



Noise

10.1 INTRODUCTION

The Noise Element is one of the mandatory elements of the general plan that provides a basis for comprehensive local programs to control and abate environmental noise and to protect residents from excessive exposure. The fundamental goals of the noise element are:

- To provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process. In so doing, the necessary groundwork will have been developed so that a community noise ordinance may be utilized to resolve noise complaints.
- To develop strategies for abating excessive noise exposure through cost-effective mitigating measures in combination with zoning, as appropriate, to avoid incompatible land uses.
- To protect those existing regions of the planning area whose noise environments are deemed acceptable and also those locations throughout the community deemed “noise sensitive.”
- To utilize the definition of the community noise environment in the form of CNEL or Ldn noise contours as provided in the noise element for local compliance with the State Noise Insulation Standards. These standards require specified levels of outdoor to indoor noise reduction for construction of various land use types in areas where the outdoor noise exposure exceeds CNEL (or Ldn) as identified in [Table 10-1, Community Noise Exposure](#).

Much of the material contained in this chapter relies on information contained in the *City of Guadalupe: General Plan Update Background Report (2014)*. This background report, prepared by CalPoly students, built on the early CalPoly work and provides a more recent account of background conditions in Guadalupe. It contains a section devoted to schools and discusses existing conditions and plans for future improvements.

10.2 ISSUES AND OPPORTUNITIES

The most prominent noise issues facing Guadalupe is noise generated by train traffic on the Union Pacific Railroad tracks that run north-south through the center of the city. The tracks are Union Pacific's mainline facility that runs the length of the West Coast from San Diego to Seattle and is host to daily passenger and freight trains. Noise from the railroad tracks comes from train horns sounded as trains approach grade crossings in the city (there are three in a short two-mile stretch through Guadalupe) and from train locomotives, whose powerful engines pull their load through the city. This noise affects large swaths of commercial and residential development in Guadalupe that is located adjacent to the train tracks.

Guadalupe is also affected by noise from automobile and truck traffic on the two state highways that run through the community. The highways—State Route 1 and State Route 166—are relatively low-volume, two-lane facilities with posted travel speeds of 25 to 40 miles per hour, and while they do not generate the noise levels experienced by those living next to large multi-lane interstate highways in other localities, they nonetheless add to ambient noise levels and occasionally disrupt occupants of nearby commercial establishments and residences with the sounds of brakes, engines, and horns.

Finally, industrial operations located along the southern reaches of Guadalupe Street generate noise that can affect nearby residents in the Flower Street Neighborhood to the east and in the Westside Neighborhood to the west. Details on each of these topic areas are presented below.

10.3 COMMUNITY NOISE STANDARDS

Noise is defined as unwanted or disturbing sound. The noise element identifies and quantifies community noise levels on a scale that weights noise levels by duration and timing of day, such as Community Noise Equivalent Level (CNEL) or Day-Night Average Sound Level (Ldn). California Administrative Code, Title 25 limits interior community noise levels attributable to exterior sources to 45 dB average annual CNEL. [Table 10-1, Community Noise Exposure](#), shows standards for community noise exposure. A noise study was prepared by WJV Acoustics, titled Technical Noise Study – City of Guadalupe Community Plan (February 22, 2022). This noise study is incorporated herein by reference.

Vehicle traffic, railroad operations noise, and industrial operations are considered to be permanent noise sources. Table 10-1 in the Noise Element identifies community noise exposure standards that are the basis for identifying potential noise impacts from implementing the proposed general plan. These are illustrated in Figure 10, Community Noise Exposure. Where outdoor noise levels are within the “normally acceptable” range for the respective representative land use categories, noise exposure impacts are considered to be less than significant. Acceptable outdoor noise exposure levels are generally lower for noise sensitive land uses, of which residential uses are the most common. Where exterior

noise levels are “conditionally acceptable”, detailed project-specific noise assessments are needed to identify measures to reduce noise exposure to levels that are normally acceptable. Exterior noise levels are typically measured at the center of outdoor activity areas associated with noise sensitive uses (e.g., backyards/common areas of residential uses).

