4.6 Noise

This section describes the existing conditions related to noise and vibration in the plan area, as well as the regulatory framework. This section also evaluates the possible impacts related to noise and vibration that could result from implementation of the 2045 General Plan Update. Information included in this section is based on the policies from the plan, the Noise Element of the City's currently adopted General Plan (Santa Maria 2002), Environmental Background Report (Santa Maria 2020) and the Santa Maria Municipal Code (Santa Maria 2024), as well as transportation volume data produced by GHD in June 2025.

4.6.1 Setting

a. Fundamentals of Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013). Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of roadway vehicle volume, would increase the noise level by 3 dBA; reducing the energy in half would result in a 3 dBA decrease (Crocker 2007). Table 4.6-1 shows some representative noise sources and their corresponding noise levels in dBA.

Table 4.6-1 Typical A-Weighted Noise Levels

Indoor Noise Source	Noise Level (dBA)	Outdoor Noise Sources
(Threshold of Hearing in Laboratory)	0	–
Library	30	Quiet Rural Nighttime
Refrigerator Humming	40	Quiet Suburban Nighttime
Quiet Office	50	Quiet Urban Daytime
Normal Conversation at 3 feet	60	Normal Conversation at 3 feet
Vacuum Cleaner at 10 feet	70	Gas Lawn Mower at 100 feet
Hair Dryer at 1 foot	80	Freight Train at 50 feet
Food Blender at 3 feet	90	Heavy-duty Truck at 50 feet
Inside Subway Train (New York)	100	Jet Takeoff at 2,000 feet
Smoke Detector Alarm at 3 feet	110	Unmuffled Motorcycle
Rock Band near stage	120	Chainsaw at 3 feet
–	130	Military Jet Takeoff at 50 feet
–	140	(Threshold of Pain)

Source: Data compiled by Rincon in 2022.

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. When combined, two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy), that a change of 5 dBA is readily perceptible, and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (Caltrans 2013).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise declines with distance depends on factors such as the type of sources (e.g., point or line), the path the sound travels, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013).

Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5 dBA reduction in source noise levels at the receiver.

Noise Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, its frequency, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed.

One of the most frequently used noise metrics that considers both duration and intensity is the equivalent noise level (L_{eq}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, L_{eq} is equivalent to a 1-hour period, even when measured for shorter durations, as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady. L_{max} is the highest root mean square (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period. Normal conversational levels at three feet are in the 60- to 65-dBA L_{eq} range and ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration 2018).

Noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (L_{dn} or DNL), which is a 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by DNL and CNEL usually differ by about 0.5 dBA and are, therefore, generally considered to be interchangeable.

Table 4.6-2 briefly defines measurement descriptors and other sound terminology used in this section.

Table 4.6-2 Sound Terminology

Term	Definition
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, can be detected by a receiving mechanism such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which represents the squared ratio of sound-pressure amplitude to a reference sound pressure. The reference pressure is 20 micropascals, representing the threshold of human hearing (0 dB).
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level that approximates the frequency response of the human ear.
Equivalent Noise Level (L_{eq})	The average sound energy occurring over a specified time period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
Ambient Noise	The composite of noise from all sources near and far in a given environment.
Maximum and Minimum Noise Levels (L_{max} and L_{min})	The maximum or minimum instantaneous sound level measured during a measurement period.
Day-Night Level (DNL or L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m. (nighttime).
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.

Source: Data compiled by Rincon in 2022.

b. Overview of Groundborne Vibration

In environmental analysis, groundborne vibration of concern consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation comprises the vibration frequency, described in terms of hertz. The frequency of a vibrating object describes how rapidly it oscillates. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration.

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 hertz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV). The PPV is normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration and other construction activity because it is related to the stresses that are experienced by buildings (Caltrans 2020).

c. Sensitive Receptors

The Santa Maria General Plan Noise Element identifies noise-sensitive land uses as residential areas (including single-family, duplex, multiple-family, and mobile home), motels/hotels, schools, libraries, hospitals, nursing homes, and places of worship (City of Santa Maria 2009), shown in Figure 4.6-1.

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studies or medical facilities with sensitive equipment).

d. Existing Noise Environment

Aviation

Airport noise associated with Santa Maria Airport operations is an additional noise source in the plan area. The Santa Maria Airport is located in the southern portion of the plan area, with flightpaths from the airport's runway being located in the plan area. Aircraft following these flightpaths would not generate substantial noise over the plan area. As shown in Figure 4.6-2, the airport 60-65 dBA CNEL noise contours extend primarily over areas of the plan area that are primarily agriculture or open space.

The annual air show takes place over a few days in the fall exposes the area to higher-than-typical noise. In addition, military aircraft occasionally utilize the Santa Maria Airport for training. These temporary events do not have their own noise contours, as they are not considered part of the regular use of the Santa Maria Airport.

Roadways

The City's primary source of noise is traffic-related from on-road vehicles and trucks. Vehicular noise has three main component sources: engine/ transmission noise, exhaust noise, and tire noise. US-101, SR-135 (Orcutt Expressway/Broadway), SR-166 (Main Street) and Betteravia Road are some of the main roadways of concern related to noise because they carry high traffic volumes. Since the US-101 travels through Santa Maria in the central portions of the City, it produces traffic noise that affects much of the area within the City. The Federal Highway Administration (FHWA) model RD-77-

108 predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, roadway vehicle volumes, vehicle speeds, car/truck mix, number of lanes, and road width. Table 4.6-3 provides existing roadway vehicle noise along roadways in the plan area. Figure 4.6-3 shows the existing 60, 65, and 70 dBA CNEL noise contours from roadways and highways in the plan area.

Table 4.6-3 provides existing roadway vehicle noise levels a distance of 50 feet from roadway segments in the plan area. Roadway vehicle noise impacts are analyzed based on average daily trip (ADT) roadway volume for existing conditions provided by GHD (GHD 2025), as well as data regarding speeds and number of lanes. Traffic noise modeling data are contained in Appendix C.

Table 4.6-3 Existing Traffic Noise Levels Along Roadway Segments

Roadway	Segment	Existing ADT	Existing Traffic Noise Level at 50 feet (dBA CNEL)
US 101	N. of Clark Ave	45,500	81.8
US 101	S. of Clark Ave	35,800	80.8
US 101	N. of Santa Maria Wy Junction	57,000	82.9
US 101	S. of Santa Maria Wy Junction	59,000	82.8
US 101	N. of Betteravia Rd	68,000	83.7
US 101	S. of Betteravia Rd	57,000	82.9
US 101	N. of Stowell Rd	74,000	84.1
US 101	S. of Stowell Rd	68,000	83.7
US 101	N. of SR 166 (Main St)	70,000	83.8
US 101	S. of SR 166 (Main St)	74,000	84.1
US 101	N. of SR 135 (Broadway)	82,090	85.2
US 101	S. of SR 135 (Broadway)	67,000	84.3
Orcutt Expressway (SR 135)	N. of Clark Ave	29,500	74.4
Orcutt Expressway (SR 135)	S. of Clark Ave	20,100	72.7
Orcutt Expressway (SR 135)	N. of Foster Rd	37,000	75.4
Orcutt Expressway (SR 135)	S. of Foster Rd	24,600	73.6
Orcutt Expressway (SR 135)	N. of Lakeview Rd	32,000	74.7
Orcutt Expressway (SR 135)	N. of Miller St	43,000	76.0
Orcutt Expressway (SR 135)	S. of Miller St	37,500	75.4
Orcutt Expressway (SR 135)	N. of Santa Maria Way	41,000	75.8
Orcutt Expressway (SR 135)	S. of Santa Maria Way	44,500	76.2
Broadway (SR 135)	N. of Betteravia Rd	47,000	75.3
Broadway (SR 135)	S. of Betteravia Rd	47,500	76.0
Broadway (SR 135)	N. of Stowell Rd	40,500	72.6
Broadway (SR 135)	S. of Stowell Rd	44,500	72.8
Broadway (SR 135)	N. of Main St	28,500	71.4
Broadway (SR 135)	S. of Main St	26,500	70.6
Broadway (SR 135)	N. of Donovan Rd	27,000	71.1
Broadway (SR 135)	S. of Donovan Rd	27,500	71.2
Broadway (SR 135)	W. of US 101	23,900	73.8
Main St (SR 166)	W. of Blosser Rd	14,200	70.7
Main St (SR 166)	E. of Blosser Rd	15,900	71.2

Roadway	Segment	Existing ADT	Existing Traffic Noise Level at 50 feet (dBA CNEL)
Main St (SR 166)	E. of Suey Rd	6,400	66.4
Main St (SR 166)	W. of Suey Rd	8,700	67.7
Main St (SR 166)	US 101 SB-Off Ramp	29,500	72.8
Main St (SR 166)	E. of Broadway (SR 135)	26,500	73.7
Main St (SR 166)	W. of Broadway (SR 135)	18,800	71.5
A St	S. of Betteravia Dr	3,450	58.7
A St	S. of Sonya Ln	3,650	64.2
Alvin Ave	W. of Railroad Ave	8,510	65.6
Alvin Ave	W. of College Dr	7,700	65.1
Alvin Ave	E. of Bradley Rd	6,670	64.5
Alvin Ave	W. of Suey Rd	3,440	61.6
Battles Rd	E. of Blosser Rd	10,740	67.1
Battles Rd	W. of Blosser Rd	9,320	63.6
Battles Rd	W. of Bradley Rd	7,670	68.0
Battles Rd	E. of Broadway (SR 135)	13,220	65.1
Battles Rd	W. of Broadway (SR 135)	11,650	64.6
Bay Ave	b/w Donovan Rd and Harding Ave	3,490	59.2
Betteravia Dr	E. of A St	14,630	71.5
Betteravia Dr	E. of Skyway Dr	15,390	71.7
Betteravia Dr	E. of Bradley Dr	38,460	75.9
Betteravia Dr	W. of College Dr	34,170	75.4
Betteravia Dr	W. of Depot St	20,620	72.9
Betteravia Dr	E. of Broadway (SR 135)	30,350	75.1
Blosser Rd	S. of Foster Rd	2,220	59.6
Blosser Rd	S. of Stowell Rd	24,120	72.5
Blosser Rd	b/w Boone St and Cook St	23,530	71.3
Blosser Rd	S. of Main St (SR 166)	24,960	70.0
Blosser Rd	S. of Alvin Ave	14,140	69.0
Blosser Rd	S. of Donovan Rd	15,200	69.4
Blosser Rd	N. of Taylor St	5,120	65.7
Blosser Rd	S. of Taylor St	7,970	67.7
Blosser Rd	N. of Canal St	2,700	62.9
Bradley Rd	S. of Cottage Ln	1,000	56.8
Bradley Rd	S. of Bello Rd	4,960	63.7
Bradley Rd	S. of Betteravia Dr	22,740	70.3
Bradley Rd	N. of Battles Rd	16,420	71.3
Bradley Rd	S. of Battles Rd	10,760	69.5
Bradley Rd	N. of Stowell Rd	14,860	67.0
Bradley Rd	b/w SR 101 SB-On Ramp and Cypress St (one-way)	3,750	62.4
Bradley Rd	E. of College Dr	3,950	59.7
Bull Canyon Rd	N. of Panther Dr	260	50.8
California Blvd	S. of Foster Rd	1,460	58.3

