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Date: August 31, 2017

To: Megan Hunter, Director

Project: City of Salinas Community Development Department

From: Megan Jones

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Re: Peer Review for the City of Salinas Economic Development Element EIR Nosie Section

The City of Salinas is currently preparing an Economic Development Element (EDE) and associated Environmental Impact Report (EIR). The EIR is near completion and intended for circulation in September 2017. However, the City recently updated the EDE to remove several planned expressways, which necessitates revision of the Traffic Impact Assessment (TIA) and related EIR sections. Rincon Consultants, Inc. (Rincon) reviewed the EDE EIR noise analysis in light of the project description changes and associated TIA revisions to identify any changes that would need to be made to the analysis as a result of removals of planned expressways. The review focused on the technical modeling, impact determinations, and mitigation measures associated with noise, and includes recommendations for revisions to the EDE EIR to account for the newly proposed removal of the planned expressways.

Noise

The column titled "Existing ADEIR Significance With Expressways" in Table 1 includes a summary of the noise impacts and significance determinations in the current EDE EIR. The column titled "Recommended Impact Significance Without Expressways" in Table 1 summarizes the recommended significance determination of each project impact with the newly proposed removal of the planned expressways. Table 1 also identifies if and what revisions would be required in the EIR as a result of the proposed changes. As outlined in Table 1, the analysis, impact determination, and mitigation measures for the remaining impacts identified in the current EDE EIR would not require changes as a result of removing

the planned expressways from the EDE EIR. Changes to the significance determination for Impact N-5 are summarized in Table 1 and discussed in more detail following the table.

Table 1 Summary of Changes to Noise Impact Analyses

Impact Number	Impact	Existing ADEIR Significance With Expressways	Recommended Impact Significance Without Expressways	Revisions to Significance Determination in EIR Required? (Yes/No)	Summary of Changes
N-1	Exposure of future development within the target areas to traffic noise levels in excess of standards.	Less than significant with mitigation	Less than significant with mitigation	No	Removing planned expressways would relocate anticipated traffic to other local roadways, such that traffic noise contours for local roadways described in Tables 34, 35, and 36 of the EDE EIR would be larger than described. As described in the EDE EIR, traffic-related noise levels may exceed the maximum exterior noise exposure levels identified in Table 37-50.50 of the Zoning Ordinance. Therefore, Mitigation Measure N-1 would still apply to the revised project and the general impact analysis would primarily remain the same.
N-2	Development within the target areas could include stationary noise sources that generate noise which exceeds noise exposure standards at adjacent noise sensitive uses.	Less than significant	Less than significant	No	This impact relates to stationary noise sources only, which would not be affected by removal of the planned expressways from the proposed project. Impact analysis and the mitigation measure would remain unchanged.
N-3	Exposure of people and structures to excessive groundbourne vibration during construction activities within target areas.	Less than significant with mitigation	Less than significant with mitigation	No	Construction activities associated with development of the Target Areas may be located near existing structures and/or below ground infrastructure. Impact analysis and mitigation measure would remain unchanged.

N-4	The proposed project would generate traffic that contributes to a substantial permanent noise level increase on the city road network.	Potentially significant and unavoidable	Potentially significant and unavoidable	No	The impact determination would remain potentially significant and unavoidable. As described in the EDE EIR, a substantial permanent traffic noise impact would occur if the 2045 cumulative plus project traffic noise volume increase is 3 dBA or more along roads where the existing traffic noise volume is 60 dBA or more, or the traffic volume increase is 5 dBA or more on roads where the existing traffic noise volume is below 60 dBA, and the 2045 cumulative plus project traffic noise volume increase is 1 dBA or more above roadway noise volumes under the 2045 no project condition. Due to the changes in the proposed project, the specific roadways that are impacted may shift, and may be more severe than previously modeled, but the overall impact determination would not change. The EDE EIR also states that measures available to reduce the project noise level increases may not be reasonable or feasible in all locations where noise reduction is needed. Therefore, this impact would remain significant and unavoidable.
N-5	The proposed project would cause temporary noise increases from short-term construction activities.	Less than significant with mitigation	Less than significant with mitigation	**Yes**	As described in the EDE EIR, construction activities for the proposed project would occur intermittently at different sites within in the City. With removal of the planned expressways, fewer locations would be affected by construction noise. Nonetheless, the impact analysis would remain unchanged, and Mitigation Measure N-3 would still apply to the revised project.

	Summary of Change: No changes to modeling, analysis or mitigation measures are required; however, the impact may be less severe than previously analyzed in the EDE EIR with removal of the planned expressways.[1]

Bolded text represents an impact statement that would require revisions

The discussion below further elaborates on the anticipated changes required for Impact AQ-5 as a result of the removal of planned expressways from the project description.

Impact N-5

As described in the EDE EIR, noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise-sensitive areas. With removal of the planned expressways, fewer locations would be impacted by construction noise than originally analyzed because the planned expressways surrounded the City and were located adjacent to sensitive receptors. Nonetheless, the impact analysis would remain the same because the duration of construction for any individual future project proposed within the Target Areas cannot be known at this time. Mitigation Measure N-3, which requires the City to review applications for each future individual project within the Target Areas to determine whether the construction period would exceed one year and require all that do to prepare a construction noise assessment, would still apply to the revised project.