Table 10-1 Community Noise Exposure

Land Use Category	Community Noise Exposure Ldn or CNEL, dB						Interpretation
	55	60	65	70	75	80	
Residential -- Low-Density Single Family, Duplex, Mobile Homes	Blue	Blue	Blue	Blue	Blue	Blue	Normally Acceptable Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements
Residential -- Multiple Family	Blue	Blue	Blue	Blue	Blue	Blue	
Transient Lodging -- Hotels, Motels	Blue	Blue	Blue	Blue	Blue	Blue	Conditionally Acceptable New construction or development should be undertaken only after a detailed outside noise analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice
Schools, Libraries, Churches, Hospitals, Nursing Homes	Blue	Blue	Blue	Blue	Blue	Blue	
Auditorium, Concert Halls, Amphitheaters	Blue	Blue	Blue	Blue	Blue	Blue	Normally Unacceptable New construction or development should normally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design
Sports Arena, Outdoor Spectator Sports	Blue	Blue	Blue	Blue	Blue	Blue	
Playgrounds, Neighborhood Parks	Blue	Blue	Blue	Blue	Blue	Blue	Clearly Unacceptable New construction or development should generally not be undertaken
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Blue	Blue	Blue	Blue	Blue	Blue	
Office Buildings, Business Commercial and Professional	Blue	Blue	Blue	Blue	Blue	Blue	Clearly Unacceptable New construction or development should generally not be undertaken
Industrial, manufacturing, Utilities, Agriculture	Blue	Blue	Blue	Blue	Blue	Blue	

Note: Land use type noise levels are applicable to outdoor activity areas.
 Source: OPR General Plan Guidelines, Appendix D

Note that planned new residential development would almost entirely consist of medium- and high-density uses, densities at which residential development projects are expected to be multiple-family dwellings of up to three stories. Figure 10 shows that the acceptable outdoor noise level at outdoor activities areas of multiple-family residential uses is up to 65 dB.

10.4 RAILROAD AND STATIONARY INDUSTRIAL NOISE

Railroad Noise

The most significant source of noise in Guadalupe is generated by the Union Pacific Railroad (UPRR) mainline, which passes through Guadalupe in a north-south direction adjacent to Guadalupe Street. There are three main users of the rail lines in Guadalupe: Amtrak, Union Pacific Railroad, and the Santa Maria Valley Railroad.

According to the Amtrak timetable published in October 2019, the Pacific Surfliner and the Coast Starlight trains make six daily runs through Guadalupe, as follows¹:

- 7:31 AM (Pacific Surfliner Train #774: southbound daily w/ stop in Guadalupe);
- 1:44 PM (Pacific Surfliner Train #763: northbound daily w/ stop in Guadalupe);
- ~3:00 PM (Coast Starlight: northbound daily w/ no stop in Guadalupe);
- ~4:00 PM (Coast Starlight: southbound daily w/ no stop in Guadalupe);
- 4:51 PM (Pacific Surfliner Train #796: southbound daily w/ stop in Guadalupe); and
- 7:38 PM (Pacific Surfliner Train #777: northbound daily) w/ stop in Guadalupe).

Figure 10-1, *Amtrak Train Approaching Guadalupe*, shows a picture of an Amtrak train approaching Guadalupe.

Figure 10-1 Amtrak Train Approaching Guadalupe



Source: <https://www.pinterest.com/pin/429812358164497614/>

¹ 2020 and 2021 schedules have been modified due to lower transport demands during the COVID-19 pandemic.

In addition to passenger trains, the Union Pacific Railroad and the Santa Maria Valley Railroad run freight trains through Guadalupe on a regular basis. Union Pacific Railroad has cargo trains sporadically running through Guadalupe 24 hours a day, and the Santa Maria Valley Railroad runs trains between Guadalupe and Santa Maria two to three times each week. Schedules for both SMVRR and Union Pacific Rail road were unavailable due to company policies.

According to the U.S. Department of Transportation,² sound levels of up to 80 dB(A) would be expected 50 feet from the rail track. This noise weakens at the rate of approximately three (3) dB(A) per doubling of distance so that the minimum 60 dB(A) contour would be approximately 1,600 feet from the track. Due to the short duration of the noise, a standard Ldn rating is not indicative of the substantial effect of this noise on the adjacent homes near the tracks. Also, most of the City's residents are within 1,600 feet of the railroad and thus affected on a daily basis. [Figure 10-2, Area Experiencing Train Noise Above 60 dB\(A\)](#), shows the area experiencing noise levels from train traffic that is greater than 60 dB (A).³



The posted speed for trains travelling the UPRR mainline is 25 miles per hour within the Guadalupe city limits. This means that through trains would take approximately five minutes to traverse Guadalupe (trains making a stop in Guadalupe would, of course, take longer). The Federal Railroad Administration (FRA), which enforces rail safety regulations, requires locomotive horns be sounded at all public grade crossings 15 to 20 seconds before entering a crossing, but not more than one-quarter mile in advance (Union Pacific Railroad, 2008). There are three grade crossings in Guadalupe at 11th Street, 10th Street, and State Route 166. These horns add to the noise environment, especially during the evening hours.



