58,270	118	243	518	72.2	0.2
Newport Road between Haun Road and I-215 SB Ramps	74,730	137	286	611	73.2	77,670	140	293	627	73.4	0.2
Newport Road between I-215 NB Ramps and Antelope Road	77,140	143	293	624	72.9	78,410	144	296	631	73.0	0.1
Newport Road between Antelope Road and Menifee Road	57,830	116	241	515	72.4	59,350	118	245	524	72.5	0.1
Ramona Expressway between Warren Road and Sanderson Avenue (SR-79) – Sanderson Avenue	28,400	131	279	598	74.0	29,070	133	283	608	74.1	0.1
Sherman Road between SR-74 and Ethanac Road	6,690	< 50	< 50	81	62.4	6,900	< 50	< 50	83	62.6	0.2
Palomar Road between SR-74 and Matthews Road	4,170	< 50	< 50	90	62.3	5,120	< 50	< 50	103	63.2	0.9
Menifee Road between Nuevo Road and Central Avenue/Porter Street	11,920	55	117	252	69.8	13,740	60	129	277	70.5	0.7
Menifee Road between Central Avenue/Porter Street and San Jacinto Avenue	12,780	59	124	265	69.2	14,940	65	137	293	69.8	0.6
Menifee Road between San Jacinto Avenue and Ellis Avenue	11,770	54	116	250	69.8	14,710	63	135	290	70.8	1.0
Menifee Road between Ellis Avenue and Mapes Road	12,390	56	120	259	70.0	15,920	66	142	306	71.1	1.1
Menifee Road between Mapes Road and Watson Road	9,750	< 50	103	221	69.0	13,620	60	128	276	70.4	1.4
Menifee Road between Watson Road and SR-74	9,410	< 50	100	216	68.8	14,310	62	132	285	70.6	1.8
Menifee Road between SR-74 and Biscayne Road	13,700	60	129	277	70.5	25,150	90	193	415	73.1	2.6
Menifee Road between Biscayne Road and McLaughlin Road	12,650	57	122	263	70.1	23,730	86	185	399	72.8	2.7
Menifee Road between McLaughlin Road and Project Driveway 1	12,760	57	123	264	70.1	28,080	96	207	447	73.6	3.5

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Menifee Road between Project Driveway 1 and Matthews Road	12,760	57	123	264	70.1	28,210	97	208	448	73.6	3.5
Menifee Road between Matthews Road and McCall Boulevard	13,580	< 50	97	199	66.1	27,950	76	151	319	69.2	3.1
Menifee Road between McCall Boulevard and Coastline Avenue	14,130	< 50	96	203	66.9	18,690	57	115	244	68.1	1.2
Menifee Road between Coastline Avenue and Simpson Road	16,240	< 50	105	222	67.5	20,470	60	122	259	68.5	1.0
Menifee Road between Simpson Road and Aldergate Drive – Carnelian Way	14,920	< 50	103	211	66.5	19,960	64	122	255	67.8	1.3
Menifee Road between Aldergate Drive - Carnelian Way and Newport Road	15,250	< 50	104	214	66.6	19,360	63	120	250	67.6	1.0
Menifee Road between Newport Road and La Piedra Road	14,940	< 50	103	211	66.5	17,060	< 50	111	230	67.1	0.6
Menifee Road between La Piedra Road and Holland Road	12,040	< 50	91	184	65.6	13,060	< 50	95	194	65.9	0.3
Briggs Road between Watson Road and SR-74	5,730	< 50	53	111	63.7	6,880	< 50	60	125	64.5	0.8
Briggs Road between SR-74 and Heritage High School Driveway	9,690	< 50	75	158	65.7	18,450	55	113	241	68.5	2.8
Briggs Road between Heritage High School Driveway and McLaughlin Road	8,750	< 50	68	147	66.3	17,640	51	109	234	69.3	3.0
Briggs Road between McLaughlin Road and Project Driveway 4	8,570	< 50	68	145	65.5	15,210	< 50	99	212	68.0	2.5
Briggs Road between Project Driveway 4 and Project Driveway 5 – Meadow Oak Street	8,550	< 50	68	145	65.5	14,800	< 50	97	208	67.8	2.3
Briggs Road between Project Driveway 5 – Meadow Oak Street and Project Driveway 6	9,060	< 50	71	150	65.7	15,680	< 50	101	216	68.1	2.4
Briggs Road between Project Driveway 6 and Project Driveway 7	8,990	< 50	71	150	65.7	15,520	< 50	101	215	68.0	2.3
Briggs Road between Project Driveway 7 and Case Road	8,990	< 50	69	149	66.4	17,000	< 50	106	228	69.2	2.8
Briggs Road between Case Road and McCall Boulevard	8,740	< 50	70	147	65.2	16,200	< 50	104	221	67.9	2.7

**Table 4.13.P: Phases 2 and 3 Opening Year Cumulative (2026) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Briggs Road between McCall Boulevard and Simpson Road	5,700	< 50	54	111	63.4	7,920	< 50	66	138	64.8	1.4
Warren Road between Ramona Expressway and Cottonwood Avenue	16,590	68	146	315	71.3	17,260	70	150	323	71.5	0.2
Warren Road between Cottonwood Avenue and Esplanade Avenue	15,680	66	141	303	71.0	16,910	69	148	319	71.4	0.4
Warren Road between Esplanade Avenue and Florida Avenue (SR-74/SR-79)	18,210	72	155	335	71.7	19,910	77	165	355	72.1	0.4

Source: Compiled by LSA Associates, Inc. (2022).