Conclusion

Based on the removal of the planned expressways from the proposed project, Impact N-5 would require minor revisions to clarify that construction activity would not include construction of expressways, reducing the overall scale of the impact, but not altering the conclusions of the impact analysis, or Mitigation Measure N-3, which would still be required. The construction noise impact would remain less than significant with mitigation.

[1] Note Impact N-5 of the EDE EIR does not explicitly discuss the impacts from the construction of the expressway; however, it was assumed that they were included because the Noise Section begins, "Construction activities for the proposed project would occur intermittently at different sites within in the City." As such, it was assumed that construction of the expressways was included in the analysis for the proposed project.

CITY OF SALINAS GENERAL PLAN ECONOMIC DEVELOPMENT ELEMENT DRAFT NOISE AND VIBRATION ASSESSMENT

Salinas, California

February 9, 2017

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INTRODUCTION

Illingworth & Rodkin, Inc. (I&R) has been retained by EMC Planning Group to assist the City of Salinas with the environmental review of the General Plan Economic Development Element (EDE). This Element would be a new addition to the City of Salinas General Plan, with the purpose of providing detailed, policy-based guidance for economic development designed to promote the future prosperity of the City over the next 35 to 40 years. As suggested in the project description, the EDE includes a wide spectrum of economic development programs, projects, and actions to implement its policies and actions, and the EDE has the potential to affect conditions within the existing City limits and within portions of the City's existing Sphere of Influence (SOI). The EDE also includes direction for economic development within select areas located outside the existing SOI that are within unincorporated Monterey County. These areas would be converted from agricultural land into industrial, commercial, and business park developments, expanding the existing limits of the SOI. New development would occur within several "Target Areas". These are subsets of larger areas identified as Economic Opportunity Areas (EOAs). In addition to new development within the Target Areas, the proposed project includes extensions of two expressways that are already planned in the General Plan and the construction of a new expressway.

This noise and vibration assessment for the EDE identifies and appraises noise impacts attributable to the EDE project. The SoundPLAN model has been used to develop noise contour information for the primary traffic noise sources, and a table has been prepared identifying noise exposure levels along transportation routes in the City based on the gathered noise data and noise modeling. The noise contours are used as a guide for identifying the exposure of the community to excessive noise.

This report evaluates the project's potential to result in significant noise and vibration impacts with respect to applicable California Environmental Quality Act (CEQA) guidelines on a program level for six proposed Target Areas and for the new expressways. The report is divided into three sections: 1) the Setting Section provides a brief description of the fundamentals of environmental noise and vibration, summarizes applicable regulatory criteria, and discusses the results of the ambient noise monitoring survey completed to document existing noise conditions; 2) the General Plan Consistency Section discusses the noise and land use compatibility of development proposed within each Target Area utilizing policies in the City's General Plan (for the purposes of this study, it is assumed that the Target Areas will ultimately be annexed into the City, and therefore, will be subject to the City standards); and, 3) the Impacts and Mitigation Measures Section describes the project's potential to result in significant noise or vibration impacts at off-site receptor locations. Within this section, the significance criteria used to evaluate project impacts upon sensitive receivers are identified, a discussion of each project impact is provided, and mitigation measures are presented, where necessary, to reduce the identified impacts to a less-than-significant level where feasible.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA)*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise* descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the *sound level meter*. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level (CNEL)* is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level (L_{dn} or DNL)* is essentially the same as CNEL, with

the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Sensitive Receptors

Some land uses are more sensitive to environmental noise than others due to the types of activities that occur and the degree of insulation from the noise. Typically, residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks for passive use are more sensitive than offices, retail, and industrial uses. Consequently, the noise standards for sensitive land uses are more stringent than those at less sensitive uses.

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event, such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard, which is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA, averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. Interior residential standards for dwellings are set at 45 dBA L_{dn} by the State of California.

Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA L_{dn} with open windows and 65 to 70 dBA L_{dn} if the windows are closed.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge

the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources.

When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately two percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent of the population. Therefore, there is an increase in annoyance due to ground vehicle noise of about one percent per dBA between a L_{dn} of 60 to 70 dBA. Between a L_{dn} of 70 to 80 dBA, each decibel increase increases the percentage of the population highly annoyed by about two percent.

People appear to respond more adversely to aircraft noise. When the L_{dn} due to aircraft noise is 60 dBA, approximately 10 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about two percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase in aircraft noise results in about a three percent increase in the percentage of the population highly annoyed.

Fundamentals of Ground-borne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous vibration levels produce.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows or doors. The rattling sound can give rise to exaggerated vibration complaints, even though there is little risk of actual structural damage.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a

function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

TABLE 3 Reactions of People and Damage to Buildings From Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013.