² As cited in *City of Guadalupe: General Plan Update Background Report* (2014), page N-8

³ This map was produced by EMC Planning Group using ArcGIS software. The shaded area represents the land that is within 1,600 feet of the railroad tracks.

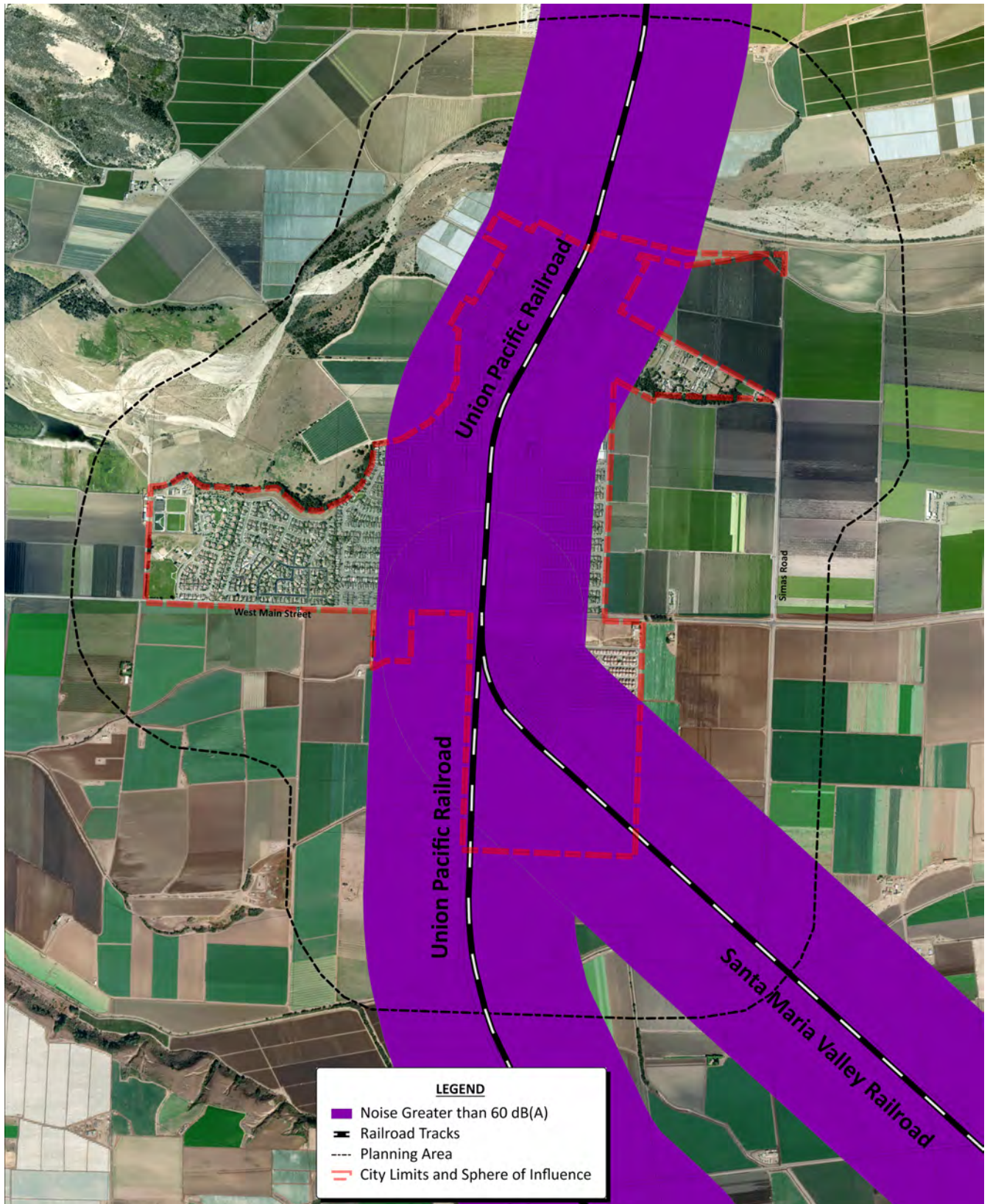
Stationary Industrial Noise

Industrial plant operations adjacent to the Union Pacific Railroad are another noise source for the City. Residents north of 11th Street are directly affected by the noise due to their location. There are packing sheds located between State Route 1 and Obispo Street, which operate 24 hours of the day during peak production seasons and add to the noise environment. According to outreach conversations held during the development of the City of Guadalupe: General Plan Update Background Report (2014), noise from these facilities is not a major concern for Guadalupe residents.