Roadway	Segment	Existing ADT	Existing Traffic Noise Level at 50 feet (dBA CNEL)
Camino Colegio	E. of Miller St	1,280	54.8
Camino Colegio	W. of Miller St	1,400	55.2
Canal St	E. of Blosser Rd	1,140	54.6
Carlotti Dr	b/w Noble Wy and Paden St	5,490	64.0
Carlotti Dr	b/w Stanford Dr and Murray Dr	3,700	62.3
Carmen Ln	W. of Thornburg St	5,440	60.9
Carmen Ln	W. of Broadway (SR 135)	7,580	62.4
Centennial St	b/w Mt Whitney Wy and Panther Dr	1,480	55.5
Cesar E Chavez Dr	S. of Hidden Pines Wy	3,390	59.1
College Dr	E. of Santa Maria Wy	9,730	62.2
College Dr	N. of McCoy Ln (Roundabout)	11,240	66.9
College Dr	S. of McCoy Ln (Roundabout)	8,230	65.6
College Dr	S. of Sunrise Dr	10,960	62.7
College Dr	N. of Betteravia Dr	9,300	67.3
College Dr	S. of Betteravia Dr	10,840	66.8
College Dr	N. of Battles Rd	10,760	62.6
College Dr	N. of Stowell Rd	12,310	66.1
College Dr	N. of Boone St/Jones St	9,610	64.9
College Dr	S. of Boone St/Jones St	9,930	65.0
College Dr	N. of Main (SR 166)	8,620	64.5
College Dr	N. of Alvin Ave	5,820	62.8
College Dr	S. of Donovan Rd	8,020	64.2
Concepcion Ave	N. of Jones St	970	53.6
Cook St	W. of Depot St	6,190	64.6
Cook St	W. of Broadway (SR 135)	8,870	64.9
Cook St	E. of Broadway (SR 135)	8,990	64.9
Cook St	b/w Miller St and School St	3,150	60.2
Cook St	b/w East Ave and College Dr	2,190	58.7
Crossroad Ln	W. of Bradley Rd	4,800	63.4
Depot St	N. of Carmen Ln	4,500	63.3
Depot St	N. of Battles Rd	10,450	69.3
Depot St	N. of Stowell Rd	9,560	65.2
Depot St	N. of Main (SR 166)	8,940	64.8
Depot St	S. of Cook St	8,280	64.4
Donovan Rd	W. of Railroad Ave	11,580	66.9
Donovan Rd	W. of Broadway (SR 135)	17,390	69.5
Donovan Rd	E. of Broadway (SR 135)	16,580	69.7
Donovan Rd	W. of College Dr	19,010	70.3
Donovan Rd	E. of College Dr	23,900	71.3
Donovan Rd	W. of Carlotti Dr	23,040	71.1
Donovan Rd	W. of Suey Rd	7,530	64.5
Enos Dr	E. of College Dr	2,850	58.3

Roadway	Segment	Existing ADT	Existing Traffic Noise Level at 50 feet (dBA CNEL)
Fairway Dr	E. of A St	2,700	62.2
Fairway Dr	E. of Skyway Dr	3,490	63.5
Farrell Dr	N. of Jones St	2,740	58.1
Fesler St	E. of Broadway (SR 135)	5,640	64.3
Fesler St	W. of Broadway (SR 135)	6,880	65.1
Fesler St	b/w Benwiley Ave and Railroad Ave	3,800	61.1
Foster Rd	W. of Orcutt Expressway (SR 135)	4,190	62.9
Foxenwood Ln	S. of Foster Rd	810	52.9
Grant St	b/w Broadway (SR 135) and River Ranch Dr	5,230	61.0
Hidden Pines Wy	W. of Preisker Ln	7,950	65.5
Industrial Pkwy	E. of Skyway Dr	1,870	60.4
La Brea Ave	W. of Blosser Rd	1,910	59.4
Lynne Dr	b/w Lee Dr and Donovan Rd	5,670	61.3
Jones St	E. of Farrell Dr	7,990	66.9
Jones St	W. of Bradley Rd	4,400	64.3
McClelland St	S. of Cook St	3,330	59.0
McCoy Ln	E. of A St	2,880	58.4
McCoy Ln	E. of Skyway Dr	11,850	69.9
McCoy Ln	E. of Broadway (SR 135)	12,760	67.8
McCoy Ln	W. of Broadway (SR 135)	14,960	70.9
McCoy Ln	E. of College Dr (roundabout)	5,330	64.0
McCoy Ln	W. of College Dr (roundabout)	6,380	64.8
Miller St	N. of Battles Rd	14,540	68.7
Miller St	N. of Stowell Rd	13,420	64.1
Miller St	S. of Main (SR 166)	14,770	67.5
Miller St	S. of Alvin Ave	8,520	65.0
Miller St	b/w Lee Dr and Donovan Rd	4,160	59.0
Miller St	S. of Donovan Rd	5,840	63.5
Miller St	E. of Santa Maria Wy	11,120	67.5
Miller St	S. of Betteravia Dr	13,990	68.5
Morrison Ave	W. of Broadway (SR 135)	5,140	62.4
Morrison Ave	W. of Depot St	5,500	62.7
Palisade Dr	S. of Main (SR 166)	7,440	62.5
Panther Dr	S. of Suey Crossing Rd	4,810	59.2
Preisker Ln	N. of Broadway (SR 135)	10,880	66.4
Professional Pkwy	N. of McCoy Ln	2,760	58.2
Railroad Ave	N. of Fesler Ave	8,750	65.6
Railroad Ave	b/w Donovan Rd and Harding Ave	9,980	66.1
Railroad Ave	N. of Taylor St	6,160	61.2
Railroad Ave	S. of Taylor St	7,780	65.1
Santa Maria Wy	S. of Miller Wy	10,470	67.0
Santa Maria Wy	S. of Dauphin St	10,420	69.4

Roadway	Segment	Existing ADT	Existing Traffic Noise Level at 50 feet (dBA CNEL)
Shepard Dr	N. of Battles Rd	1,900	56.6
Sierra Madre Ave	W. of Bradley Rd	1,350	57.9
Skyway Dr	S. of Industrial Pkwy	15,740	71.2
Skyway Dr	W. of Orcutt Expressway (SR 135)	17,350	71.6
Skyway Dr	N. of Fairway Dr	16,540	71.4
Skyway Dr	S. of Fairway Dr	15,260	68.6
Skyway Dr	N. of Betteravia Dr	20,010	72.2
Skyway Dr	S. of Betteravia Dr	19,530	72.1
Sonya Ln	E. of A St	360	49.3
Southside Pkwy	E. of Centerpoint Pkwy	1,400	55.2
Southside Pkwy	W. of Bradley Rd (Roundabout)	4,940	60.7
Stowell Rd	W. of Bradley Rd	20,220	69.4
Stowell Rd	W. of Depot St	14,020	69.5
Stowell Rd	W. of Blosser Rd	9,510	69.3
Stowell Rd	W. of Hanson Wy	8,020	70.2
Suey Rd	N. of Jones St	5,300	65.0
Suey Rd	N. of Main (SR 166)	7,590	66.5
Suey Rd	N. of Alvin Ave	4,850	64.7
Sunrise Dr	W. of College Dr	2,440	57.6
Sunrise Dr	E. of Santa Maria Wy	2,910	58.4
Taylor St	W. of Railroad Ave	5,740	63.0
Taylor St	W. of Broadway (SR 135)	10,930	65.8
Thornburg St	N. of Betteravia Dr	6,150	62.7
Thornburg St	N. of Carmen Ln	3,710	61.8
Thornburg St	S. of Battles Rd	3,590	61.7
Union Valley Parkway	W. of Orcutt Expressway (SR 135)	5,990	66.0
Union Valley Parkway	E. of Blosser Rd	1,630	60.7
Western Ave	N. of Stowell Rd	8,330	62.5
Western Ave	N. of Main (SR 166)	4,290	59.6
Western Ave	S. of Main (SR 166)	4,390	59.7
Westgate Rd	S. of Battles Rd	3,590	62.2
Westgate Rd	N. of Carmen Ln	1,640	58.8

ADT = average daily traffic; dBA = decibel using A-weighted sound pressure level; CNEL = Community Noise Equivalent Level

Source: Data provided by GHD in 2025.