<sup>1</sup> Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

I-215 = Interstate 215

NB = northbound

SB = southbound

SR-74 = State Route 74

SR-79 = State Route 79

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Central Avenue (SR-74) between I-15 NB Ramps and Dexter Avenue	75,900	233	496	1066	76.7	76,700	235	500	1073	76.8	0.1
Central Avenue (SR-74) between Dexter Avenue and Cambern Avenue	51,970	185	387	828	74.7	52,770	187	391	837	74.7	0.0
Central Avenue (SR-74) between Cambern Avenue and Conard Avenue	52,600	182	389	836	76.0	53,400	184	393	844	76.0	0.0
Central Avenue (SR-74) between Conard Avenue and El Toro Cut Off Road	51,990	181	386	829	75.6	52,790	183	390	837	75.7	0.1
SR-74 between El Toro Cut Off Road and Riverside Street	60,690	200	427	919	76.8	61,490	201	431	927	76.8	0.0
SR-74 between Riverside Street and Wasson Canyon Road	51,620	179	384	825	76.1	52,420	181	388	834	76.1	0.0
SR-74 between Wasson Canyon Road and Meadowbrook Avenue – Greenwald Avenue	54,260	185	397	853	76.3	55,060	187	401	862	76.4	0.1
SR-74 between Meadowbrook Avenue – Greenwald Avenue and River Road	50,200	176	377	810	76.0	51,140	178	381	820	76.0	0.0
SR-74 between River Road and Ellis Avenue	51,150	178	381	820	76.0	52,090	180	386	830	76.1	0.1
SR-74 between Ellis Avenue and Navajo Road	42,180	157	336	721	75.2	43,120	160	341	732	75.3	0.1
4th Street (SR-74) between Navajo Road and A Street	51,410	179	383	823	76.1	52,500	181	388	835	76.1	0.0
4th Street (SR-74) between A Street and C Street	41,510	156	332	714	75.1	43,040	159	340	731	75.3	0.2
4th Street (SR-74) between C Street and D Street	30,760	128	272	585	73.8	32,290	132	281	604	74.0	0.2
4th Street (SR-74) between D Street and Perris Boulevard	35,190	140	298	640	74.4	36,720	144	306	658	74.6	0.2
4th Street (SR-74) between Perris Boulevard and G Street	25,740	114	242	519	73.1	27,430	119	252	542	73.3	0.2
4th Street (SR-74) between G Street and Wilkerson Avenue	30,100	126	268	576	73.7	32,060	132	280	601	74.0	0.3
4th Street (SR-74) between Wilkerson Avenue and Redlands Avenue	32,140	132	280	602	74.0	34,090	137	291	626	74.3	0.3
SR-74 between I-215 NB Ramps and Trumble Road	54,390	211	452	974	77.2	64,990	237	509	1096	77.9	0.7

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
SR-74 between Trumble Road and Sherman Road (West)	41,100	176	376	808	75.9	51,720	204	438	941	76.9	1.0
SR-74 between Sherman Road (West) and Sherman Road (East)	42,890	181	386	831	76.1	53,550	209	448	963	77.1	1.0
SR-74 between Sherman Road (East) and Antelope Road	41,230	176	376	809	75.9	52,230	206	440	948	77.0	1.1
SR-74 between Antelope Road and Palomar Road	40,810	175	374	804	75.9	52,490	206	442	951	77.0	1.1
SR-74 between Palomar Road and Meniffee Road	40,620	174	373	801	75.9	53,340	208	447	961	77.1	1.2
SR-74 between Meniffee Road and McKinley	53,660	209	448	965	77.1	71,510	253	543	1168	78.3	1.2
SR-74 between McKinley and Malaga Road – Project Driveway 2	53,770	210	449	966	77.1	70,200	250	536	1154	78.3	1.2
SR-74 between Malaga Road – Project Driveway 2 and Project Driveway 3	52,340	206	441	949	77.0	63,280	233	500	1077	77.8	0.8
SR-74 between Project Driveway 3 and Briggs Road	52,340	206	441	949	77.0	64,050	235	504	1086	77.9	0.9
SR-74 between Briggs Road and Juniper Flats Road	54,780	212	455	978	77.2	64,040	235	504	1085	77.9	0.7
SR-74 between Juniper Flats Road and Vista Place – Winchester Road (SR-79)	42,330	179	383	824	76.1	50,030	200	428	921	76.8	0.7
Florida Avenue (SR-74/SR-79) between Vista Place – Winchester Road (SR-79) and Warren Road	48,710	127	270	579	73.8	54,800	137	292	626	74.3	0.5
Florida Avenue (SR-74/SR-79) between Warren Road and Cawston Avenue	34,470	102	215	460	72.3	37,820	108	228	489	72.7	0.4
Florida Avenue (SR-74/SR-79) between Cawston Avenue and Sanderson Avenue	26,070	86	179	382	71.0	28,090	90	188	402	71.4	0.4
Florida Avenue (SR-74/SR-79) between Sanderson Avenue and Kirby Street	30,380	94	198	423	71.7	31,680	97	203	435	71.9	0.2
Florida Avenue (SR-74/SR-79) between Kirby Street and Lyon Avenue	34,000	101	213	456	72.2	35,010	103	217	465	72.3	0.1
Florida Avenue (SR-74/SR-79) between Lyon Avenue and Palm Avenue	34,230	101	214	458	72.2	34,970	103	217	465	72.3	0.1