Impacts from Rail and Stationary Industrial Noise

The noise study prepared for the Guadalupe General Plan includes analysis of existing noise levels from operations of the Union Pacific Railroad and the two primary industrial stationary sources of noise in the city. However, exposure of new noise sensitive development to these existing noise sources is not subject to analysis as part of the CEQA process. In 2015, in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 377, the California Supreme Court held that “agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project’s future users or residents”. The court stated that “ordinary CEQA analysis is concerned with a project’s impact on the environment, rather than with the environment’s impact on a project and its users or residents”. The court did not hold, however, that CEQA never requires consideration of the effects of existing environmental conditions on the future occupants or users of a proposed project. But the circumstances in which such conditions may be considered are narrow: “when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project’s impact on the environment, and not the environment’s impact on the project, that compels an evaluation of how future residents or users could be affected by exacerbated conditions”.

The proposed general plan would result in increased population and employment through development of vacant land with residential, mixed use, commercial and industrial uses and potentially from residential development above existing commercial buildings. Such new growth would not exacerbate existing rail noise conditions, as it would not contribute to increased use of the Union Pacific Railroad. Further, this growth would not exacerbate noise conditions at the noted stationary industrial uses because such growth would not directly cause increased production/operational activity at the existing uses. Therefore, no analysis of noise exposure impacts to future new development from these noise sources is required.



0 2250 feet

Source: U.S. Department of Transportation 2021

Figure 10-2

Area Experiencing Train Noise Above 60 dB(A)



Guadalupe 2042 General Plan

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Impacts from Permanent Noise Increases for New Stationary Sources

Future new industrial uses could include stationary sources of noise. If noise generated from those sources were to exceed the acceptable noise levels at nearby existing land uses as shown in Table 10-1, a significant noise impact would occur. The potential for such impacts would be largely contingent on the noise intensity of those sources, the locations of noise generating equipment/activities within each project site relative to adjacent land uses, and site design features or other noise control measures included in the proposed projects.

New public and private development proposals must be reviewed to determine if they could result in noise levels that exceed standards in Table 10-1. An acoustical analysis, in most cases, will be required to identify whether standards are exceeded and if so, to identify appropriate mitigation. The City would implement this policy as part of its development review process and require individual projects to implement noise mitigation measures. This would reduce the impact to less than significant.

10.5 HIGHWAY AND STREET NOISE

Guadalupe also experiences noise from two state highways. State Route 1 and State Route 166 are Guadalupe's major thoroughfares and designated truck routes and in the case of State Route 1 move traffic directly through Downtown Guadalupe. These highway facilities accommodate a substantial number of trucks providing transport services to Apio/Curation Foods and other operations in Guadalupe's industrial areas. On average, the heaviest of the city's truck traffic is between 1:00 p.m. and 7:00 p.m.⁴

Impacts from Permanent Increase in Traffic Noise

Traffic Noise Impacts on Future Noise-Sensitive Development/Receptors

The noise study identifies the modeled distance from the centerline of seven primary roadways in the city at which existing traffic noise is projected to reach 60 DB Ldn and 65 dB Ldn. Refer to the noise study for the definition of "dB Ldn". These two noise level intensities are used as reference because they correspond to noise compatibility levels shown in Table 10-1 for noise-sensitive residential uses. The noise study identifies this same information for proposed general plan buildout conditions where traffic noise levels on the roadways would increase due to increased traffic generation. Table 10-2, Existing and Future Traffic Noise Contours, replicates the information from the noise study. With increased traffic volumes in the future, higher noise levels would occur at greater distances from the centerlines of the roadways. As would be expected, the greatest noise level increases would occur on roadways with the highest existing and future traffic volumes – Guadalupe Street and Main Street.