Regulatory Background

The proposed project would be subject to noise-related regulations, plans, and policies established within documents prepared by the State of California, Monterey County, and the City of Salinas. These documents are implemented during the environmental review process to limit noise exposure at existing and proposed noise sensitive land uses. Applicable planning documents include: (1) the California Environmental Quality Act (CEQA) Guidelines, Appendix G, (2) the Cal Green Code (3) the City of Salinas 2002 General Plan, (4) the City of Salinas Zoning Ordinance and Municipal Code, and (5) the Salinas Municipal Airport Land Use Plan. Regulations, plans, and policies presented within these documents form the basis of the significance criteria used to assess project impacts.

State CEQA Guidelines. The California Environmental Quality Act (CEQA) contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. CEQA asks the following applicable questions. Would the project result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies?

- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

- For a project located within 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, exposure of people residing or working in the project area to excessive noise levels?

- For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels?

2016 California Building Cal Green Code. The State of California established exterior sound transmission control standards for new non-residential buildings as set forth in the 2016 California Green Building Standards Code (Section 5.507.4.1 and 5.507.4.2). The sections that pertain to this project are as follows:

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the building falls within the 65 dBA L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway noise source, as determined by the local general plan noise element.

5.507.4.2 Performance method. For buildings located, as defined by Section 5.507.4.1, wall and roof-ceiling assemblies exposed to the noise source making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level ($L_{eq\ (1\text{-}hr)}$) of 50 dBA in occupied areas during any hour of operation.

City of Salinas 2002 General Plan. The City of Salinas General Plan contains policies and programs to achieve and maintain noise levels compatible with various types of land uses. The policies and programs emphasize the need to control noise through land use regulation, as well as enforcement of other City ordinances. Three major issues related to noise are addressed in the Noise Element: 1) avoiding the negative impacts of noise through the use of land use planning and noise reduction measures; 2) minimizing the impact of transportation-related noise; and 3) minimizing the impact of non-transportation-related noise.

The following policies are set forth in the General Plan to facilitate these goals:

Goal N-1: **Minimize the adverse effects of noise through proper land use planning.**

Policy N-1.1: Ensure that new development can be made compatible with the noise environment by using noise/land use compatibility standards and the Noise Contour Map as a guide for future planning and development decisions.

Policy N-1.2: Require the inclusion of noise-reducing design features in development and reuse/revitalization project to address the impact of noise on residential development.

Policy N-1.3: Locate only urban development within the Salinas Municipal Airport "area of influence" that is compatible with the airport noise environment and meets the guidelines of the Caltrans handbook.

Policy N-1.4: Ensure proposed development meets Title 24 Noise Insulation Standards for construction.

Goal N-2: **Minimize transportation-related noise impacts.**

Policy N-2.1: Ensure noise impacts generated by vehicular sources are minimized through the use of noise control measures (e.g., earthen berms, landscaped walls, lowered streets).

Policy N-2.2: Control truck traffic routing to reduce transportation-related noise impacts on sensitive land uses.

Policy N-2.3: Ensure new development within the vicinity of the airport does not result in a land use/noise compatibility conflict or hazard.

Goal N-3: **Minimize non-transportation-related noise impacts.**

Policy N-3.1: Enforce the City of Salinas Noise Ordinance to ensure stationary noise sources and noise emanating from construction activities, private developments/residences and special events are minimized.

The City of Salinas General Plan also includes an Implementation Program, which provides actions to implement the adopted policies and plans identified in the Noise Element. These programs are discussed as follows:

N-1 – Review Development Projects**:** Review discretionary development proposals for potential on- and off-site stationary and vehicular noise impacts per the CEQA. Any proposed development located within a 60 dB or higher noise contour[1] (per Figures N-1 and N-2 of the City's General Plan) shall be reviewed for potential noise impacts and compliance with the noise and land use compatibility standards. The thresholds established in the Zoning Ordinance, Noise Ordinance, the Noise Contours Maps (Figures N-1 and N-2 of the City's General Plan), and Tables 4 and 5 of the Noise Element will be used to determine the significance of impacts. If potential impacts are identified, mitigation in the form of noise reduction designs/structures will be required to reduce the impact to a level less than significant. If the impact cannot be reduced to a level less than significant or avoided with accepted noise reduction methods, the proposed project will be determined "Clearly Unacceptable" and will not be approved.