Figure 4.6-1 Noise-Sensitive Land Uses/Receptors in Santa Maria

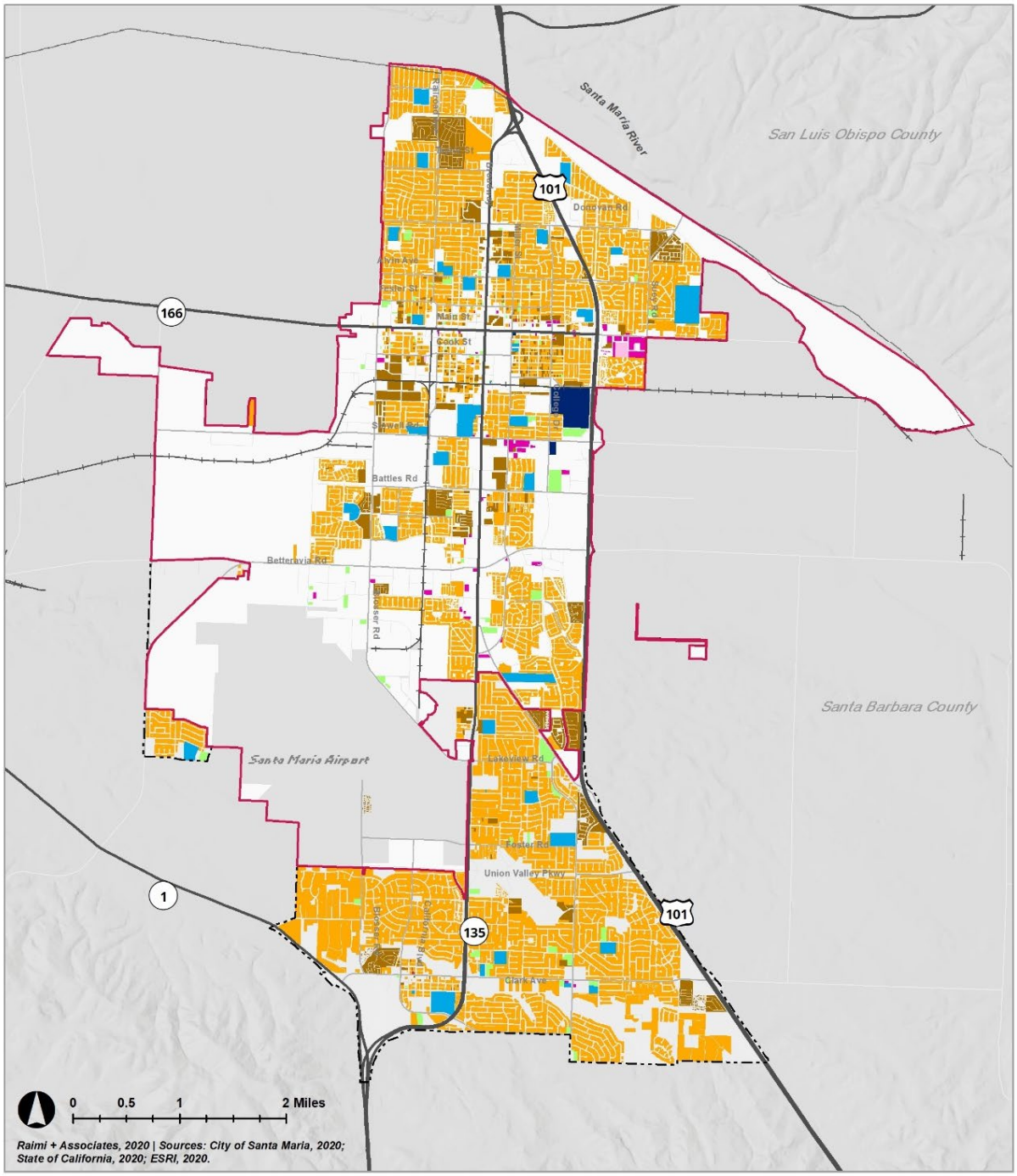


Figure 4.6-2 Santa Maria Airport Noise Contours

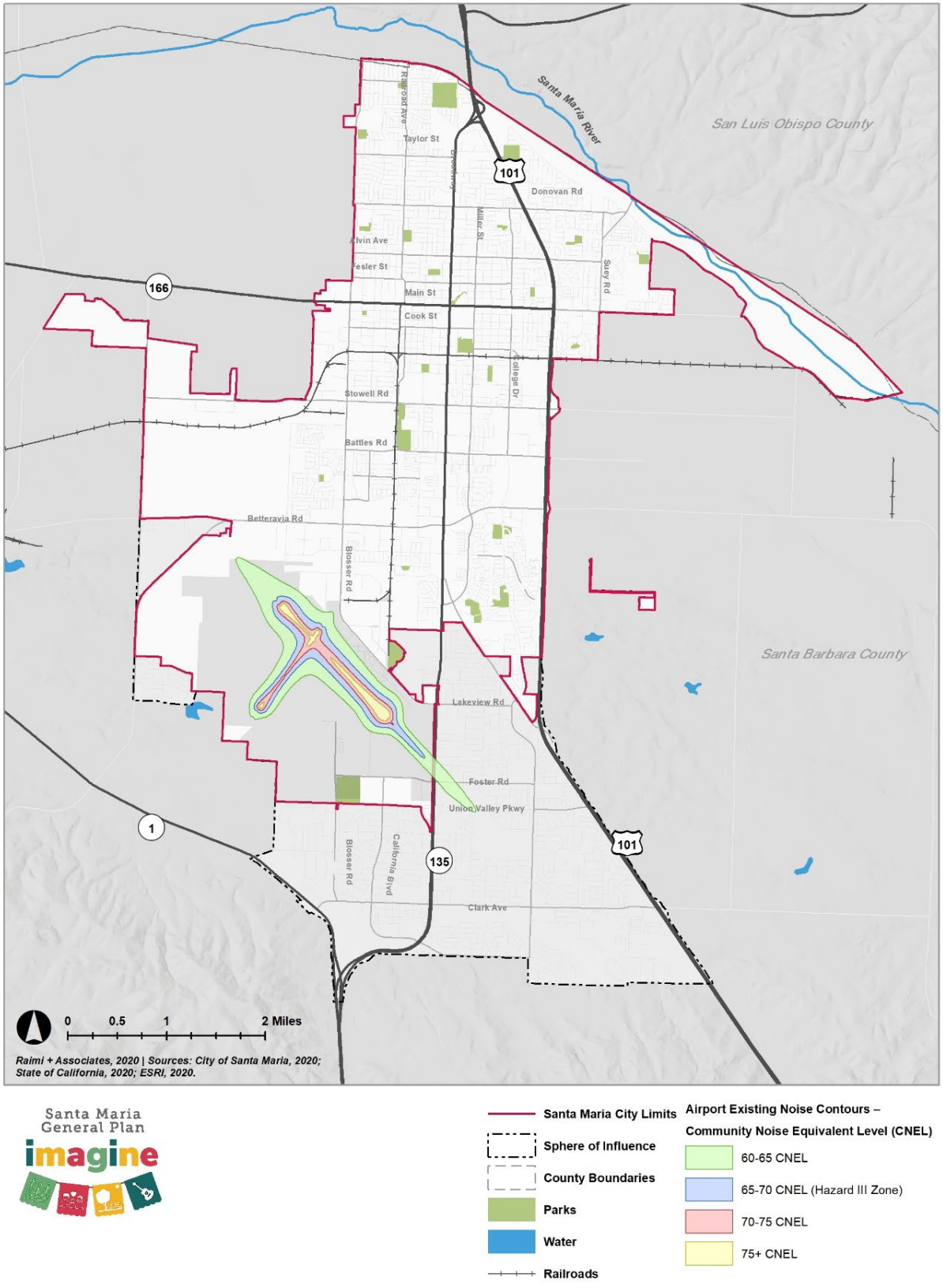
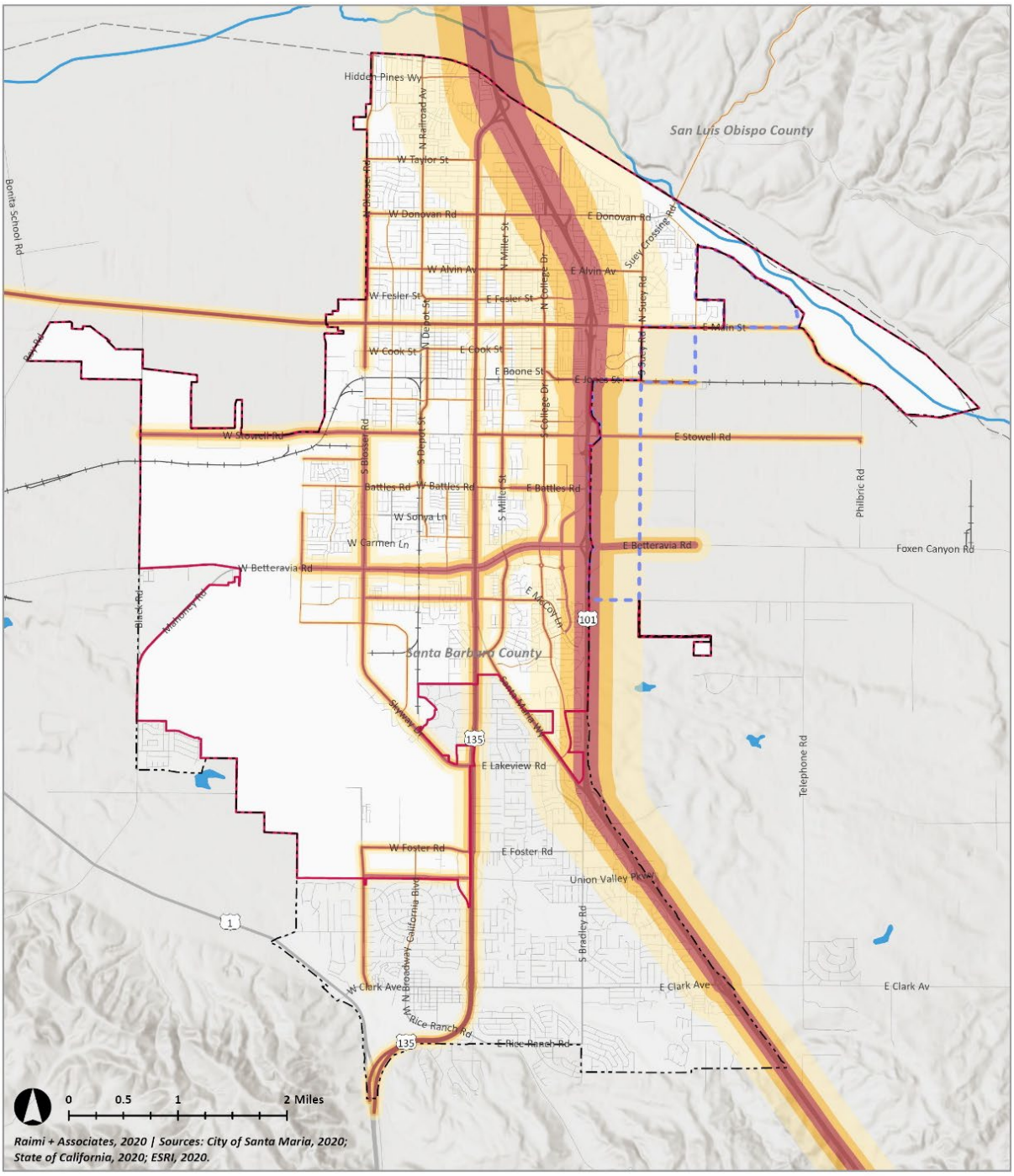


Figure 4.6-3 Existing Traffic Noise Contours



4.6.2 Regulatory Setting

a. Federal Regulations

Federal noise standards established by the U.S. Department of Housing and Urban Development (HUD) are applicable to residential projects that receive funding from HUD. These standards are presented in 24 Code of Federal Regulations (CFR) Part 51. New construction proposed in high noise areas (exceeding 65 dBA L_{dn}) must incorporate noise attenuation features to maintain acceptable interior noise levels. A goal of 45 dBA L_{dn} is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction, any building will provide sufficient attenuation to achieve an interior level of 45 dBA L_{dn} or less if the exterior level is 65 dBA L_{dn} or less. Approvals in a "normally unacceptable noise zone" (exceeding 65 dBA, but not exceeding 75 dBA) require a minimum of 5 dBA of additional noise attenuation for buildings having noise sensitive uses (e.g., residences) if the day-night average is greater than 65 dBA, but does not exceed 70 dBA, or a minimum of 10 dBA of additional noise attenuation if the day-night average is greater than 70 dBA, but does not exceed 75 dBA.

There are additional federal regulations that influence the audible landscape, especially for projects where federal funding is involved. For example, the FHWA requires abatement of highway traffic noise for highway projects through rules in the Code of Federal Regulations (23 CFR Part 772), the FTA, and Federal Railroad Administration (FRA). Each agency recommends thorough noise and vibration assessments through comprehensive guidelines for any highway, mass transit, or high-speed railroad projects that would pass by residential areas.

b. State Regulations

California Government Code Section 65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the Office of Planning and Research (OPR) has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure.

California Building Code

California Code of Regulations Title 24, Building Standards Administrative Code, Part 2, Chapter 12, and the California Building Code codify the State noise insulation standards. These noise standards apply to new construction in California to control interior noise levels as they are affected by exterior noise sources and interior noise sources from separate areas. The regulations specify that interior noise levels shall not exceed 45 dBA CNEL/L_{dn} in any habitable room, as well as specifying sound transmission class requirements for walls, floors, and ceilings around sleeping units.

California Green Building Code

California Green Building Standards Code 2022 (CALGreen) Section 5.507.4, Acoustical Control, regulates construction of non-residential uses within the 65 dBA CNEL/L_{dn} contour of an airport, freeway, expressway, railroad, industrial noise source, or other fixed source. According to Section 5.507.4.1-2 “buildings exposed to a noise level of 65 dBA L_{eq}(1-hr) during any hour of operation shall employ sound-resistant assemblies as determined by a prescriptive method or performance method.”