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Florida Avenue (SR-74/SR-79) between Palm Avenue and State Street	33,690	100	211	453	72.2	34,290	102	214	459	72.2	0.0
Florida Avenue (SR-74/SR-79) between State Street and Buena Vista Street	30,940	95	200	428	71.8	31,550	96	203	434	71.9	0.1
Florida Avenue (SR-74/SR-79) between Buena Vista Street and Santa Fe Street	30,650	95	199	426	71.8	31,240	96	201	431	71.8	0.0
Florida Avenue (SR-74/SR-79) between Santa Fe Street and San Jacinto Street (SR-79)	29,260	92	193	413	71.6	29,850	93	195	418	71.6	0.0
Redlands Avenue between 4th Street (SR-74) and I-215 SB Ramps	47,410	69	141	299	69.4	49,360	70	144	307	69.6	0.2
Nuevo Road between Dunlap Drive and Menifee Road	34,820	79	171	368	72.3	35,670	81	174	374	72.4	0.1
Ethanac Road between Goetz Road and Murrieta Road	30,730	77	159	339	70.3	31,730	78	162	346	70.4	0.1
Ethanac Road between Murrieta Road and Barnett Road	35,440	84	174	372	70.9	36,750	85	178	381	71.0	0.1
Ethanac Road between Barnett Road and Case Road	40,240	90	189	405	71.4	41,550	92	193	414	71.6	0.2
Ethanac Road between Case Road and I-215 SB Ramps	47,160	100	210	450	72.1	48,470	102	214	458	72.2	0.1
Ethanac Road between I-215 NB Ramps and Encanto Drive	34,450	79	170	365	72.0	35,760	81	174	374	72.1	0.1
Ethanac Road between Encanto Drive and Sherman Road	26,240	66	142	305	71.1	27,700	68	147	316	71.3	0.2
Ethanac Road between Sherman Road and Dawson Road	13,780	< 50	92	198	68.3	15,620	< 50	100	216	68.8	0.5
Ethanac Road between Dawson Road and Antelope Road	13,030	< 50	89	191	68.0	14,900	< 50	97	209	68.6	0.6
Matthews Road between Antelope Road and Palomar Road	13,250	< 50	107	231	69.3	15,150	55	117	252	69.8	0.5
Matthews Road between Palomar Road and Menifee Road	9,460	< 50	86	184	67.8	10,540	< 50	92	198	68.3	0.5
Case Road between Briggs Road (West) and Briggs Road (East)	13,340	< 50	60	129	65.4	13,890	< 50	62	132	65.6	0.2

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
McCall Boulevard between Murrieta Road and Sun City Boulevard	20,140	< 50	83	171	65.4	21,040	< 50	86	176	65.6	0.2
McCall Boulevard between Sun City Boulevard and Bradley Road	27,300	< 50	100	208	66.7	28,940	< 50	104	217	67.0	0.3
McCall Boulevard between Bradley Road and I-215 SB Ramps	42,700	67	132	280	68.7	44,650	68	136	288	68.9	0.2
McCall Boulevard between I-215 NB Ramps and Encanto Drive	51,930	106	224	480	72.5	63,270	120	255	547	73.4	0.9
McCall Boulevard between Encanto Drive and Sherman Road	39,870	90	188	402	71.4	51,290	105	222	476	72.5	1.1
McCall Boulevard between Sherman Road and Antelope Road	37,470	86	181	386	71.1	49,450	103	217	464	72.3	1.2
McCall Boulevard between Antelope Road and Junipero Road	34,470	52	112	242	69.6	46,870	64	138	297	70.9	1.3
McCall Boulevard between Junipero Road and Menifee Road	30,400	< 50	103	222	69.0	42,800	60	130	279	70.5	1.5
McCall Boulevard between Menifee Road and Heritage Lake Drive (West)	19,920	< 50	104	212	66.2	25,230	65	119	246	67.3	1.1
McCall Boulevard between Heritage Lake Drive (West) and Heritage Lake Drive (East)	13,090	< 50	83	162	64.4	18,080	< 50	99	199	65.8	1.4
McCall Boulevard between Heritage Lake Drive (East) and Briggs Road	9,350	< 50	70	131	62.9	14,440	< 50	87	172	64.8	1.9
Simpson Road between Menifee Road and Lindenberger Road	16,020	< 50	104	220	67.4	18,150	57	113	239	68.0	0.6
Simpson Road between Lindenberger Road and Briggs Road	16,520	< 50	105	224	68.3	18,520	54	113	242	68.8	0.5
Newport Road between Goetz Road and Berea Road – Murphy Ranch Road	43,400	134	279	597	73.1	44,070	135	282	603	73.1	0.0
Newport Road between Berea Road – Murphy Ranch Road and Murrieta Road	56,420	158	331	710	74.2	57,220	159	335	717	74.3	0.1
Newport Road between Murrieta Road and Evans Road	47,020	101	210	449	71.8	48,090	102	213	456	71.9	0.1
Newport Road between Evans Road and Bradley Road	52,110	110	226	481	71.7	53,470	112	230	489	71.8	0.1