⁴ Source: *City of Guadalupe: General Plan Update Background Report* (2014); SBCAG, 2003

Table 10-2 Existing and Future Traffic Noise Contours

Roadway	Segment	Existing Conditions ¹		General Plan Buildout Conditions ¹	
		60 dB Ldn	65 dB Ldn	60 dB Ldn	65 dB Ldn
Obispo Street	North of W. Main Street (SR 166)	45	21	88	41
Simas Road	North of W. Main Street (SR 166)	36	17	54	25
Eleventh Street	East of Guadalupe Street (SR 1)	40	19	50	23
Fifth Street	West of Guadalupe Street (SR 1)	22	10	24	11
Pioneer Street	North of W. Main Street (SR 166)	30	14	32	15
Guadalupe St (SR 1)	West of Guadalupe Street (SR 1)	106	49	187	87
Main Street (SR 166)	North of W. Main Street (SR 166)	213	99	286	133

SOURCE: WJV Acoustics 2022

NOTE:

1. Distances are in feet as measured from the centerline of the respective roadways

The noise levels reported in the noise study were modeled with the assumption that there are no natural or artificial barriers between the noise source and the noise receptor.

New noise sensitive high-density residential and mixed-use development could occur on several vacant parcels that front primarily on State Route 1 and above existing commercial buildings located along the highway. Noise exposure at the rear yards of new noise-sensitive, multiple-family residential uses where those rear yards or other outside activity areas (e.g., balconies of residential uses built above existing commercial uses) are within 87 feet of the centerline of the highway could be exposed to exterior noise levels of 65 dB or greater, thereby exceeding the noise compatibility standard for such uses as shown on Table 10-1.

Traffic Noise Impacts on Existing Noise Sensitive Development/Receptors

Existing noise sensitive uses, particularly residential uses, located along the roadway segments evaluated will be exposed to increased traffic noise over time. Traffic volumes on State Route 1 and State Route 166 would increase independent of new development enabled by the general plan. Potential traffic noise impacts at existing sensitive uses are a function of whether noise levels could exceed compatibility standards identified in Table 10-1. A significant impact is also assumed to occur if traffic noise levels created by buildout of the general plan were to increase by 3 dB at sensitive receptor locations where future traffic noise levels without the general plan buildout would already exceed the noise compatibility criteria. The threshold of 3 dB is used because it generally represents the threshold at which noise increases are perceptible. Increases in noise level that are below 3 dB are generally not perceptible.

Traffic noise levels are shown in Table 10-3, Future Traffic Noise Exposure Levels at 75-Foot Setback, a 75-foot reference setback distance from the centerline of the subject roadways. Future noise volumes with the general plan do not exceed the most noise conservative compatibility standard of 60 dB along four of the seven study segments. The standard is exceeded along three road segments where projected traffic noise levels without the proposed general plan would already exceed 60 dB. Along these segments, the general plan would not add traffic noise that exceeds 3 dB above the “without” condition. Therefore, the general plan would have a less-than-significant impact from generating traffic noise that exceeds the reference standard.

Table 10-3 Future Traffic Noise Exposure Levels at 75-Foot Setback

Roadway	Segment	Without General Plan ^{1,2}	With General Plan ^{1,3}	Change (dB)	Impact
Obispo Street	North of W. Main Street (SR 166)	60	61	1	No
Simas Road	North of W. Main Street (SR 166)	57	58	1	No
Eleventh Street	East of Guadalupe Street (SR 1)	56	57	1	No
Fifth Street	West of Guadalupe Street (SR 1)	52	53	1	No
Pioneer Street	North of W. Main Street (SR 166)	54	54	0	No
Guadalupe St (SR 1)	West of Guadalupe Street (SR 1)	65	66	1	No
Main Street (SR 166)	North of W. Main Street (SR 166)	68	69	1	No

SOURCE: WJV Acoustics 2022

NOTE:

1. Reference setback is from the roadway centerline
2. Without proposed general plan condition is the projected noise level for 2050
3. With proposed general plan condition is the projected noise level for 2040 at general plan buildout

Impacts from Temporary Construction Noise

Constructing new residential, mixed-use, commercial and industrial development as guided by the general plan will create temporary noise. Construction activities typically include site preparation, excavation, grading, trenching, building construction, paving, and architectural coating. A different mix of equipment types is typically used during each stage of a construction process, and noise levels typically vary by and within each stage based on the type, number and the location of equipment being used. The duration of construction and distance between construction noise sources and noise-sensitive areas are additional key variables. Construction-generated noise levels drop off at a rate of about 6 dB per doubling of the distance between the source and receptor. Shielding by buildings or terrain can provide an additional 5 to 10 dB noise reduction at distant receptors.

Sensitivity to construction is highest when construction occurs during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours) and/or when the construction occurs in areas immediately adjoining noise-sensitive land uses.