Projects may demonstrate compliance through the prescriptive method if wall and roof-ceiling assemblies exposed to the noise source meet a composite sound transmission class rating of at least 50 or a composite outdoor/indoor transmission class rating of no less than 40, with exterior windows of a minimum sound transmission class of 40 or outdoor/indoor transmission class of 30. Projects may demonstrate compliance through the performance method if wall and roof-ceiling assemblies exposed to the noise source are constructed to provide an interior noise environment that does not exceed 50 dBA L_{eq}(1-hr) in occupied areas during hours of operations.

c. Local Regulations

Santa Maria General Plan Noise Element

The current Noise Element of the Santa Maria General Plan has established the following exterior noise standards, shown in Table 4.6-4

Table 4.6-4 City of Santa Maria Interior and Exterior Noise Standards

		Standard (dBA CNEL)	
Land Use Category	**Uses**	**Interior**	**Exterior**
Residential	Single Family, Duplex, Multiple Family, Mobile Home	45	60
Noise-Sensitive Land Uses	Motel, Hospital, School, Nursing Home, Church, Library, and Other	45	60
Commercial	Retail, Restaurant, Professional Offices	55	65
Industrial	Manufacturing, Utilities, Warehousing, Agriculture	65	70
Open Space	Passive Outdoor Recreation	–	65

Source: City of Santa Maria General Plan Noise Element, Table N-4

Santa Maria Municipal Code

Chapter 5-5 of the Santa Maria Municipal Code establishes certain policies to control unnecessary, excessive, and annoying noise in the city in the interest of public health and welfare. Municipal Code Section 5-5.04(a) states that a violation of the Noise Ordinance exists when the noise level exceeds the ambient noise level or the ambient base noise level, whichever is higher, as follows:

- By any amount for 30 minutes for any given hour, measured cumulatively;
- By five dBA for 15 minutes for any given hour;
- By 10 dBA for five minutes for any given hour;
- By 20 dBA at any time.

Table 4.6-5 shows the ambient base noise levels for residential, commercial, and industrial zones.

Table 4.6-5 Range of Intensities – Ambient Base Noise Level (dBA L_{eq})

Zones	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Residential	55	45
Commercial	65	60
Industrial	75	70

dBA = A-weighted decibel; L_{eq} = equivalent sound level

Source: Municipal Code Section 5-5.05, 2024.

Municipal Code Section 5-5.06(e) states that construction noise generated outside the hours of 7:00 a.m. and 6:00 p.m. on Monday through Friday or outside the hours of 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays (unless otherwise allowed by permit issued by the Noise Control Officer) is considered nuisance noise.

Municipal Code Section 5-5.09 requires the acquisition of a construction noise permit from the Noise Control Officer for exterior construction work conducted within a residential zone or within 500 feet of a residential zone only if such activities exceed the noise standards set forth in Municipal Code Sections 5-5.03 and 5-5.05. The permit would cover short-term or occasional, non-routine operations.

Municipal Code Section 12-49.09(c) prohibits vibration above the perception threshold of an individual at or beyond the property boundary of the source for more than three minutes in any one hour of the day between the hours of 7:00 a.m. and 10:00 p.m. and for more than 30 seconds in any one hour between the hours of 10:00 p.m. and 7:00 a.m.

4.6.3 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Construction Noise

Construction noise that could result from future development facilitated by the plan is estimated based on reference noise levels published by the FTA.

Groundborne Vibration

Future development facilitated by the plan would not include substantial vibration sources associated with operation such as railroads and subways. Construction activities have the greatest potential to generate groundborne vibration affecting nearby noise-sensitive receptors. Groundborne vibration levels that could occur due to future development facilitated by the plan are estimated based on reference vibration levels published by the FTA.

Operational Stationary Noise

Stationary noise sources (i.e., on-site operational noise) for future development facilitated by the plan were analyzed in context of typical mechanical equipment on commercial, industrial, residential, and mixed-use development such as heating, ventilation, and air conditioning (HVAC) units.

Traffic Noise

Roadway vehicle noise levels for the plan were estimated using the FHWA roadway vehicle noise prediction model RD-77-108 methodology. Roadway vehicle noise impacts are analyzed based on ADT roadway volume for existing conditions and the amount of growth expected from future development facilitated by the plan, as well as data regarding speeds and number of lanes. The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, roadway vehicle volumes, vehicle speeds, car/truck mix, number of lanes, and road width.

This analysis utilizes the ADT volumes and trip distribution data produced by GHD for the plan area.

Significance Thresholds

The City of Santa Maria utilizes the following 2025 *CEQA Guidelines* Appendix G significance criteria questions related to Noise.

1. 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;
2. The generation of excessive groundborne vibration or groundborne noise levels;
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 two miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels.

Construction Noise

Although the Municipal Code has established hours of construction in Section 5-5.06(e) and requirements for the acquisition of construction noise permits in Section 5-5.09, the City of Santa Maria has not adopted a quantitative threshold for evaluating environmental impacts of construction noise. Therefore, this analysis relies on criteria established by FTA for assessing construction noise impacts based on the potential for adverse community reaction in its *Transit and Noise Vibration Impact Assessment Manual* (FTA 2018). For noise-sensitive receptors such as residential and school uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period.

Groundborne Vibration

The City has not adopted a significance threshold to assess groundborne vibration impacts during construction and operation. Therefore, FTA criteria are used to evaluate potential groundborne vibration impacts related to potential building damage from construction (FTA 2018). Construction vibration impacts from development would be significant if vibration levels exceed the FTA criteria shown in Table 4.6-6

Table 4.6-6 Vibration-Related Building Damage Thresholds

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

PPV = peak particle velocity
in/sec = inches per second
L_v = root mean square velocity in decibels (VdB) re 1 micro-inch/second
Source: FTA 2018

Operational Stationary Noise

The City has adopted noise standards in the Municipal Code that regulate operational stationary noise sources in the City. Operational noise would result in a significant impact if it exceeds the ambient base noise levels established for residential/noise-sensitive uses as shown in Table 4.6-5.

Traffic Noise

Although the City of Santa Maria does not have specific noise level criteria for assessing traffic noise impacts, a project is typically assumed to have a significant impact on the environment related to traffic noise if it would substantially increase the ambient noise levels for adjoining areas. The following thresholds of significance are similar to those recommended by the Federal Aviation Administration (FAA) (FICON 2020), which use criteria based on transportation noise increases and are commonly applied to roadway traffic noise analyses under CEQA. A significant impact would occur if traffic noise increases the existing noise environment by the following:

- Greater than 1.5 dBA CNEL increase for ambient noise environments of 65 dBA CNEL and higher
- Greater than 3 dBA CNEL increase for ambient noise environments of 60-64 dBA CNEL
- Greater than 5 dBA CNEL increase for ambient noise environments of less than 60 dBA CNEL

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the project result in 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?

Impact NOI-1 DEVELOPMENT FACILITATED BY THE 2045 GENERAL PLAN UPDATE WOULD RESULT IN CONSTRUCTION NOISE THAT MAY IMPACT NEARBY NOISE-SENSITIVE LAND USES. THE PLAN WOULD INTRODUCE NEW NOISE SOURCES AND CONTRIBUTE TO AN INCREASE IN LONG-TERM OPERATIONAL NOISE LEVELS WITHIN THE CITY LIMIT AS WELL AS THE ANNEXATION AREA. IMPLEMENTATION OF REQUIRED NOISE-REDUCTION MITIGATION, AS WELL AS POLICIES AND ACTIONS IN THE PLAN, WOULD MINIMIZE DISTURBANCE TO NOISE-SENSITIVE LAND USES. HOWEVER, THERE ARE NO FEASIBLE MITIGATION MEASURES THAT WOULD AVOID OR FULLY MITIGATE FOR THE INCREASE IN CONSTRUCTION AND TRAFFIC NOISE IN THE PLAN AREA. AS A RESULT, THIS WOULD BE A SIGNIFICANT AND UNAVOIDABLE IMPACT.

Construction

Noise from future development facilitated by the 2045 General Plan Update would temporarily increase noise levels at nearby noise-sensitive receptors. Construction activities would generate noise from phases such as demolition, site preparation, grading, building construction, and paving activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the more equipment-intensive phases of initial construction (i.e., demolition, site preparation, and grading work) and would be lower during the later construction phases (i.e., building construction and paving). Since project-level details are not currently available for future projects that would be carried out under the plan, it is not possible to determine exact noise levels, locations, or time periods for construction of such projects, or construction noise at adjacent properties. However, Table 4.6-7 illustrates typical noise levels associated with construction equipment at a distance of 50 feet and 100 feet from construction noise sources.

Table 4.6-7 Typical Noise Levels for Construction Equipment

Equipment	Estimated Noise Levels at Nearest Sensitive Receptors (dBA L_{eq})	
	50 feet	100 feet
Air Compressor	80	74
Backhoe	80	74
Concrete Mixer	85	79
Dozer	85	79
Grader	85	79
Jack Hammer	88	82
Loader	80	74
Paver	85	79
Pile-drive (Impact)	101	95
Pile-driver (Sonic)	95	89
Roller	85	79
Saw	76	70
Scarified	83	77
Scraper	85	79
Truck	84	78

Source: Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment*. November.

Noise would typically drop off at a rate of about 6 dBA per doubling of distance. Therefore, noise levels would be about 6 dBA lower than shown in Table 4.6-7 at 200 feet from the noise source and 12 dBA lower at a distance of 400 feet from the noise source. The construction noise levels shown in Table 4.6-7 may exceed the daytime noise threshold for noise-sensitive receptors of 80 dBA L_{eq} for an 8-hour period, depending on the equipment used and the distance in which the equipment is operating compared to noise-sensitive receptors.

The 2045 General Plan Update includes the following policy and actions intended to reduce the exposure of noise-sensitive receptors to temporary and construction noise:

> **Policy N-3.1: Construction noise mitigation.** Limit construction noise in residential areas to reduce noise impacts, especially in the early morning, late evening, weekends, and during holidays.
>
> > **Action N-3.11:** Develop criteria to clearly define conditions of approval for nighttime construction activities that will balance project requirements and minimize community disturbance and update the Noise Ordinance accordingly to establish approval criteria and thresholds for determining the need for additional noise attenuation strategies.
> >
> > **Action N-3.12:** Revise the Noise Ordinance to require appropriate noise attenuation strategies for any approved nighttime construction to minimize disturbance to the greatest extent feasible.
> >
> > **Action N-3.13:** Update the Noise Ordinance to require the use of mufflers on construction equipment and maintain physical separation of machinery maintenance areas from nearby residential areas.

Implementation of Policy N-3.1 and Actions N-3.11, N-3.12, and N-3.13, would reduce construction noise impacts associated with future development facilitated by the plan. However, as details of future construction activities are unknown at this time, construction noise could still exceed the daytime significance threshold or require activity during the more sensitive nighttime hours (e.g., concrete pours or pumps that need to run overnight for water resources projects). Consequently, construction noise impacts may exceed the daytime noise threshold for noise-sensitive receptors of 80 dBA Leq for an 8-hour period in many cases. Therefore, this impact would be potentially significant and Mitigation Measure NOI-1 would be required. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant construction noise impacts for subsequent projects analyzed at the project level.

Operation

STATIONARY OPERATIONAL NOISE

Stationary operational sources of noise from future development facilitated by the plan are expected to include air conditioning units, loading dock activities, outdoor restaurant dining and music activities, and parking lot vehicle movements. Special noise generators such as music (live or otherwise), sound amplification devices, and tenant-specific noise sources would require a site-specific noise analysis prior to building permit approval.