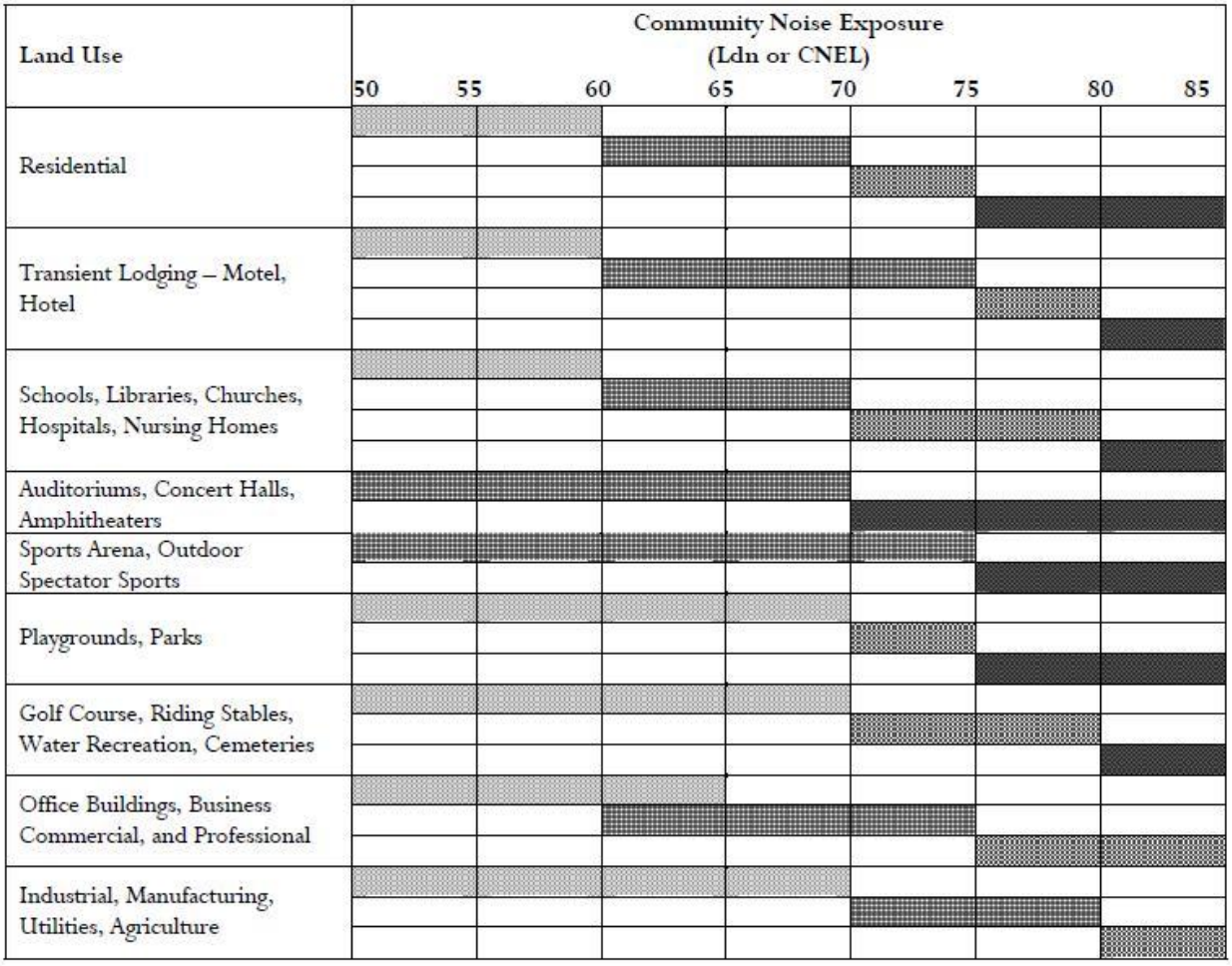
N-2 – Minimize Commercial/Industrial Noise**:** Limit delivery or service hours for stores and businesses with loading areas, docks, or trash bins that front, side, border, or gain access on driveways next to residential and other noise sensitive areas. Only approve exceptions if full compliance with the nighttime limits of the noise regulations is achieved.

***N-3 – Minimize Construction Noise*:** Require all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations (Title 24 California Code of Regulations, Zoning Ordinance and Chapter 21A of the Municipal Code).

***N-4 – Salinas Municipal Airport Master Plan*:** Upon any update of the Salinas Municipal Airport Master Plan, the County Airport Land Use Plan, or California Airport Land Use Planning Handbook, review and revise as necessary Table 7, Figure N-2 and the goals, policies, and noise plan within the General Plan Noise Element to correspond with the updated Airport Master Plan.

***N-5 – Reduce Vehicular Noise*:** Reduce the impact of vehicular noise affecting existing residential development through the addition of noise reduction methods such as sound walls, berms or others.

TABLE 4 Noise/Land Use Compatibility Matrix



Source: Modified by CBA from 1998 State of California General Plan Guidelines.

ZONE A - Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved meet conventional Title 24 construction standards. No special noise insulation requirements.

ZONE B - Conditionally Acceptable: New construction or development shall be undertaken only after a detailed noise analysis is made and noise reduction measures are identified and included in the project design.

Zone C- Normally Unacceptable: New construction or development is discouraged. If new construction is proposed, a detailed analysis is required, noise reduction measures must be identified, and noise insulation features included in the design.

ZONE D- Clearly Unacceptable: New construction or development clearly should not be undertaken.

Source: City of Salinas, *City of Salinas 2002 General Plan*, September 2002.

TABLE 5 Salinas Municipal Airport Noise/Land Use Compatibility Guidelines

Land Use	Below CNEL 65	65-70 CNEL	70.1-75 CNEL	75.1-80 CNEL	80.1-85 CNEL	Over 85 CNEL
Residential						
Residential other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile homes	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking		Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail – general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing – general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and exaction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shell, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Source: Salinas Municipal Airport Master Plan 1990-2010, August 1993.