10.6 NOISE AND HEALTH

Exposure to excessive noise can have health impacts. The most common health impact from excessive noise exposure is sleep disturbance. Sleep disturbance can impair cognitive performance, and alter hormone levels, heart rate, sleep patterns, and mood. Other potential health impacts from exposure to excessive noise include increased levels of hypertension, high blood pressure, and cardiovascular disease.

There are multiple options to minimize excessive noise exposure and reduce potential health impacts. Minimization measures such as soundproofing a residence to reduce outdoor-to-indoor noise and requiring new residences to place bedrooms in the quietest part of the floor plan will minimize exposure to excessive noise and reduce potential health risks. Current building code requirements using 2x6 construction, insulation and dual-glazed windows reduces noise significantly (at least 25 dB).

Neither the general plan nor the municipal code includes standards for construction noise to reduce its temporary effects on nearby receptors. However, best practice performance standards for avoiding and/or reducing the intensity of construction noise and limiting construction noise duration are commonly employed to reduce construction noise effects. In the absence of such standards, temporary construction noise impacts are considered to be potentially significant. Implementation of the following mitigation measure would reduce this impact to less than significant.

10.7 GOALS, POLICIES, AND PROGRAMS

Goals

- | | |
|-----------------|---|
| Goal N-1 | To protect the citizens of Guadalupe from the harmful and annoying effects of exposure to excessive noise. |
| Goal N-2 | To protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses. |
| Goal N-3 | To preserve the tranquility of residential and other noise-sensitive areas by preventing noise-producing uses from encroaching upon existing or planned noise-sensitive uses. |

Goal N-4

To educate the citizens of Guadalupe concerning the effects of exposure to excessive noise and the methods available for minimizing such exposure.

Policies

Policy N-1.1

The City will not permit new development of noise-sensitive land uses in areas exposed to existing or projected future noise levels from transportation noise sources, as shown in Table 10-1, within outdoor activity areas unless appropriate noise mitigation measures have been incorporated into the final project design. An exterior exposure of up to 65 dB CNEL within outdoor activity areas may be allowed if a good-faith effort has been made to mitigate exterior noise exposure using a practical application of available noise mitigation measures. Interior noise exposure, due to exterior sources, will not be allowed to exceed 45 dB CNEL.

Policy N-1.2

A new project with the potential to generate noise levels (stationary source) that exceed standards for adjacent noise sensitive land uses, as identified in Table 10-1, are where new development may be impacted by existing future noise. The City will review new public and private development proposals to determine conformance with Policies N-1.1 above. Where the development of levels exceeding the levels specified, the City will require an acoustical analysis early in the review process so that noise mitigation may be included in the project design to ensure consistency with this policy. For development not subject to environmental review, the requirements for an acoustical analysis shall be required prior to the issuance of a building permit.

Policy N-1.3

The City will enforce California Vehicle Code standards relating to noise emissions.

Policy N-1.4

Construction activities at new development sites shall be managed to reduce noise generation. Construction contractors will implement the following construction noise reduction measures, or equivalent measures that achieve the same noise reduction:

- Restrict noise-generating activities at construction sites or in areas adjacent to construction sites to the hours between 7:00 a.m. and 6:00 p.m., Monday through

Saturday. Construction shall be prohibited on Sundays and Federal holidays unless prior written approval is granted by the building official.

- Where feasible, construct temporary noise barriers between the noise source and receiver, where feasible.
- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers.
- Prohibit unnecessary engine idling.
- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from receivers as possible. Adequate muffling (with enclosures where feasible and appropriate) shall be used to reduce noise levels.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- Route all construction traffic via designated truck routes where possible. Prohibit construction related heavy truck traffic in residential areas where feasible.
- Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing the contact phone number of a designated noise disturbance coordinator to whom complaints can be directed and issues resolved.

Policy N-1.5

The City will review new public and private development proposals to determine whether their construction has potential to cause vibration at levels that could cause strongly perceptible annoyance to nearby sensitive receptors and existing structures or could result in structure damage to adjacent buildings or infrastructure. Where this potential exists, the City will require a vibration analysis to determine whether such impacts may occur and if so, identify mitigation measures that shall be implemented during the construction process to reduce vibration annoyance and damage potential to acceptable levels.

Programs

Program N-1.1.1

Within three years of adoption of the *Guadalupe 2042 General Plan*, the Building and Planning Department will undertake a process with the City Council to codify new noise regulations that require acoustic studies certifying that new noise-sensitive uses located in areas subject to excessive noise comply with the policies specified herein.

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