The 2045 General Plan Update includes the following policy and actions intended to minimize potential adverse noise-related impacts from stationary sources.

> **Policy N-1.4: Stationary Noise Sources.** Ensure outdoor machinery, appliances, and other noise-generating devices are located away from noise-sensitive uses and mitigated to reduce exposure to intrusive noise.
>
> > **Action N-1.4.1:** Update the Municipal Code to require mixed-use and commercial development applicants to locate noise-generating components such as loading areas, mechanical equipment, and other similar facilities as far from residential units as possible.
> >
> > **Action N-1.4.2:** Update the Municipal Code to establish a threshold for requiring additional noise buffering of machinery to reduce intrusive noise from new development. Such buffering may include, but is not limited to, acoustic paneling, sound-absorbing materials, and enclosures.

Implementation of these policies and actions would ensure that noise from new development is analyzed and avoided or mitigated to acceptable levels prior to approval of projects with the potential to generate noise from stationary sources, such as operational use of residential-scale air conditioning units, loading dock activities, outdoor restaurant dining and music activities, parking lot vehicle movements, and commercial and industrial equipment. Additionally, this would apply to special noise generators such as music (live or otherwise), sound amplification devices, and tenant-specific noise sources. Therefore, the plan's stationary operational noise impact would be less than significant.

MOBILE OPERATIONAL NOISE

Future development facilitated by the plan would allow additional development to occur within the city limit as well as in the annexation area, which would generate new vehicle trips that may increase the exposure of land uses along roadways to traffic noise. Figure 4.6-4 shows the 60, 65, and 70 dBA CNEL noise contours from roadways and highways for future (year 2050) roadway

vehicle scenarios. The complete distances (shown in feet) to the 60, 65, and 70 dBA CNEL noise contours from the center of each roadway segment are included in Appendix C. Table 4.6-8 shows the estimated increase in roadway vehicle noise on study roadway segments compared to existing conditions at 50 feet from the centerline of the nearest travel lane.

As shown in Table 4.6-8, significant traffic noise increases are anticipated along multiple roadway segments within the city limits as discussed in Section 4.6.3(a), Methodology and Significance Thresholds. Furthermore, roadway segments located within the annexation area, shown in Figure 4.6-4, were not analyzed as they are not currently within Santa Maria city limits. At the time an individual project is proposed within the annexation area, it would be required to undergo individual environmental review to determine potential noise impacts of the individual project. Along all other roadway study segments, traffic noise increases would be less than significant.

The 2045 General Plan Update includes the following policies and actions that would reduce roadway vehicle noise:

Policy N-2.1: Major thoroughfare noise mitigation. Require future development to implement feasible noise mitigation measures along major thoroughfares like Main Street, Broadway, and U.S. Highway 101.

Action N-2.1.1: Coordinate with the California Department of Transportation to effectively attenuate state freeway and roadway noise through the use of 'quiet' paving materials, placement of noise barriers, berms, and landscaped open space within State right-of-way for existing residences and incorporating design features in new development to reduce future noise level increases.

Action N-2.1.2: Work with the California Department of Transportation to ensure adequate noise studies are prepared and noise mitigation measures are considered in State transportation projects

Action N-2.1.3: Regularly update the noise contour map to reflect changes in ambient noise levels from transportation sources as airport and roadway conditions and patterns within the city evolve.

Action N-2.1.4: Update the City's Municipal Code to require new residential and mixed-use development within the 60 dBA CNEL noise contours or higher of transportation corridors to submit an acoustical analysis and incorporate noise reduction strategies, such as vegetation buffers and physical sound barriers, as necessary to meet the requirements of the Noise Ordinance.

Policy N-2.2: Industrial and agricultural traffic noise reduction measures. Evaluate and identify measures and strategies to reduce traffic noise from industrial and agricultural truck traffic, and coordinate with local businesses to implement the measures and strategies as needed.

Action N-2.2.1: Coordinate with businesses to identify possible limitations on local truck traffic, including loading and unloading, specific routes, times, and speed limits appropriate for each zoning district, while ensuring compatibility with essential business operations.

Action N-2.2.2: Work with local businesses and law enforcement to minimize traffic noise by encouraging the use of preferred routes and delivery times.

Figure 4.6-4 Future 2050 Roadway Vehicle Noise Contours

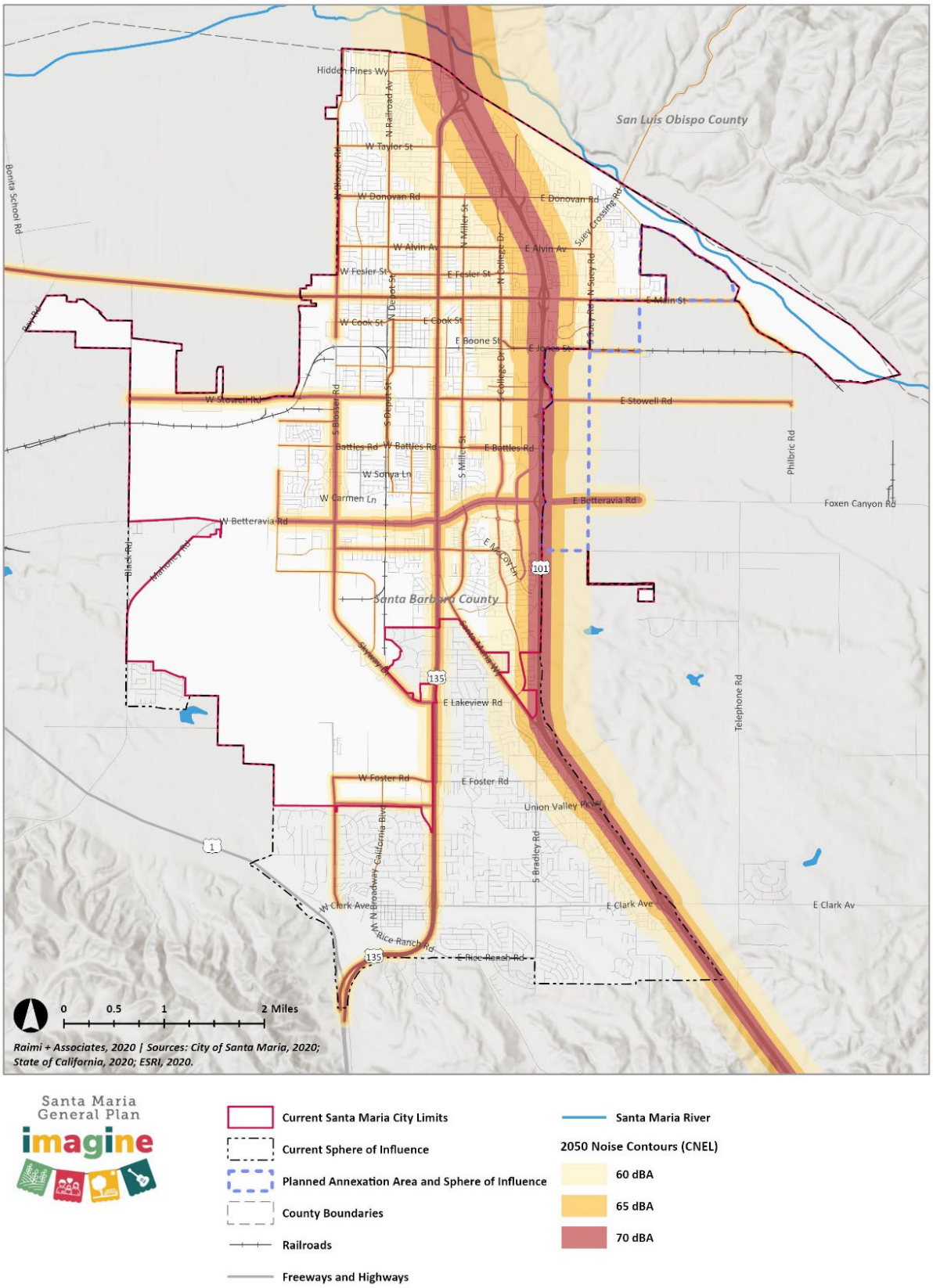


Table 4.6-8 Existing and Future Traffic Volumes and Noise Levels

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
Orcutt Expressway (SR 135) - N. of Clark Ave	29,500	37,580	74.4	75.4	1.1	1.5	N
Orcutt Expressway (SR 135) - S. of Clark Ave	20,100	25,120	72.7	73.7	1.0	1.5	N
Orcutt Expressway (SR 135) - N. of Foster Rd	37,000	79,580	75.4	78.7	3.3	1.5	**Y**
Orcutt Expressway (SR 135) - S. of Foster Rd	24,600	42,050	73.6	75.9	2.3	1.5	**Y**
Orcutt Expressway (SR 135) - N. of Lakeview Rd	32,000	56,990	74.7	77.2	2.5	1.5	**Y**
Orcutt Expressway (SR 135) - N. of Miller St	43,000	53,890	76.0	77.0	1.0	1.5	N
Orcutt Expressway (SR 135) - S. of Miller St	37,500	61,470	75.4	77.6	2.1	1.5	**Y**
Orcutt Expressway (SR 135) - N. of Santa Maria Way	41,000	69,330	75.8	78.1	2.3	1.5	**Y**
Orcutt Expressway (SR 135) - S. of Santa Maria Way	44,500	55,530	76.2	77.1	1.0	1.5	N
Broadway (SR 135) - N. of Betteravia Rd	47,000	74,580	75.3	77.3	2.0	1.5	**Y**
Broadway (SR 135) - S. of Betteravia Rd	47,500	91,630	76.0	78.8	2.9	1.5	**Y**
Broadway (SR 135) - N. of Stowell Rd	40,500	66,600	72.6	74.8	2.2	1.5	**Y**
Broadway (SR 135) - S. of Stowell Rd	44,500	88,700	72.8	75.8	3.0	1.5	**Y**
Broadway (SR 135) - N. of Main St	28,500	53,420	71.4	74.1	2.7	1.5	**Y**
Broadway (SR 135) - S. of Main St	26,500	50,360	70.6	73.4	2.8	1.5	**Y**
Broadway (SR 135) - N. of Donovan Rd	27,000	61,560	71.1	74.7	3.6	1.5	**Y**
Broadway (SR 135) - S. of Donovan Rd	27,500	49,310	71.2	73.7	2.5	1.5	**Y**
Broadway (SR 135) - W. of US 101	23,900	72,350	73.8	78.6	4.8	1.5	**Y**
Main St (SR 166) - W. of Blosser Rd	14,200	29,220	70.7	73.9	3.1	1.5	**Y**
Main St (SR 166) - E. of Blosser Rd	15,900	27,260	71.2	73.6	2.3	1.5	**Y**
Main St (SR 166) - E. of Suey Rd	6,400	19,050	66.4	71.1	4.7	1.5	**Y**
Main St (SR 166) - W. of Suey Rd	8,700	21,310	67.7	71.6	3.9	1.5	**Y**
Main St (SR 166) - US 101 SB-Off Ramp	29,500	48,790	72.8	75.0	2.2	1.5	**Y**