CNEL = Community Noise Equivalent Level

Y (Yes) = Land use and related structures compatible without restrictions

N (No) = Land use and related structures are not compatible and should be prohibited

NLR = Noise Level Reduction (outdoor-to-indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure

25, 30 or 35 = Land use and related structures generally compatible, measures to achieve NLR of 25, 30 or 35 must be incorporated into the design of the structure

Notes:

1. Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dBA and 30 dBA should be incorporated into building codes and be

considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dBA, thus, the reduction requirements are often stated as 5, 10 or 15 dBA over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

2. Measures to achieve NLR of 25 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
3. Measures to achieve NLR of 30 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
4. Measures to achieve NLR of 35 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
5. Land use compatible provided special sound reinforcement systems are installed.
6. Residential buildings require a NLR of 25.
7. Residential buildings require a NLR of 30.
8. Residential buildings not permitted.

City of Salinas Municipal Code. Chapter 21A of the City of Salinas Municipal Code is the Noise Regulation, and it contains three Articles: Article I – General Provisions, which provides definitions of terms referenced in the Noise Ordinance; Article II – General Noise Regulations; and Article III – Amplified Sound. The most important sections within the Articles that are relevant to this report are provided below:

Article I. General Provisions

Section 21A-1. Declaration of policy

It is the policy of the city to prohibit unnecessary, excessive and annoying noises from all sources subject to its police power. At certain levels noises are detrimental to the health and welfare of the citizenry and in the public interest shall be systematically proscribed.

Section 21A-2. Definitions

As used in this chapter, unless the context otherwise clearly indicates, the words and phrases used in this chapter are defined as follows:

C. CLASS A NOISE: "Class A noise" includes noise created by and emanating from equipment operated in the public interest or for emergency or safety purposes. Such equipment includes, but is not limited to, sirens, street sweepers, spray rigs, chipper machines, garbage trucks, or public utility equipment;

D. CLASS B NOISE: "Class B noise" includes noise created or generated within or adjacent to residential property which is necessary and normally associated with residential living. "Class B noise" includes, but is not limited to, noise created by power mowers, trimmers, home appliances, home workshops, vehicle repairs and testing, and home construction projects;

E. CLASS C NOISE: "Class C noise" includes noise created or generated from motorized or mechanical equipment or devices used in sporting, recreational and hobby activities and includes, but is not limited to, motor-equipped mini-bikes, go-carts, motorcycles operating off public rights-of-way, drag races, model planes and cars;

F. CLASS D NOISE: "Class D noise" includes unnecessary, unnatural or unusual noises or sounds created by means of human voice or animal outcry, or by any other means or methods which are so annoying, or which are so harsh or prolonged, as to be injurious to the health, peace and comfort of any reasonable person of normal sensitiveness residing in the area;

G. SOUND-AMPLIFYING EQUIPMENT: "Sound-amplifying equipment" means any machine or device for the reproduction or amplification of the human voice, music or any other sound, but shall not include standard automobile radios or other sound-reproducing devices when used or heard only by the occupants of the vehicle in which installed, nor any warning or alerting devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes;

H. SOUND TRUCK: "Sound truck" means any motor vehicle, or any other vehicle or conveyance regardless of motive power, whether in motion or stationary, having mounted thereon, attached thereto or carrying any sound-amplifying equipment, excepting trucks or other vehicles of any public agency or public utility when in use by such public agency or public utility;

I. COMMERCIAL PURPOSE: "Commercial purpose" means and includes the-use, operation or maintenance of any sound-amplifying equipment for the purpose of advertising any business, or any goods, or any services, or for the purpose of attracting the attention of the public to, or advertising for, or soliciting patronage or customers to or for any performance, show, entertainment, exhibition or event;

J. NONCOMMERCIAL PURPOSE: "Noncommercial purpose" means the use, operation or maintenance of any sound equipment for other than a "commercial purpose." "Noncommercial purpose" means and includes, but is not limited to, philanthropic, political, patriotic, and charitable purposes.

Article II. General Noise Regulations

Section 21A-6. Class A noise

The creation and emission of Class A noise as defined in this code are specifically exempt from the provisions of this chapter.

Section 21A-7. Class B noise

It is unlawful to create and emit Class B noise as defined in this code between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day.

Section 21A-8. Class C noise

It is unlawful to create and emit Class C noise as defined in this code between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day. The operation of equipment or devices which create or generate Class C noise shall be performed at sufficient distances away from residential property so that persons of normal sensitiveness at such residential locations are not unreasonably disturbed

by the noise of the equipment or devices. The conduct and operation of any public event, whether commercial or noncommercial in nature, which has been authorized by permit lawfully issued by the city, are specifically excluded from the restrictions of this section.

Section 21A-9. Class D noise

It is unlawful for any person to make or cause, or permit to be made or caused, upon any public or private property, or upon any public street, road, lane, alley or thoroughfare, any Class D noise as defined in this code.