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Newport Road between Bradley Road and Avenida De Cortez – Town Center Drive	57,910	118	242	516	72.1	59,870	120	247	528	72.3	0.2
Newport Road between Avenida De Cortez – Town Center Drive and Haun Road	67,800	129	268	573	72.8	70,330	132	275	587	73.0	0.2
Newport Road between Haun Road and I-215 SB Ramps	88,020	152	318	681	73.9	90,960	155	325	696	74.1	0.2
Newport Road between I-215 NB Ramps and Antelope Road	89,300	156	322	688	73.5	90,570	157	325	694	73.6	0.1
Newport Road between Antelope Road and Menifee Road	64,650	124	259	555	72.9	66,170	126	263	564	73.0	0.1
Ramona Expressway between Warren Road and Sanderson Avenue (SR-79) – Sanderson Avenue	36,950	155	332	713	75.1	37,620	157	336	722	75.2	0.1
Sherman Road between SR-74 and Ethanac Road	12,240	< 50	57	121	65.1	12,450	< 50	57	123	65.1	0.0
Palomar Road between SR-74 and Matthews Road	11,460	< 50	83	176	66.7	12,410	< 50	87	185	67.1	0.4
Menifee Road between Nuevo Road and Central Avenue/Porter Street	27,320	95	204	439	73.4	29,140	99	213	458	73.7	0.3
Menifee Road between Central Avenue/Porter Street and San Jacinto Avenue	28,190	98	208	448	72.6	30,350	103	219	470	72.9	0.3
Menifee Road between San Jacinto Avenue and Ellis Avenue	26,260	92	198	427	73.3	29,200	99	213	459	73.7	0.4
Menifee Road between Ellis Avenue and Mapes Road	28,070	96	207	447	73.6	31,600	104	224	483	74.1	0.5
Menifee Road between Mapes Road and Watson Road	22,710	84	180	388	72.6	26,580	93	200	431	73.3	0.7
Menifee Road between Watson Road and SR-74	18,630	73	158	340	71.8	23,530	86	184	397	72.8	1.0
Menifee Road between SR-74 and Biscayne Road	24,660	88	190	410	73.0	36,110	114	245	528	74.7	1.7
Menifee Road between Biscayne Road and McLaughlin Road	23,600	86	185	398	72.8	34,680	111	239	514	74.5	1.7
Menifee Road between McLaughlin Road and Project Driveway 1	24,240	87	188	405	72.9	39,560	121	261	561	75.1	2.2

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Menifee Road between Project Driveway 1 and Matthews Road	24,230	87	188	405	72.9	39,680	121	261	563	75.1	2.2
Menifee Road between Matthews Road and McCall Boulevard	29,060	78	155	327	69.4	43,430	98	200	426	71.1	1.7
Menifee Road between McCall Boulevard and Coastline Avenue	25,610	69	141	300	69.5	30,170	76	157	334	70.2	0.7
Menifee Road between Coastline Avenue and Simpson Road	27,850	72	149	317	69.8	32,080	79	163	348	70.4	0.6
Menifee Road between Simpson Road and Aldergate Drive – Carnelian Way	23,430	70	135	284	68.5	28,470	77	153	322	69.3	0.8
Menifee Road between Aldergate Drive – Carnelian Way and Newport Road	21,110	66	127	265	68.0	25,220	72	141	298	68.8	0.8
Menifee Road between Newport Road and La Piedra Road	33,000	83	168	355	70.0	35,120	86	175	370	70.2	0.2
Menifee Road between La Piedra Road and Holland Road	19,160	63	119	249	67.6	20,180	65	123	257	67.8	0.2
Briggs Road between Watson Road and SR-74	8,670	< 50	69	146	65.5	9,820	< 50	75	159	66.1	0.6
Briggs Road between SR-74 and Heritage High School Driveway	22,670	62	129	276	69.4	31,430	76	160	343	70.8	1.4
Briggs Road between Heritage High School Driveway and McLaughlin Road	21,720	58	125	269	70.3	30,610	73	157	338	71.7	1.4
Briggs Road between McLaughlin Road and Project Driveway 4	22,320	61	128	274	69.6	28,960	71	152	325	70.7	1.1
Briggs Road between Project Driveway 4 and Project Driveway 5 – Meadow Oak Street	22,190	60	127	272	69.6	28,440	71	150	321	70.7	1.1
Briggs Road between Project Driveway 5 – Meadow Oak Street and Project Driveway 6	21,870	60	126	270	69.5	28,490	71	150	322	70.7	1.2
Briggs Road between Project Driveway 6 and Project Driveway 7	21,440	59	124	266	69.4	27,970	70	148	318	70.6	1.2
Briggs Road between Project Driveway 7 and Case Road	21,430	58	124	266	70.2	29,440	71	153	329	71.6	1.4
Briggs Road between Case Road and McCall Boulevard	21,580	60	125	268	69.2	29,040	72	152	326	70.4	1.2

**Table 4.13.Q: Horizon Year (2045) Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Briggs Road between McCall Boulevard and Simpson Road	14,360	< 50	96	204	67.4	16,580	< 50	106	225	68.0	0.6
Warren Road between Ramona Expressway and Cottonwood Avenue	25,520	91	195	419	73.2	26,190	92	198	426	73.3	0.1
Warren Road between Cottonwood Avenue and Esplanade Avenue	24,330	88	189	406	72.9	25,560	91	195	420	73.2	0.3
Warren Road between Esplanade Avenue and Florida Avenue (SR-74/SR-79)	31,280	104	223	480	74.0	32,980	107	231	497	74.3	0.3

Source: Compiled by LSA (2022).