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
Main St (SR 166) - E. of Broadway (SR 135)	26,500	36,700	73.7	75.1	1.4	1.5	N
Main St (SR 166) - W. of Broadway (SR 135)	18,800	27,740	71.5	73.2	1.7	1.5	**Y**
A St - S. of Betteravia Dr	3,450	7,820	58.7	62.2	3.6	5.0	N
A St - S. of Sonya Ln	3,650	17,330	64.2	71.0	6.8	1.5	**Y**
Alvin Ave - W. of Railroad Ave	8,510	14,010	65.6	67.7	2.2	1.5	**Y**
Alvin Ave - W. of College Dr	7,700	21,860	65.1	69.7	4.5	1.5	**Y**
Alvin Ave - E. of Bradley Rd	6,670	20,130	64.5	69.3	4.8	1.5	**Y**
Alvin Ave - W. of Suey Rd	3,440	13,250	61.6	67.5	5.9	3.0	**Y**
Battles Rd - E. of Blosser Rd	10,740	17,860	67.1	69.3	2.2	1.5	**Y**
Battles Rd - W. of Blosser Rd	9,320	18,760	63.6	66.6	3.0	3.0	N
Battles Rd - W. of Bradley Rd	7,670	31,450	68.0	74.2	6.1	1.5	**Y**
Battles Rd - E. of Broadway (SR 135)	13,220	21,080	65.1	67.1	2.0	1.5	**Y**
Battles Rd - W. of Broadway (SR 135)	11,650	16,740	64.6	66.1	1.6	1.5	**Y**
Bay Ave - b/w Donovan Rd and Harding Ave	3,490	3,490	59.2	59.2	0.0	5.0	N
Betteravia Dr - E. of A St	14,630	45,090	71.5	76.3	4.9	1.5	**Y**
Betteravia Dr - E. of Skyway Dr	15,390	48,570	71.7	76.7	5.0	1.5	**Y**
Betteravia Dr - E. of Bradley Dr	38,460	67,060	75.9	78.3	2.4	1.5	**Y**
Betteravia Dr - W. of College Dr	34,170	83,220	75.4	79.2	3.9	1.5	**Y**
Betteravia Dr - W. of Depot St	20,620	60,520	72.9	77.6	4.7	1.5	**Y**
Betteravia Dr - E. of Broadway (SR 135)	30,350	66,480	75.1	78.5	3.4	1.5	**Y**
Blosser Rd - S. of Foster Rd	2,220	44,050	59.6	72.6	13.0	5.0	**Y**
Blosser Rd - S. of Stowell Rd	24,120	66,950	72.5	76.9	4.4	1.5	**Y**
Blosser Rd - b/w Boone St and Cook St	23,530	49,050	71.3	74.4	3.2	1.5	**Y**
Blosser Rd - S. of Main St (SR 166)	24,960	48,700	70.0	72.9	2.9	1.5	**Y**
Blosser Rd - S. of Alvin Ave	14,140	34,740	69.0	73.0	3.9	1.5	**Y**

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
Blosser Rd - S. of Donovan Rd	15,200	32,070	69.4	72.6	3.2	1.5	**Y**
Blosser Rd - N. of Taylor St	5,120	7,530	65.7	67.4	1.7	1.5	**Y**
Blosser Rd - S. of Taylor St	7,970	18,500	67.7	71.4	3.7	1.5	**Y**
Blosser Rd - N. of Canal St	2,700	3,170	62.9	63.6	0.7	3.0	N
Bradley Rd - S. of Cottage Ln	1,000	5,620	56.8	64.3	7.5	5.0	Y
Bradley Rd - S. of Bello Rd	4,960	6,640	63.7	65.0	1.3	3.0	N
Bradley Rd - S. of Betteravia Dr	22,740	34,340	70.3	72.1	1.8	1.5	**Y**
Bradley Rd - N. of Battles Rd	16,420	52,270	71.3	76.4	5.0	1.5	**Y**
Bradley Rd - S. of Battles Rd	10,760	26,750	69.5	73.5	4.0	1.5	**Y**
Bradley Rd - N. of Stowell Rd	14,860	25,010	67.0	69.2	2.3	1.5	**Y**
Bradley Rd - b/w SR 101 SB-On Ramp and Cypress St (one-way)	3,750	7,390	62.4	65.3	2.9	3.0	N
Bradley Rd - E. of College Dr	3,950	3,950	59.7	59.7	0.0	5.0	N
Bull Canyon Rd - N. of Panther Dr	260	3,360	50.8	61.9	11.1	5.0	**Y**
California Blvd - S. of Foster Rd	1,460	3,160	58.3	61.6	3.4	5.0	N
Camino Colegio - E. of Miller St	1,280	2,140	54.8	57.1	2.2	5.0	N
Camino Colegio - W. of Miller St	1,400	2,280	55.2	57.4	2.1	5.0	N
Canal St - E. of Blosser Rd	1,140	1,980	54.6	57.0	2.4	5.0	N
Carlotti Dr - b/w Noble Wy and Paden St	5,490	20,360	64.0	69.7	5.7	1.5	**Y**
Carlotti Dr - b/w Stanford Dr and Murray Dr	3,700	20,070	62.3	69.7	7.3	3.0	**Y**
Carmen Ln - W. of Thornburg St	5,440	5,110	60.9	60.7	-0.3	3.0	N
Carmen Ln - W. of Broadway (SR 135)	7,580	11,350	62.4	64.1	1.8	3.0	N
Centennial St - b/w Mt Whitney Wy and Panther Dr	1,480	1,480	55.5	55.5	0.0	5.0	N
Cesar E Chavez Dr - S. of Hidden Pines Wy	3,390	3,320	59.1	59.0	-0.1	5.0	N
College Dr - E. of Santa Maria Wy	9,730	26,090	62.2	66.5	4.3	3.0	**Y**

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
College Dr - N. of McCoy Ln (Roundabout)	11,240	16,150	66.9	68.5	1.6	1.5	**Y**
College Dr - S. of McCoy Ln (Roundabout)	8,230	21,020	65.6	69.7	4.1	1.5	**Y**
College Dr - S. of Sunrise Dr	10,960	24,390	62.7	66.2	3.5	3.0	**Y**
College Dr - N. of Betteravia Dr	9,300	36,140	67.3	73.2	5.9	1.5	**Y**
College Dr - S. of Betteravia Dr	10,840	16,250	66.8	68.5	1.8	1.5	**Y**
College Dr - N. of Battles Rd	10,760	35,740	62.6	67.8	5.2	3.0	**Y**
College Dr - N. of Stowell Rd	12,310	42,110	66.1	71.4	5.3	1.5	**Y**
College Dr - N. of Boone St/Jones St	9,610	46,900	64.9	71.8	6.9	1.5	**Y**
College Dr - S. of Boone St/Jones St	9,930	46,630	65.0	71.7	6.7	1.5	**Y**
College Dr - N. of Main (SR 166)	8,620	28,520	64.5	69.7	5.2	1.5	**Y**
College Dr - N. of Alvin Ave	5,820	21,110	62.8	68.4	5.6	3.0	**Y**
College Dr - S. of Donovan Rd	8,020	22,510	64.2	68.7	4.5	1.5	**Y**
Concepcion Ave - N. of Jones St	970	920	53.6	53.4	-0.2	5.0	N
Cook St - W. of Depot St	6,190	9,030	64.6	66.2	1.6	1.5	**Y**
Cook St - W. of Broadway (SR 135)	8,870	14,740	64.9	67.1	2.2	1.5	**Y**
Cook St - E. of Broadway (SR 135)	8,990	12,650	64.9	66.4	1.5	1.5	N
Cook St - b/w Miller St and School St	3,150	6,990	60.2	63.7	3.5	3.0	**Y**
Cook St - b/w East Ave and College Dr	2,190	5,360	58.7	62.6	3.9	5.0	N
Crossroad Ln - W. of Bradley Rd	4,800	8,470	63.4	65.9	2.5	3.0	N
Depot St - N. of Carmen Ln	4,500	9,040	63.3	66.3	3.0	3.0	N
Depot St - N. of Battles Rd	10,450	14,850	69.3	70.8	1.5	1.5	N
Depot St - N. of Stowell Rd	9,560	30,420	65.2	70.2	5.0	1.5	**Y**
Depot St - N. of Main (SR 166)	8,940	12,420	64.8	66.2	1.4	1.5	N
Depot St - S. of Cook St	8,280	32,050	64.4	70.3	5.9	1.5	**Y**
Donovan Rd - W. of Railroad Ave	11,580	20,010	66.9	69.3	2.4	1.5	**Y**

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
Donovan Rd - W. of Broadway (SR 135)	17,390	32,900	69.5	72.2	2.8	1.5	**Y**
Donovan Rd - E. of Broadway (SR 135)	16,580	18,940	69.7	70.3	0.6	1.5	N
Donovan Rd - W. of College Dr	19,010	25,650	70.3	71.6	1.3	1.5	N
Donovan Rd - E. of College Dr	23,900	38,800	71.3	73.4	2.1	1.5	**Y**
Donovan Rd - W. of Carlotti Dr	23,040	39,300	71.1	73.4	2.3	1.5	**Y**
Donovan Rd - W. of Suey Rd	7,530	11,150	64.5	66.2	1.7	1.5	**Y**
Enos Dr - E. of College Dr	2,850	3,440	58.3	59.1	0.8	5.0	N
Fairway Dr - E. of A St	2,700	6,180	62.2	65.8	3.6	3.0	**Y**
Fairway Dr - E. of Skyway Dr	3,490	5,930	63.5	65.8	2.3	3.0	N
Farrell Dr - N. of Jones St	2,740	3,500	58.1	59.2	1.1	5.0	N
Fesler St - E. of Broadway (SR 135)	5,640	16,860	64.3	69.0	4.8	1.5	**Y**
Fesler St - W. of Broadway (SR 135)	6,880	17,130	65.1	69.1	4.0	1.5	**Y**
Fesler St - b/w Benwiley Ave and Railroad Ave	3,800	6,210	61.1	63.2	2.1	3.0	N
Foster Rd - W. of Orcutt Expressway (SR 135)	4,190	33,160	62.9	71.8	9.0	3.0	**Y**
Foxenwood Ln - S. of Foster Rd	810	1,120	52.9	54.3	1.4	5.0	**Y**
Grant St - b/w Broadway (SR 135) and River Ranch Dr	5,230	5,680	61.0	61.3	0.4	3.0	N
Hidden Pines Wy - W. of Preisker Ln	7,950	8,720	65.5	65.9	0.4	1.5	N
Industrial Pkwy - E. of Skyway Dr	1,870	5,010	60.4	64.7	4.3	3.0	**Y**
La Brea Ave - W. of Blosser Rd	1,910	15,730	59.4	68.6	9.2	5.0	**Y**
Lynne Dr - b/w Lee Dr and Donovan Rd	5,670	6,630	61.3	62.0	0.7	3.0	N
Jones St - E. of Farrell Dr	7,990	25,780	66.9	72.0	5.1	1.5	**Y**
Jones St - W. of Bradley Rd	4,400	22,960	64.3	71.5	7.2	1.5	**Y**
McClelland St - S. of Cook St	3,330	6,350	59.0	61.8	2.8	5.0	N
McCoy Ln - E. of A St	2,880	3,450	58.4	59.1	0.8	5.0	N
McCoy Ln - E. of Skyway Dr	11,850	20,720	69.9	72.4	2.4	1.5	**Y**