Section 21A-10. General noise standards

The standards which shall be considered in determining whether a violation of the provisions of this code exists shall include, but shall not be limited to, the following:

A. The volume and intensity of the noise;

B. The number of persons affected by the noise;

C. The volume and intensity of the background noise, if any;

D. The use and zoning of the area within which the noise emanates;

E. The time of the day or night the noise occurs;

F. Whether the nature of the noise is usual or unusual;

G. The proximity of the noise to residential sleeping facilities;

H. The density of the inhabitation of the area within which the noise emanates;

I. Whether the origin of the noise is natural or unnatural;

J. The duration of the noise;

K. Whether the noise is recurrent, intermittent, or constant;

L. Whether the noise is produced by a commercial or a noncommercial activity.

Article III. Amplified Sound

Section 21A-11. Purpose

The council enacts this legislation for the sole purpose of securing and promoting the public health, comfort, safety and welfare for its citizenry. While recognizing that the use of sound-amplifying equipment is protected by the constitutional rights of freedom of speech and assembly, the council nevertheless feels obligated to reasonably regulate the use of sound-amplifying equipment in order

to protect the correlative constitutional rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise.

Section 21A-12. Registration: Required

It is unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use or operate within the city a loudspeaker or sound-amplifying equipment in a fixed or movable position or mounted upon any sound truck for the purposes of giving instructions, directions, talks, addresses, or lectures, or transmitting music to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place or public property, without first filing a registration statement and obtaining approval thereof as set forth in this article, except that the provisions of this section shall not apply to sound-amplification systems installed on church buildings for emission of the sound of chimes, bells, carillon or music when used in conjunction with religious services.

Section 21A-16. Regulations

The commercial and noncommercial use of sound-amplifying equipment shall be subject to the following regulations:

A. The only sounds permitted shall be music or human speech, or both;

B. Hours of operation of sound equipment shall be between 8:00 a.m. and 10:00 p.m. Operation before 8:00 a.m. or after 10:00 p.m. is permitted only at the location of a public event or affair of general public interest or as otherwise permitted by the sound-amplification permit;

C. Sound-amplification systems shall not be operated within three hundred fifty feet of hospitals, schools, churches, courthouses, public libraries or mortuaries when same are in use, unless otherwise permitted by the sound-amplification permit;

D. No operating sound truck shall traverse any one block in the city more than four times in any one calendar day;

E. Amplified human speech and music shall not be unreasonably loud, raucous, jarring or disturbing to persons of normal sensitiveness within the area of audibility, nor louder than permitted in subsections F and G hereof;

F. When the sound truck is in motion the volume of sound shall be controlled so that it will not be audible for a distance in excess of four hundred fifty feet from its source, provided that when the sound truck is stopped by traffic, the sound-amplifying equipment shall not be operated for longer than one minute at such stop;

G. In all cases where sound-amplifying equipment remains at one location or when the sound truck is not in motion, the volume of sound shall not be audible for a distance in excess of three hundred fifty feet from the periphery of the attendant audience, unless otherwise authorized specifically in the sound-amplification permit for public gatherings;

H. No loudspeaker equipment mounted on sound trucks in motion shall be operated unless the axis of the center of the equipment used shall be parallel to the direction of travel of the sound truck; provided, however, that any sound-reproducing equipment may be so placed upon said sound truck as to not vary more than fifteen degrees either side of the radial; nondirectional type of loudspeakers may be used on said sound trucks either alone or in conjunction with sound-reproducing equipment placed within fifteen degrees of the centerline of the direction of travel.

Section 21A-17. Sound amplification from aircraft

No person shall operate or permit to be operated any sound-amplification equipment from any aircraft in or over the city of Salinas for any purpose, except that law enforcement agencies are specifically exempt from the provisions of this section.

City of Salinas Zoning Ordinance. Chapter 37-50.180 of the City of Salinas Zoning Ordinance provides noise performance standards for various districts. It states the following:

Section 37-50.180. Performance standards

The following performance standards shall apply to all use classifications in all zoning districts:

A. Noise. No use shall create ambient noise levels which exceed the following standards (see Table 6), as measured at the property boundary:

1. Duration and Timing. The noise standards in Table 6 shall be modified as follows to account for the effects of time and duration on the impact of noise levels:

   i. In residential zones, the noise standard shall be 5.0 dBA lower between 9:00 p.m. and 7:00 a.m.

   ii. Noise that is produced for no more than a cumulative period of five minutes in any hour may exceed the standards above by 5.0 dBA.

   iii. Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the standards above by 10.0 dBA.

2. Acoustic Study. The city planner may require an acoustic study for any proposed project or use that has the potential to create a noise exposure greater than that deemed acceptable by this section and require appropriate mitigation measures. The city planner or their designee shall prepare the study. The applicant shall be responsible for the cost of the study.

3. Noise Measurement. Noise shall be measured with a sound level meter, which meets the standards of the American National Standards Institute (ANSI Section S1.4-1979, type 1 or type 2). Noise levels shall be measured in decibels from the property line closest to the noise source. The unit of measure shall be designated as dBA. A calibration check shall be made of the instrument at the time any noise measurement is made.