<sup>1</sup> Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

I-215 = Interstate 215

NB = northbound

SB = southbound

SR-74 = State Route 74

SR-79 = State Route 79

- **Menifee Road Between McLaughlin Road and Matthews Road.** No traffic noise impacts would occur along Menifee Road between McLaughlin Road and Matthews Road because there are no noise-sensitive land uses such as residences along this roadway segment. Therefore, **no project-related traffic noise impacts** would occur on off-site uses along this roadway segment.
- **Menifee Road Between Matthews Road and McCall Boulevard.** Noise-sensitive land uses in this area include residences along this roadway segment. Residences are located approximately 75 feet from the Menifee Road centerline and would be exposed to traffic noise levels of 70.1 dBA CNEL without the existing 6-foot-high private property wall based on **Table 4.13.P**. The existing 6-foot-high private property wall and the pad elevation of these residences are higher in elevation than Menifee Road and would provide a noise reduction of 7 dBA, which would reduce traffic noise levels to 63.1 dBA CNEL. The noise level reduction calculation for the 6-foot-high private property wall is provided in **Appendix I** of this EIR. Although Project-related traffic would increase noise levels by 3.1 dBA, the opening year (2026) Phases 2 and 3 cumulative with project traffic noise levels would not exceed the City's noise standard of 65 dBA CNEL based on General Plan Noise Element Policy N-1.11. Therefore, Project-related traffic noise impacts on off-site uses along this roadway segment would be **less than significant**.
- **Briggs Road Between the Heritage High School Driveway and McLaughlin Road.** Noise-sensitive land uses in this area include Heritage High School along this roadway segment. Outdoor active use areas at the high school are located approximately 385 feet from the Briggs Road centerline and would be exposed to traffic noise levels of 52.4 dBA CNEL based on **Table 4.13.P**. Although Project-related traffic would increase noise levels by 3 dBA, the opening year (2026) Phases 2 and 3 cumulative with project traffic noise levels would not exceed the City's noise standard of 65 dBA CNEL based on General Plan Noise Element Policy N-1.11. Therefore, Project-related traffic noise impacts on off-site uses along this roadway segment would be **less than significant**.

Therefore, off-site traffic noise impacts from on-site operations of the Project would be **less than significant** because traffic noise levels at the noise-sensitive areas of residences and the school would not exceed the City's noise standard of 65 dBA CNEL even though the proposed Project would result in a substantial increase in ambient noise levels under the opening year (2026) Phases 2 and 3 cumulative traffic condition. In addition, the substantial increase in ambient noise levels would diminish over time to less than substantial due to ambient growth in the Project area. No mitigation measures are required.

**Off-Site Improvements.** The proposed Project would not generate traffic from off-site roadway and infrastructure improvements. Therefore, **no traffic noise impacts** would occur from off-site roadway and infrastructure improvements. No mitigation measures are required.

**Off-Site Roadway Improvements.** Implementation of the Project would also result in off-site roadway improvements to address traffic impacts in conflict with the General Plan Circulation Element policies that strive to maintain desired LOS. These roadway improvements, which

include widening and additional turn lanes as required, include Matthews Road/Case Road (between McLaughlin Road and Ethanac Road), McLaughlin Road (between Matthews Road/Case Road and Menifee Road), and McCall Boulevard (between Encanto Drive and Menifee Road). These roadway improvements were identified in the General Plan Circulation Element and included in the Certified 2013 EIR.

The Certified 2013 EIR determined that buildout of the General Plan, which includes the off-site roadway improvements, would result in an increase in traffic on local roadways and the I-215 freeway, which would substantially increase the existing noise environment. However, the Certified 2013 EIR also indicated that because the noise increases over individual projects associated with the building out of the General Plan would occur over a period of many years, the increase in noise on an annual basis would not be readily discernable as noise and traffic would increase incrementally. As such, the proposed off-site roadway improvements would not result in a substantial noise increase in and by themselves. In addition, the proposed Project would not generate traffic from off-site roadway improvements. Therefore, traffic noise impacts would be *less than significant*, and no mitigation is required.

**Future Project-Specific Stationary Noise Impacts.** The proposed Project has the potential to include certain uses (i.e., commercial or office-type uses), which would contain sources that could generate operational noise. At the time of this analysis, specific plans are not available; therefore, once site-specific plans are available, an assessment of potential noise impacts would be completed to confirm compliance with local noise standard.

**Level of Significance Prior to Mitigation:** Less than Significant

**Regulatory Compliance Measures and Mitigation Measures:** The following RCM N-1 is required.

**RCM N-1:** Prior to and during construction, the construction contractor shall implement the following measures to minimize construction noise pursuant to Section 8.01.010 of the City of Menifee Municipal Code and Section 9.52.020(H) of the County of Riverside Code.

- **Construction Hours.** The construction contractor shall limit construction activities to between 6:30 a.m. and 7:00 p.m. Monday through Saturday for residential land uses located within the City. Construction shall be prohibited on Sunday or nationally recognized holidays unless approval is obtained from the City Building Official or City Engineer. For residential land uses located within the County of Riverside, the construction contractor shall limit construction to between the hours of 6:00 a.m. and 6:00 pm during the months of June through September and between 7:00 a.m. and 6:00 p.m. during the months of October through May. Construction shall be prohibited outside of these hours.
- **Mufflers.** During all Project site excavation and grading, the Project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.

- **Construction Staging.** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and most noise-sensitive receptors nearest the Project site during Project construction.
- **Stationary Equipment.** The construction contractor shall place all stationary construction equipment so that the emitted noise is directed away from the sensitive receptors nearest the Project site.

**Level of Significance After Mitigation:** Less than Significant

#### 4.13.6.2 Groundborne Vibration and Groundborne Noise

##### **Threshold 4.13.2: Generation of excessive groundborne vibration or groundborne noise levels?**

**Short-Term Construction Vibration Impacts.** This construction vibration impact analysis discusses the level of human annoyance using vibration levels in vibration velocity decibels (VdB) and assesses the potential for building damage using vibration levels in peak particle velocity (PPV) in inches per second (in/sec). Vibration levels calculated in root-mean-square (RMS) velocity are best for characterizing human response to building vibration, whereas vibration levels in PPV are best for characterizing damage potential.

**Table 4.13.R** shows the reference vibration levels at a distance of 25 feet for each type of standard construction equipment from the *Transit Noise and Vibration Impact Assessment Manual*.<sup>13</sup> Project construction is expected to require the use of large bulldozers and loaded trucks, which would generate ground-borne vibration levels of up to 87 VdB (0.089 in/sec [PPV]) and 86 VdB (0.076 in/sec [PPV]), respectively, when measured at 25 feet.

The greatest vibration levels are anticipated to occur during the site preparation and grading phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured to the nearest off-site buildings because vibration impacts normally occur within the buildings.