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
McCoy Ln - E. of Broadway (SR 135)	12,760	20,870	67.8	70.0	2.1	1.5	**Y**
McCoy Ln - W. of Broadway (SR 135)	14,960	30,060	70.9	74.0	3.0	1.5	**Y**
McCoy Ln - E. of College Dr (roundabout)	5,330	5,370	64.0	64.1	0.0	1.5	N
McCoy Ln - W. of College Dr (roundabout)	6,380	17,370	64.8	69.2	4.3	1.5	**Y**
Miller St - N. of Battles Rd	14,540	37,810	68.7	72.8	4.2	1.5	**Y**
Miller St - N. of Stowell Rd	13,420	24,030	64.1	66.6	2.5	1.5	**Y**
Miller St - S. of Main (SR 166)	14,770	29,430	67.5	70.5	3.0	1.5	**Y**
Miller St - S. of Alvin Ave	8,520	13,520	65.0	67.0	2.0	1.5	**Y**
Miller St - b/w Lee Dr and Donovan Rd	4,160	8,020	59.0	61.9	2.9	5.0	N
Miller St - S. of Donovan Rd	5,840	10,500	63.5	66.0	2.5	3.0	N
Miller St - E. of Santa Maria Wy	11,120	26,050	67.5	71.2	3.7	1.5	**Y**
Miller St - S. of Betteravia Dr	13,990	34,750	68.5	72.5	4.0	1.5	**Y**
Morrison Ave - W. of Broadway (SR 135)	5,140	7,440	62.4	64.0	1.6	3.0	N
Morrison Ave - W. of Depot St	5,500	7,330	62.7	63.9	1.2	3.0	N
Palisade Dr - S. of Main (SR 166)	7,440	8,080	62.5	62.8	0.4	3.0	N
Panther Dr - S. of Suey Crossing Rd	4,810	6,070	59.2	60.2	1.0	5.0	N
Preisker Ln - N. of Broadway (SR 135)	10,880	12,010	66.4	66.8	0.4	1.5	N
Professional Pkwy - N. of McCoy Ln	2,760	3,480	58.2	59.2	1.0	5.0	N
Railroad Ave - N. of Fesler Ave	8,750	13,740	65.6	67.5	2.0	1.5	**Y**
Railroad Ave - b/w Donovan Rd and Harding Ave	9,980	13,340	66.1	67.4	1.3	1.5	N
Railroad Ave - N. of Taylor St	6,160	12,730	61.2	64.3	3.2	3.0	**Y**
Railroad Ave - S. of Taylor St	7,780	16,170	65.1	68.2	3.2	1.5	**Y**
Santa Maria Wy - S. of Miller Wy	10,470	29,220	67.0	71.4	4.5	1.5	**Y**
Santa Maria Wy - S. of Dauphin St	10,420	32,950	69.4	74.4	5.0	1.5	**Y**
Shepard Dr - N. of Battles Rd	1,900	5,520	56.6	61.2	4.6	5.0	N

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
Sierra Madre Ave - W. of Bradley Rd	1,350	6,240	57.9	64.6	6.6	5.0	**Y**
Skyway Dr - S. of Industrial Pkwy	15,740	38,270	71.2	75.0	3.9	1.5	**Y**
Skyway Dr - W. of Orcutt Expressway (SR 135)	17,350	39,260	71.6	75.1	3.5	1.5	**Y**
Skyway Dr - N. of Fairway Dr	16,540	40,390	71.4	75.3	3.9	1.5	**Y**
Skyway Dr - S. of Fairway Dr	15,260	39,010	68.6	72.7	4.1	1.5	**Y**
Skyway Dr - N. of Betteravia Dr	20,010	43,520	72.2	75.6	3.4	1.5	**Y**
Skyway Dr - S. of Betteravia Dr	19,530	36,890	72.1	74.9	2.8	1.5	**Y**
Sonya Ln - E. of A St	360	1,880	49.3	56.5	7.2	5.0	**Y**
Southside Pkwy - E. of Centerpoint Pkwy	1,400	1,700	55.2	56.1	0.8	5.0	N
Southside Pkwy - W. of Bradley Rd (Roundabout)	4,940	4,950	60.7	60.7	0.0	3.0	N
Stowell Rd - W. of Bradley Rd	20,220	38,840	69.4	72.2	2.8	1.5	**Y**
Stowell Rd - W. of Depot St	14,020	39,870	69.5	74.0	4.5	1.5	**Y**
Stowell Rd - W. of Blosser Rd	9,510	38,640	69.3	75.4	6.1	1.5	**Y**
Stowell Rd - W. of Hanson Wy	8,020	28,430	70.2	75.7	5.5	1.5	**Y**
Suey Rd - N. of Jones St	5,300	11,210	65.0	68.2	3.3	1.5	**Y**
Suey Rd - N. of Main (SR 166)	7,590	14,410	66.5	69.3	2.8	1.5	**Y**
Suey Rd - N. of Alvin Ave	4,850	12,460	64.7	68.8	4.1	1.5	**Y**
Sunrise Dr - W. of College Dr	2,440	2,570	57.6	57.9	0.2	5.0	N
Sunrise Dr - E. of Santa Maria Wy	2,910	3,080	58.4	58.7	0.2	5.0	N
Taylor St - W. of Railroad Ave	5,740	12,870	63.0	66.5	3.5	3.0	**Y**
Taylor St - W. of Broadway (SR 135)	10,930	15,210	65.8	67.2	1.4	1.5	N
Thornburg St - N. of Betteravia Dr	6,150	6,300	62.7	62.8	0.1	3.0	N
Thornburg St - N. of Carmen Ln	3,710	7,330	61.8	64.8	3.0	3.0	N
Thornburg St - S. of Battles Rd	3,590	8,730	61.7	65.6	3.9	3.0	**Y**
Union Valley Parkway - W. of Orcutt Expressway (SR 135)	5,990	35,530	66.0	73.7	7.7	1.5	**Y**

Roadway Segment	Existing ADT	2050 GP - With Project ADT	Existing Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	2050 Roadway Vehicle Noise Level at 50 feet (dBA CNEL)	Roadway Vehicle Noise Increase (dBA CNEL)	Significance Threshold dBA	Significant? Y/N
Union Valley Parkway - E. of Blosser Rd	1,630	25,460	60.7	72.6	11.9	3.0	**Y**
Western Ave - N. of Stowell Rd	8,330	10,550	62.5	63.5	1.0	3.0	N
Western Ave - N. of Main (SR 166)	4,290	6,340	59.6	61.3	1.7	5.0	N
Western Ave - S. of Main (SR 166)	4,390	5,560	59.7	60.7	1.0	5.0	N
Westgate Rd - S. of Battles Rd	3,590	3,600	62.2	62.2	0.0	3.0	N
Westgate Rd - N. of Carmen Ln	1,640	1,640	58.8	58.8	0.0	5.0	N

ADT = average daily trips

Bold = significant increase

Source: GHD 2025.

Policy N-1.1: Roadway vehicle noise reduction measures. Require projects that may result in a substantial increase in roadway traffic noise on area roadways to implement measures designed to reduce noise and minimize the impact on noise-sensitive land uses.

Action N-1.1.1: Where cumulative roadway traffic noise would exceed the applicable traffic noise increase standards, require applicants for new development projects to retain a qualified acoustical consultant to prepare a Traffic Noise Reduction Study that specifies, at a minimum, the specific locations, extent, height of sound walls, and other design details such as "quiet pavement" to reduce traffic noise impacts at impacted roadways. Project specific environmental documents may adjust recommended noise reduction measures as necessary to respond to site specific conditions.

Action N-1.1.2: For locations where a Traffic Noise Reduction Study identifies a need for sound barriers, require developers to contribute their fair share toward constructing new sound barriers (e.g., walls or solid fences) along impacted roadways where there are no driveways that would break continuity and along the residential portions or other sensitive receiver locations of such roadways. Sounds barriers should be continuous from grade to top, with no cracks or gaps, and have a minimum surface density of four pounds per square foot and a minimum height of six feet, as measured from the base elevation.

Action N-1.1.3: For locations where a Traffic Noise Reduction Study identifies a need for roadway improvements to reduce roadway traffic noise where sound barriers are determined not to be feasible, require developers to contribute their fair share toward installation of "quiet pavement" roadway improvements, such as rubberized asphalt or open-grade asphalt concrete overlays.

Implementation of these policies and actions would reduce operational vehicle trips and associated operational traffic noise to the extent feasible. However, the plan does not include policies or actions that could ensure traffic noise would be below the thresholds of significance. As a result, the potential increase in traffic noise would be a potentially significant impact.

Mitigation Measures

NOI-1 Conditions of Approval to Reduce Construction Noise

The City of Santa Maria shall review future developments within 500 feet of a sensitive receptor, and where applicable, require construction contractors to implement the following feasible measures as standard conditions of approval. Construction plans submitted to the City shall include construction noise analysis and identify these measures on demolition, grading, and construction plans submitted to the City. The City of Santa Maria Building Division shall verify that grading, demolition, and/or construction plans submitted to the City include these notations prior to issuance of demolition, grading and/or building permits. Project specific environmental documents may adjust recommended noise reduction measures as necessary to respond to site specific conditions.

- **Mufflers.** During excavation and grading construction phases, all construction equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained mufflers consistent with manufacturers' standards.
- **Stationary Equipment.** All stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receptors.

- **Equipment Staging Areas.** Equipment staging shall be located in areas that will create the greatest distance feasible between construction-related noise sources and noise-sensitive receptors.
- **Smart Back-up Alarms.** Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. Alternatively, back-up alarms shall be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving in the reverse direction in compliance with applicable safety laws and regulations.
- **Electrically-Powered Tools and Facilities.** Electrical power shall be used to run air compressors and similar power tools and to power any temporary structures, such as construction trailers or caretaker facilities, where feasible.
- **Noise Disturbance Coordinator**. The project applicant shall designate a "noise disturbance coordinator" responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of any noise complaint and shall require that reasonable measures be implemented to correct the problem. A telephone number for the disturbance coordinator and the City shall be posted at the construction site.
- **Temporary Noise Barriers.** Erect temporary noise barriers, where feasible, when construction noise is predicted to exceed the acceptable standards (e.g., 80 dBA L_eq at residential receptors, schools or other sensitive receptors during the daytime) or when the anticipated construction duration is greater than is typical (e.g., two years or greater). Temporary noise barriers shall be constructed with solid materials (e.g., wood) with a density of at least 1.5 pounds per square foot with no gaps from the ground to the top of the barrier. If a sound blanket is used, barriers shall be constructed with solid material with a density of at least 1 pound per square foot with no gaps from the ground to the top of the barrier and be lined on the construction side with acoustical blanket, curtain or equivalent absorptive material rated sound transmission class (STC) 32 or higher.

Significance After Mitigation

Implementation of Mitigation Measure NOI-1, as well as implementation of policies and actions in the 2045 General Plan Update, would reduce potential impacts from noise during construction and operation by reducing noise source impacts, creating sound barriers where required/necessary, and promoting the reduction in traffic noise by projects included in the plan. These policies would help reduce the amount of traffic noise increases to the extent feasible. However, as details from individual development facilitated by the plan are unknown at this time, there is no feasible mitigation that would avoid or fully mitigate for the increase in construction and traffic noise in the plan area. As a result, potential construction noise impacts and operational traffic noise impacts would remain significant and unavoidable.

Operational stationary noise impacts would be less than significant without mitigation.