4. Noise Attenuation Measures. The city planner may require the incorporation into a project of any noise attenuation measures deemed necessary and feasible to ensure that noise standards are not exceeded.

5. Exceptions. Sporting events and the like shall be exempt from these noise standards. Events issued a special event permit by the city may also be exempted from these noise standards as part of the review and approval process for that permit.

6. Delivery Hours. The hours of delivery for commercial/industrial uses with loading areas/docks and related service areas that abut or have direct street access from adjoining residential districts or other noise sensitive uses shall be limited to 7:00 a.m. to 9:00 p.m., seven days a week, unless an acoustic study is prepared for the city planner by their designee which demonstrates that the proposed use and related delivery activities will not exceed the maximum noise levels established in Table 6.

TABLE 6 Maximum Noise Standards

Zone of Property Receiving Noise	Maximum Noise Level, CNEL/L_{dn}, dBA
Agricultural District	70 dBA
Residential District	60 dBA
Commercial District	65 dBA
Industrial District	70 dBA
Mixed-Use District	65 dBA[1]
Parks/Open Space District	70 dBA
Public/Semipublic District	60 dBA

Notes:

1. The interior noise level in any residential dwelling unit located in a mixed-use building or development shall not exceed a maximum of forty-five dBA from exterior ambient noise.

Existing Noise Environment

A noise monitoring survey was completed by Illingworth & Rodkin, Inc. to establish existing noise levels in the City of Salinas at the locations of the proposed Target Areas. These Target Areas are located at the northern and southern parts of the City adjacent to U.S. Highway 101 (Highway 101), in the southeastern corner of the East Blanco Road/SR 68 intersection, west of North Davis Road between Boronda Road and West Laurel Drive, and in the central part of the City, east of Highway 101 on either side of Sherwood Drive.

The noise monitoring survey was performed from Wednesday, November 30, 2016 to Friday, December 2, 2016 and consisted of eight long-term noise measurements (LT-1 through LT-8) and eight short-term measurements (ST-1 through ST-8). Noise measurement locations are shown on Figure 1, and Appendix A show the data summaries collected at each of the long-term measurement sites. During the noise survey, weather conditions were moderate in terms of temperature and wind. Noise measurements were made with Larson Davis Laboratories Type 820 and Type 831 precision sound level meters. Instrumentation was calibrated at the beginning of the noise survey and post-calibrated at the end of the survey. No calibration corrections were necessary. During the noise survey, the microphones were fitted with windscreens.

Based on the results of the ambient noise measurements, it was determined that transportation-related noise sources are the primary contributor to the noise environment in each of the Target Areas. Major transportation corridors that traverse near the Target Areas include Highway 101 and arterial roadways, such as North Davis Road, SR 68/South Main Street, and Blanco Road.

Measurement LT-1 was located 35 feet west of the centerline of Harrison Road, east of US 101. The land use at this location is primarily agricultural, with churches located to the north and commercial uses, as well as a mobile home park, located to the west, opposite US 101. Vehicular traffic on US 101 was the dominant noise source affecting the noise measurement. Traffic along Harrison Road and nearby Espinosa Road/Russell Road would also affect the noise environment. Activities from nearby farming, such as the operation of farm equipment, may also be considered significant intermittent noise sources. The measured day/night average noise level at this location was 62 dBA L_{dn}. Daytime noise levels at this location were typically in the range of 55 to 60 dBA L_{eq}, with nighttime noise levels ranging from 51 to 59 dBA L_{eq}.

Measurement LT-2 was made along Russell Road, 45 feet south of the centerline. Both LT-1 and LT-2 were located in Target Area K, and the dominating noise source at LT-2 was vehicular traffic along Russell Road. The measurement was located on the south side of the roadway at the approximate setback of nearby residential land uses. To the north of Russell Road is mostly agricultural land, with a middle school located approximately 765 feet to the east of LT-2 and a Salvation Army facility about 510 feet to the west. The measured noise level at this location was 69 dBA L_{dn}. Daytime noise levels at this location were in the range of 63 to 70 dBA L_{eq}, with nighttime noise levels ranging from 53 to 68 dBA L_{eq}.

Noise measurement LT-3, which represents Target Area L2, was made approximately 95 feet west of the centerline of North Davis Road, north of Westridge Parkway. The primary noise sources at this location are vehicular traffic along US 101, which runs parallel to North Davis Road, and North Davis Road. LT-3 is located at the northernmost portion of a commercial shopping plaza adjacent to agricultural land uses. On the opposite side of US 101, residential land uses are approximately 325 feet or more to the east of LT-3. The day/night average noise level was measured to be 76 dBA L_{dn}. Hourly average noise levels ranged from 70 to 75 dBA L_{eq} during daytime hours and from 64 to 74 dBA L_{eq} during nighttime hours.