The formula for vibration transmission is provided below:

$$L_{\text{vdB}}(D) = L_{\text{vdB}}(25 \text{ ft}) - 30 \text{ Log}(D/25)$$

$$\text{PPV}_{\text{equip}} = \text{PPV}_{\text{ref}} \times (25/D)^{1.5}$$

<sup>13</sup> Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. September. Website: [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf) (accessed October 2023).

**Table 4.13.R: Vibration Source Amplitudes for Construction Equipment**

Equipment	Reference PPV/L <sub>v</sub> at 25 ft	
	PPV (in/sec)	L <sub>v</sub> (VdB) <sup>1</sup>
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
<b>Vibratory Roller<sup>2</sup></b>	<b>0.210</b>	<b>94</b>
Hoe Ram	0.089	87
<b>Large Bulldozer<sup>2</sup></b>	<b>0.089</b>	<b>87</b>
Caisson Drilling	0.089	87
<b>Loaded Trucks<sup>2</sup></b>	<b>0.076</b>	<b>86</b>
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Sources: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

<sup>1</sup> RMS vibration velocity in decibels (VdB) is 1 μin/sec.

<sup>2</sup> Equipment shown in bold is expected to be used on site.

μin/sec = microinches per second

in/sec = inches per second

RMS = root-mean-square

ft = foot/feet

L<sub>v</sub> = velocity in decibels

VdB = vibration velocity decibels

FTA = Federal Transit Administration

PPV = peak particle velocity

**On-Site Improvements.** Table 4.13.S lists the projected vibration levels from various construction equipment expected to be used on the Project site in the active construction area near the center of the Project site to the nearest buildings in the Project vicinity. As shown in Table 4.13.S, the closest residential, utility, and school buildings would be located approximately 340 feet to the east, 510 feet to the northwest, and 595 feet to the northeast from the active Project construction area near the center of the Project site and would experience a vibration level of up to 53 VdB, 48 VdB, and 46 VdB, respectively. These vibration levels would not result in community annoyance because they would not exceed the FTA community annoyance threshold of 78 VdB for daytime residences and the school and 84 VdB for uses that are not as sensitive to vibration, such as the utility building. The school was evaluated as daytime residences because the school would have a similar vibration sensitivity as daytime residences. Other building structures that surround the Project site would experience lower vibration levels because they are farther away.

Similarly, Table 4.13.T lists the projected vibration levels from various construction equipment expected to be used on the Project site at the Project construction boundary to the nearest buildings in the Project vicinity. As shown in Table 4.13.T, the residential, utility, and school buildings would be located approximately 140 feet to the east, 305 feet to the northwest, and 395 feet to the northeast from the Project construction boundary and would experience vibration levels up to 0.007 in/sec (PPV), 0.002 in/sec (PPV), and 0.001 in/sec (PPV), respectively.

These vibration levels would not have the potential to result in building damage because these buildings would be constructed equivalent to or better than non-engineered timber and masonry, and vibration levels would not exceed the FTA vibration damage threshold of 0.20 PPV (in/sec). Other building structures that surround the Project site would experience lower vibration levels because they are farther away and would be constructed equivalent to or better than non-engineered timber and masonry. Therefore, vibration levels generated from Project construction activities would be **less than significant**. No mitigation measures are required.

**Table 4.13.S: Potential Construction Vibration Annoyance**

Land Use	Direction	Equipment/ Activity	Reference Vibration Level (VdB) at 25 ft	Distance to Structure (ft) <sup>1</sup>	Vibration Level (VdB)
Southern California Edison Menifee Service Center	Northwest	Large bulldozers	87	510	48
		Loaded trucks	86	510	47
Heritage High School	Northeast	Large bulldozers	87	595	46
		Loaded trucks	86	595	45
Residence	East	Large bulldozers	87	340	53
		Loaded trucks	86	340	52
Residence	South	Large bulldozers	87	460	49
		Loaded trucks	86	460	48

Source: Compiled by LSA (2022).

Note: The FTA-recommended annoyance threshold of 84 VdB for offices (and other similar areas not as sensitive to vibration) and 78 VdB for daytime residence was used to assess potential construction vibration annoyance. The school was evaluated as daytime residences because the school would have similar vibration sensitivity as daytime residences.

<sup>1</sup> Distance from the active construction area near the center of the Project site to the building structure.

ft = feet

FTA = Federal Transit Administration

VdB = vibration velocity decibels

**Table 4.13.T: Potential Construction Vibration Damage**

Land Use	Direction	Equipment/ Activity	Reference Vibration Level at 25 ft	Distance to Structure (ft) <sup>1</sup>	Vibration Level
			PPV (in/sec)		PPV (in/sec)
Southern California Edison Menifee Service Center	Northwest	Large bulldozers	0.089	305	0.002
		Loaded trucks	0.076	305	0.002
Heritage High School	Northeast	Large bulldozers	0.089	395	0.001
		Loaded trucks	0.076	395	0.001
Residence	East	Large bulldozers	0.089	140	0.007
		Loaded trucks	0.076	140	0.006
Residence	South	Large bulldozers	0.089	260	0.003
		Loaded trucks	0.076	260	0.002

Source: Compiled by LSA (2022).

Note: The FTA-recommended building damage threshold is 0.20 PPV [in/sec] at the receiving non-engineered timber and masonry building.