Threshold 2:	Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Impact NOI-2 CONSTRUCTION ACTIVITY FROM BUILDOUT OF THE 2045 GENERAL PLAN UPDATE WOULD GENERATE GROUNDBORNE VIBRATION, POTENTIALLY AFFECTING NEARBY LAND USES. IMPLEMENTATION OF REQUIRED MITIGATION, AS WELL AS POLICIES AND ACTIONS IN THE PLAN, WOULD ENSURE VIBRATION LEVELS WOULD NOT EXCEED APPLICABLE THRESHOLDS FOR BUILDING DAMAGE. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Construction

Future development facilitated by the 2045 General Plan Update would involve construction activity that could intermittently generate groundborne vibration affecting nearby properties. Table 4.6-9 lists groundborne vibration levels from various types of construction equipment at various distances.

Table 4.6-9 Vibration Source Levels for Construction Equipment

Equipment		Approximate Vibration Level (in/sec PPV)			
		25 feet from Source	50 feet from Source	100 feet from Source	200 feet from Source
Caisson Drilling		0.089	0.031	0.011	0.004
Jackhammer		0.035	0.012	0.004	0.002
Large Bulldozer		0.089	0.031	0.011	0.004
Loaded Truck		0.076	0.027	0.010	0.003
Pile Driver (impact)	Upper range	1.519	0.537	0.190	0.067
	Typical	0.644	0.228	0.081	0.028
Pile Driver (sonic)	Upper range	0.734	0.260	0.092	0.032
	Typical	0.170	0.060	0.021	0.008
Small Bulldozer		0.003	0.001	<0.001	<0.001
Vibratory Roller		0.21	0.074	0.026	0.009

Source: Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment*. November.

As shown in Table 4.6-9, buildings and structures could experience the strongest vibration during the use of pile-drivers and vibratory rollers. Vibration levels from pile-drivers could approach 1.519 in/sec PPV at a distance of 25 feet from the source and 0.190 in/sec at 100 feet, and vibration levels from vibratory rollers could approach 0.21 in/sec PPV at a distance of 25 feet and 0.026 at 100 feet. The threshold for historic structures is 0.12 in/sec PPV; the threshold is higher for residential buildings at 0.2 in/sec PPV. Vibration levels from typical equipment, such as bulldozers and jackhammers, would not exceed the applicable thresholds for historic structures and residential buildings at a distance of 25 feet or greater. However, vibration levels from pile driving equipment and vibratory rollers may exceed the FTA thresholds.

Because project-level details are not currently available for future individual development facilitated by the plan, it is not possible to determine which projects may use pile driving or vibratory rollers and their exact vibration levels, locations, or time periods for construction of such projects. As a result, construction vibration levels may exceed the FTA's vibration levels for preventing architectural building damage.

The 2045 General Plan Update includes the following goal and policies intended to minimize groundborne vibration associated with construction activity:

Goal N-4: Vibration. The impacts of excessive ground-borne vibration from temporary and ongoing operations are limited.

> **Policy N-4.1.1:** Update the Municipal Code to require new vibration-sensitive uses within 200 feet of a potential vibration-causing source, including the Santa Maria Valley Railroad, to prepare a ground-borne vibration and noise assessment consistent with Federal Transit Administration-recommended methodology and criteria.
>
> **Policy N-4.1.2: Ground-borne vibration mitigation.** Update the Municipal Code to establish building architectural and structural thresholds to prevent building damage from vibration.

Implementation of Policy N-4.1.1 and N-4.1.2 would reduce construction groundborne vibration impacts associated with future development facilitated by the plan. However, as project-level details of future construction activities are unknown at this time, it is not possible to determine which projects may use pile driving or vibratory rollers and their exact vibration levels, locations, or time periods for construction of such projects. Construction vibration levels may exceed the FTA's vibration levels for preventing architectural building damage. Therefore, groundborne vibration levels associated with construction activity may exceed the FTA's standards for building damage, resulting in a potentially significant impact requiring Mitigation Measure NOI-2.

Operation

New residential, commercial, industrial, and retail development facilitated by the plan would not involve substantial operational vibration sources such as railroads and subways. In addition, implementation of the plan would not directly increase rail activity in the plan area. Therefore, the plan's operational groundborne vibration impacts would be less than significant.

Mitigation Measures

NOI-2 Conditions of Approval to Reduce Construction Vibration

The City of Santa Maria shall review future developments within 500 feet of a sensitive receptor, and where applicable, require construction contractors to implement the following feasible buffers for construction equipment as standard conditions of approval. Construction plans submitted to the City shall include construction vibration analysis and identify the following buffer distances during demolition, grading, and construction plans submitted to the City. The City of Santa Maria Building Division shall verify that grading, demolition, and/or construction plans submitted to the City include these notations prior to issuance of demolition, grading and/or building permits. Project specific environmental documents may adjust recommended noise reduction measures as necessary to respond to site specific conditions.

To reduce potential construction vibration impacts, the City of Santa Maria shall require the following:

- Prior to the issuance of a building permit for a project requiring pile driving during construction, the project applicant shall prepare a groundborne noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to the following construction activities: 1) within 135 feet of fragile structures such as historical resources; 2) within 100 feet of non-engineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of

engineered concrete and masonry (no plaster); 3) use of a vibratory roller within 40 feet of fragile historical resources or 25 feet of any other structure; or 4) use of a dozer or other large earthmoving equipment within 20 feet for a fragile historical structure or 15 feet of any other structure. The noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed the City's architectural damage thresholds (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.2 in/sec PPV for non-engineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses such as drilling piles as opposed to pile driving, static rollers as opposed to vibratory rollers, and lower horsepower earthmoving equipment shall be used. If necessary, construction vibration monitoring shall be conducted to ensure the FTA's vibration thresholds are not exceeded.

Significance After Mitigation

Implementation of General Plan Policy N-4.1.1, and N-4.1.2 would reduce construction groundborne vibration impacts from development facilitated by the plan. Mitigation Measure NOI-2 provides more detail on how Goal N-4 and Policies N-4.1.1 and N-4.1.2 would be implemented to reduce construction groundborne vibration impacts in the project area by providing buffer screening distances for potential impacts and requiring a vibration analysis when vibration-intensive equipment are within those distances, which may include use of alternative equipment and/or vibration monitoring, as necessary. Together, implementation of this goal, policies, and Mitigation Measure NOI-2 would reduce this impact to a level of less than significant.

Threshold 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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Impact NOI-3 BUILDOUT OF THE 2045 GENERAL PLAN UPDATE COULD EXPOSE PEOPLE RESIDING OR WORKING IN THE PLAN AREA TO EXCESSIVE NOISE LEVELS FROM AIRPORT NOISE. IMPLEMENTATION OF POLICIES AND ACTIONS IN THE PLAN WOULD ENSURE THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The nearest aircraft facility is the Santa Maria Airport, located in the southern portion of the city, shown in Figure 4.6-2. According to the most recent Santa Maria Airport Land Use Compatibility Plan (SMALUCP 2023) for Santa Barbara County, portions of the plan area are located within the airport noise contours for Santa Maria Airport. As noted in Section 4.6.1(d), the annual air show and military aircraft training use of the airport can expose the area to higher-than-typical noise. These events only occur during a small fraction of the year, and are therefore considered temporary. The plan does not anticipate changes to the frequency or other operational components of these temporary activities, and as such they are not considered potential airport noise impacts associated with the plan.

The 2045 General Plan Update includes the following policy and actions intended to minimize airport noise impacts:

Policy N-2.3: Airport noise mitigation. Require aviation easements and noise mitigation measures in new residential developments near the airport in the 60+ dB CNEL contour.

Action N-2.3.1: Encourage future Santa Maria Airport facility development or expansion to incorporate noise reduction measures to minimize stationary source noise impacts on surrounding areas where necessary.

Action N-2.3.2: Review and, as needed, revise land use designations to ensure consistency with the ALUCP noise contour maps.

Implementation of this policy and associated actions would ensure that noise from new developments facilitated by the plan are analyzed and mitigated to acceptable levels prior to approval of these projects. Therefore, the plan would not expose people residing or working in the project area to excessive noise levels, and this impact would be less than significant.

Mitigation Measures

No mitigation is required because this impact would be less than significant.

4.6.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines Section 15065[a][3]). Regional cumulative impacts consider the City-wide impacts together with similar impacts of reasonably anticipated regional projects/programs. The general approach to cumulative impact analysis used in this EIR, as well as the determination of the cumulative impact analysis area, is discussed in Section 3, *Environmental Setting,* Subsection 3.3, *Cumulative Development*.

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines Section 15065[a][3]). Future development within the cumulative impact analysis area would increase noise and vibration levels and may result in a significant impact.

As discussed in Impact NOI-1, construction noise generated by future development facilitated by the plan, in combination with construction activities for other cumulative projects that may be constructed simultaneously could, without mitigation, substantially increase noise levels in the vicinity of future projects. Goals, policies and mitigation measures have been identified to help reduce noise from construction equipment from new development facilitated by the plan. Therefore, unless construction of cumulative projects, including new development facilitated by the plan, occur in close proximity to each other and simultaneously, noise from individual construction projects has a small chance of combining to create significant cumulative impacts. Although this scenario is unlikely, and policies, actions, and mitigation measures would be implemented to the extent feasible, the potential remains for a cumulatively considerable increase in construction noise from future development facilitated by the plan. The plan could result in a substantial contribution to this cumulatively significant impact. Therefore, the cumulative impact related to construction noise would be significant and unavoidable.

Future development facilitated by the plan would introduce new stationary noise sources to the ambient noise environment in and around the plan area, including new mechanical ventilation equipment. These sources may combine with noise from other nearby cumulative projects to result in higher noise levels. However, operational noise from these sources is localized and rapidly attenuates within an urbanized setting due to the effects of intervening structures and topography that block the line of sight, and due to other noise sources closer to receptors that obscure project-related noise. Implementation of the Santa Maria Municipal Code noise standards would ensure that noise from new stationary sources as part of cumulative development would be within

acceptable levels. Therefore, the cumulative impact related to operational stationary noise would be less than significant.

Traffic noise increases from development facilitated by the plan would contribute to noise level increases that exceed impact criteria and would be cumulatively considerable. Implementation of policies and actions in the 2045 General Plan Update would reduce the contribution of the plan to roadway traffic noise impacts. However, there is no feasible mitigation that would ensure that all future development facilitated by the plan could feasibly reduce traffic noise to avoid impacts. Therefore, in combination with traffic noise for other cumulative projects, the cumulative impact related to operational traffic noise would be significant and unavoidable.

Although there could be other cumulative projects simultaneously under construction near a development facilitated by the plan, the potential for construction groundborne vibration and noise impacts exists within a limited area (e.g., within approximately 25 feet for a vibratory roller). Since no two construction cumulative projects, including new development facilitated by the plan, would both be within 25 feet of a given sensitive structure, cumulative groundborne vibration and noise impacts would be less than significant.

Future development facilitated by the plan would expose people residing or working in the plan area to airport noise. Airport noise is localized to locations affected by airport operations and overflights (refer to Figure 4.6-2), and does not combine with noise from other nearby cumulative projects to result in higher airport noise levels. Implementation of Policy N-2.3 and Actions N-2.3.1 and N-2.3.2 would ensure that noise from new developments facilitated by the plan are analyzed and mitigated to acceptable levels prior to approval of these projects. Therefore, the cumulative impact related to operational stationary noise would be less than significant.