<sup>1</sup> Distance from the project construction boundary to the building structure.

ft = feet

in/sec = inches per second

FTA = Federal Transit Administration

PPV = peak particle velocity

**Off-Site Improvements.** Construction equipment expected to be used for off-site roadway and infrastructure improvements would not generate vibration except for loaded trucks, which would generate a vibration level of 86 VdB (0.076 in/sec [PPV]). The closest residential buildings along Menifee Road north of SR-74 would be approximately 10 feet from loaded trucks at the Project construction boundary for off-site roadway and infrastructure improvements, which would experience a vibration level of 98 VdB (0.3 in/sec [PPV]). This vibration level would have the potential to result in community annoyance because vibration levels would exceed the FTA’s community annoyance threshold of 78 VdB for daytime residences. However, vibration

generated from Project construction activities is temporary and would stop once Project construction is completed.

In addition, this vibration level would have the potential to result in building damage because residential buildings would be constructed equivalent to non-engineered timber and masonry, and the vibration level would exceed the FTA's damage threshold of 0.2 in/sec (PPV). The implementation of **Mitigation Measure N-1**, which would restrict loaded trucks or require the use of light pick-up trucks within 15 feet of the residential structure would reduce construction vibration levels to 0.164 in/sec (PPV) or below. Therefore, construction vibration impacts from off-site roadway and infrastructure improvements would be **less than significant** with the implementation of **Mitigation Measure N-1**.

**Off-Site Roadway Improvements.** Implementation of the Project would also result in off-site roadway improvements to address traffic impacts in conflict with the General Plan Circulation Element policies that strive to maintain desired LOS. These roadway improvements, which include widening and additional turn lanes as required, include Matthews Road/Case Road (between McLaughlin Road and Ethanac Road), McLaughlin Road (between Matthews Road/Case Road and Menifee Road), and McCall Boulevard (between Encanto Drive and Menifee Road). These roadway improvements were identified in the General Plan Circulation Element and included in the Certified 2013 EIR.

Construction equipment expected to be used for off-site roadway improvements would not generate vibration except for large bulldozers and loaded trucks, which would generate vibration levels of 87 (0.089 in/sec [PPV]) and 86 VdB (0.076 in/sec [PPV]), respectively. The closest residential buildings along McCall Boulevard would be approximately 10 feet from bulldozers and loaded trucks at the Project construction boundary for off-site roadway improvements, which would experience vibration levels of up to 99 VdB (0.352 in/sec [PPV]). This vibration level would have the potential to result in community annoyance because vibration levels would exceed the FTA's community annoyance threshold of 78 VdB for daytime residences. However, vibration generated from Project construction activities is temporary and would stop once Project construction is completed.

In addition, these vibration levels would have the potential to result in building damage because residential buildings would be constructed equivalent to non-engineered timber and masonry, and the vibration level would exceed the FTA's damage threshold of 0.2 in/sec (PPV). The implementation of **Mitigation Measure N-1**, which would restrict large bulldozers and loaded trucks or require the use of small rubber-tired dozers and light pick-up trucks within 15 feet of residential structures, would reduce construction vibration levels to 0.191 in/sec (PPV) or below. Therefore, construction vibration impacts from off-site roadway improvements would be **less than significant** with the implementation of **Mitigation Measure N-1**.

#### **Long-Term Operational Vibration Impacts.**

**On-Site Improvements.** Once operational, the Project would not generate vibration. In addition, vibration levels generated from Project-related traffic on the adjacent roadways (SR-74, Menifee Road, Briggs Road, and other roadways) would be unusual for on-road vehicles because the

rubber tires and suspension systems of on-road vehicles provide vibration isolation. Therefore, vibration impacts from Project-related operations would be **less than significant**. No mitigation measures are required.

**Off-Site Improvements.** Off-site roadway improvements on SR-74, Menifee Road, and Briggs Road would not generate any additional traffic, and regional traffic trips are expected to remain the same. In addition, as discussed above, vibration levels would be unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. In addition, the off-site roadway and infrastructure improvements on SR-74, Menifee Road, and Briggs Road would include new asphalt pavement with proper maintenance. As a result, there would be no potholes, bumps, or other discontinuities in the road surface that would generate ground-borne vibration or noise impacts from vehicular traffic traveling on SR-74, Menifee Road, and Briggs Road. Therefore, ground-borne vibration and noise impacts generated from vehicles traveling on off-site roadway improvements would be **less than significant**. No mitigation measures are required.

**Off-Site Roadway Improvements.** Implementation of the Project would also result in off-site roadway improvements to address traffic impacts in conflict with the General Plan Circulation Element policies that strive to maintain desired LOS. These roadway improvements, which include widening and additional turn lanes as required, include Matthews Road/Case Road (between McLaughlin Road and Ethanac Road), McLaughlin Road (between Matthews Road/Case Road and Menifee Road), and McCall Boulevard (between Encanto Drive and Menifee Road). These roadway improvements were identified in the General Plan Circulation Element and included in the Certified 2013 EIR.

The Certified 2013 EIR determined that implementation of the General Plan, which includes the off-site roadway improvements, would not expose sensitive land uses to strong levels of groundborne vibration. Also, off-site roadway improvements on Matthews Road/Case Road, McLaughlin Road, and McCall Boulevard would not generate any additional traffic, and regional traffic trips are expected to remain the same. In addition, as discussed above, vibration levels would be unusual for on-road vehicles because the rubber tires and suspension systems of on-road vehicles provide vibration isolation. The off-site roadway improvements along Matthews Road/Case Road, McLaughlin Road, and McCall Boulevard would include new asphalt pavement with proper maintenance. As a result, there would be no potholes, bumps, or other discontinuities in the road surface that would generate ground-borne vibration or noise impacts from vehicular traffic traveling along Matthews Road/Case Road, McLaughlin Road, or McCall Boulevard. Therefore, ground-borne vibration and noise impacts generated from vehicles traveling on off-site roadway improvements would be **less than significant**. No mitigation measures are required.

**Level of Significance Prior to Mitigation:** Potentially Significant

**Regulatory Compliance Measures and Mitigation Measures:** The following Mitigation Measure N-1 is required.

**Mitigation Measure N-1:** Prior to issuance of grading or building permits, the City of Menifee shall confirm that construction specifications indicate that the construction contractor shall restrict loaded trucks or require the use of light pick-up trucks within 15 feet of the residential structures along Menifee Road north of State Route 74 (SR-74). In addition, the City of Menifee shall confirm that construction specifications indicate that the construction contractor shall restrict large bulldozers and loaded trucks or require the use of small rubber-tired bulldozers and light pick-up trucks within 15 feet of the residential structures along McCall Boulevard between Durant Street and Junipero Road.

**Level of Significance After Mitigation:** Less than Significant with mitigation incorporated.

#### 4.13.6.3 Airport Noise

**Threshold 4.13.3:** 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 2 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?

**On-Site Improvements.** The closest airport is the Perris Valley Airport, which is 3.8 miles northwest of the Project site. Based on the Riverside County Airport Land Use Compatibility Plan<sup>14</sup>, the Project site is outside the 55 dBA CNEL noise contours. Additionally, there is a private helipad associated with the Southern California Edison Menifee Service Center, which is located northwest of the Project site, and it would not operate frequently based on the facility with which it is associated. Therefore, the proposed Project would not expose people residing or working in the Project area to excessive noise levels from aircraft-related operations. **No impact** would occur, and no mitigation measures are required.

**Off-Site Improvements.** The off-site roadway and infrastructure improvements are located in the vicinity of the Project site, and the distance to the Perris Valley Airport and the private helipad associated with the Southern California Edison Menifee Service Center would be similar to that of the proposed Project site. Also, the off-site roadway and infrastructure improvements would not involve the introduction of residential or employment uses in the Project area. Therefore, the Project's off-site improvements would not expose people residing or working in the Project vicinity to excessive noise levels from aircraft-related operations. **No impact** would occur, and no mitigation measures are required.

**Off-Site Roadway Improvements.** Implementation of the Project would also result in off-site roadway improvements to address traffic impacts in conflict with the General Plan Circulation Element policies that strive to maintain desired LOS. These roadway improvements, which include widening and additional turn lanes as required, include Matthews Road/Case Road (between McLaughlin Road and Ethanac Road), McLaughlin Road (between Matthews Road/Case Road and

<sup>14</sup> Riverside County Airport Land Use Commission (ALUC). 2004. Riverside County Airport Land Use Compatibility Plan. Website: <https://rcaluc.org/riverside-county-airport-land-use-compatibility-plan> (accessed October 2023).

Menifee Road), and McCall Boulevard (between Encanto Drive and Menifee Road). These roadway improvements were identified in the General Plan Circulation Element and included in the Certified 2013 EIR.

The off-site roadway improvements are located in the vicinity of the Project site, and the distance to the Perris Valley Airport and the private helipad associated with the Southern California Edison Menifee Service Center would be similar to that of the proposed Project site. Also, the off-site roadway improvements would not involve the introduction of residential or employment uses in the Project area. Therefore, the Project's off-site improvements would not expose people residing or working in the Project vicinity to excessive noise levels from aircraft-related operations. In addition, the Certified 2013 EIR determined that implementation of the General Plan, which includes the off-site roadway improvements, would not expose sensitive land uses to substantial levels of aircraft noise. **No impact** would occur, and no mitigation measures are required.

**Level of Significance Prior to Mitigation:** No Impact

**Regulatory Compliance Measures and Mitigation Measures:** No Regulatory Compliance or Mitigation Measures are required.

**Level of Significance After Mitigation:** No Impact

#### 4.13.7 Cumulative Impacts

The cumulative area for noise impacts is Menifee and Riverside County. Construction crew commutes and the transport of construction equipment and materials to the site for the Project would incrementally increase noise levels on roadways leading to the Project site. Secondary sources of noise would include noise generated during site preparation, grading, building construction, paving, and architectural coating phases of construction on the Project site. The net increase in Project site noise levels generated by these activities and other sources has been quantitatively estimated. Although it is not possible to predict if contiguous or nearby properties may be constructed at the same time and create cumulative noise impacts that would be greater than if developed at separate times, it is unlikely that adjacent properties will be developed at the same time as the Project site. However, in the unlikely event that adjacent properties are developed at the same time as the proposed Project, adherence to the City's Municipal Code and County Code provisions that regulate the timing of construction activities would render the **cumulative construction noise impacts less than cumulatively significant**.

Operational noise resulting from occupation of the Project site would be typical of that experienced in similar residential, industrial, and commercial development. On-site operational noises are individual noise occurrences and are not typically additive in nature. It is extremely unlikely that adjacent properties will generate noises that would be additive in nature because of two important reasons. First, the noise sources would have to be adjacent or in close proximity to one another in order for the noises to intermingle and become cumulative. Second, the sensitive receptor or receptors would also have to be adjacent to or in close proximity to the noise generators. It is not possible to predict with reasonable certainty if cumulative development in the Project would generate noise at the same time and location(s) sufficient to create significant cumulative noise impact at sensitive receptors. Increasing traffic on SR-74, Menifee Road, and Briggs Road, and other

roadways in the Project vicinity will cumulatively increase traffic noise in the Project area, which will increase the potential for cumulatively significant noise levels at new and existing development. It is reasonable to conclude that each separate project will be required to identify and mitigate noise such that exterior and interior noise levels do not exceed established City standards at any noise-sensitive use. Adherence to standard City and County provisions that regulate noise and implementation of Project-specific mitigation for the proposed development as well as other identified cumulative projects would ensure that **cumulative long-term noise impacts remain less than cumulatively significant** with mitigation incorporated.

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