Measurement locations LT-4, LT-5, and LT-6 were made in the Target Area V. LT-4 was approximately 35 feet south of the centerline of East Bernal Drive, opposite the roadway from the Salinas Aquatic Center and Sherwood Tennis Center. The nearest single-family residential development is located approximately 90 feet to the west. Other nearby land uses include a church approximately 385 feet to the west, commercial retail approximately 665 feet to the west, parks approximately 500 feet to the north and approximately 720 feet to the east. Vehicular traffic along East Bernal Drive was the major source of noise at this location. The day/night average noise level at this site was measured to be 75 dBA L_{dn}. Daytime noise levels at this location were in the range of 69 to 77 dBA L_{eq}, with nighttime noise levels ranging from 61 to 72 dBA L_{eq}.

Traffic noise from North Main Street was the dominant noise source measured at LT-5, which was located at the New Life Church of the Nazarene near the corner of North Main Street and Deer Street. LT-5 was made approximately 145 feet east of the centerline of North Main Street and

approximately 15 feet north of the centerline of Deer Street. Directly opposite Deer Street from LT-5 was a hotel and single-family residential land uses. There were also commercial uses located to the west, opposite North Main Street. The day/night average noise level was measured to be 67 dBA L_{dn}. Daytime noise levels at this location were in the range of 62 to 67 dBA L_{eq}, with nighttime noise levels ranging from 53 to 69 dBA L_{eq}.

Measurement LT-6 was made at the northern boundary of the Holiday Inn Express & Suites Salinas parking lot, approximately 295 feet east of the centerline of the nearest through lane along northbound US 101, which is the dominant noise source at this location. To the north of the hotel were agricultural land uses, and the nearest residential land uses are located approximately 400 feet to the east of LT-6. The day/night average noise level at this site was 71 dBA L_{dn}. Daytime noise levels at this location were in the range of 65 to 70 dBA L_{eq}, with nighttime noise levels ranging from 58 to 69 dBA L_{eq}.

Measurement LT-7 was made in a residential neighborhood just north of East Blanco Road and represented the noise environment of the Target Area N. LT-7 was located in the northwest corner of the Pajaro Street/La Mesa Drive intersection, at a distance of 35 feet from the centerline of both roadways. The dominant noise source at LT-7 was East Blanco Road, and LT-7 was approximately 190 feet north of the centerline of East Blanco Road. Approximately 115 feet to the west of LT-7 is commercial uses, and agricultural land is located approximately 280 feet to the south. The measured day-night average noise level at this location was 66 dBA L_{dn}. Daytime noise levels at this location were in the range of 58 to 69 dBA L_{eq}, with nighttime noise levels ranging from 50 to 65 dBA L_{eq}.

Measurement Location LT-8 was made along Abbott Street where the roadway runs parallel to US 101 on the southern end of the City. LT-8 was made approximately 55 feet from the centerline of Abbott Street near an industrial building. Agricultural land surrounds the industrial land use. LT-8 represented the noise environment at the Target Area F, and the dominant noise source was US 101. The day-night average noise level at LT-8 was 79 dBA L_{dn}. Hourly average noise levels at this location ranged from 72 to 79 dBA L_{eq} during daytime hours and from 66 to 78 dBA L_{eq} during nighttime hours.

Short-term noise measurements were conducted during the day on Thursday, December 1, 2016. The measured data are summarized in Table 7. Location ST-1 was made to the west of Harrison Road in the parking lot of Landmark Missionary Baptist. ST-1 was made approximately 35 feet from the centerline of Harrison Road and approximately 1,185 feet north of LT-1. Traffic noise along US 101 and local traffic along Harrison Road were the dominant noise source at ST-1. ST-2 was made at the northernmost end of Van Buren Avenue near Gavilan View Middle School. ST-2 represented the ambient conditions of the residential land uses located in the area. While both ST-1 and ST-2 were in the vicinity of the Target Area K, ST-2 was also in the vicinity of the proposed future Eastside Expressway Extension. ST-3 was made approximately 3,165 feet northwest of LT-3 in the agricultural area west of the City. ST-3 was taken along rural Boronda Road and represents ambient conditions at the rural residences located in the vicinity. ST-3 was located within the Target Area L2 and in the vicinity of the proposed future Westside Expressway Extension. Location ST-4, which is located within Target Area V, was made along Sherwood Drive near Mount Toro High School. The dominant noise source at ST-4 would be US 101, which

is located approximately 540 feet south of ST-4. ST-5 is also located within the Target Area V and was made at the northern boundary of the mobile home park to the east of LT-6. Ambient conditions for the mobile home residences are represented by ST-5. ST-6 and ST-7 were located in the Target Area N. ST-6, which was made along South Main Street/SR 68 in the vicinity of commercial retail uses, was dominated by traffic noise along South Main Street/SR 68. ST-7 was made at the end of Las Cruces Way at the southwestern boundary of a residential development. Adjacent to the residences is agricultural land. This measurement represents the ambient conditions at the residential land uses and was in the vicinity of the proposed future Southside Expressway. ST-8 was made opposite US 101 from LT-8 near Massolo Trucking on Gould Road. This measurement was made in the Target Area F and in the vicinity of the proposed future Eastside Expressway.

FIGURE 1 Noise Measurement Locations in Salinas

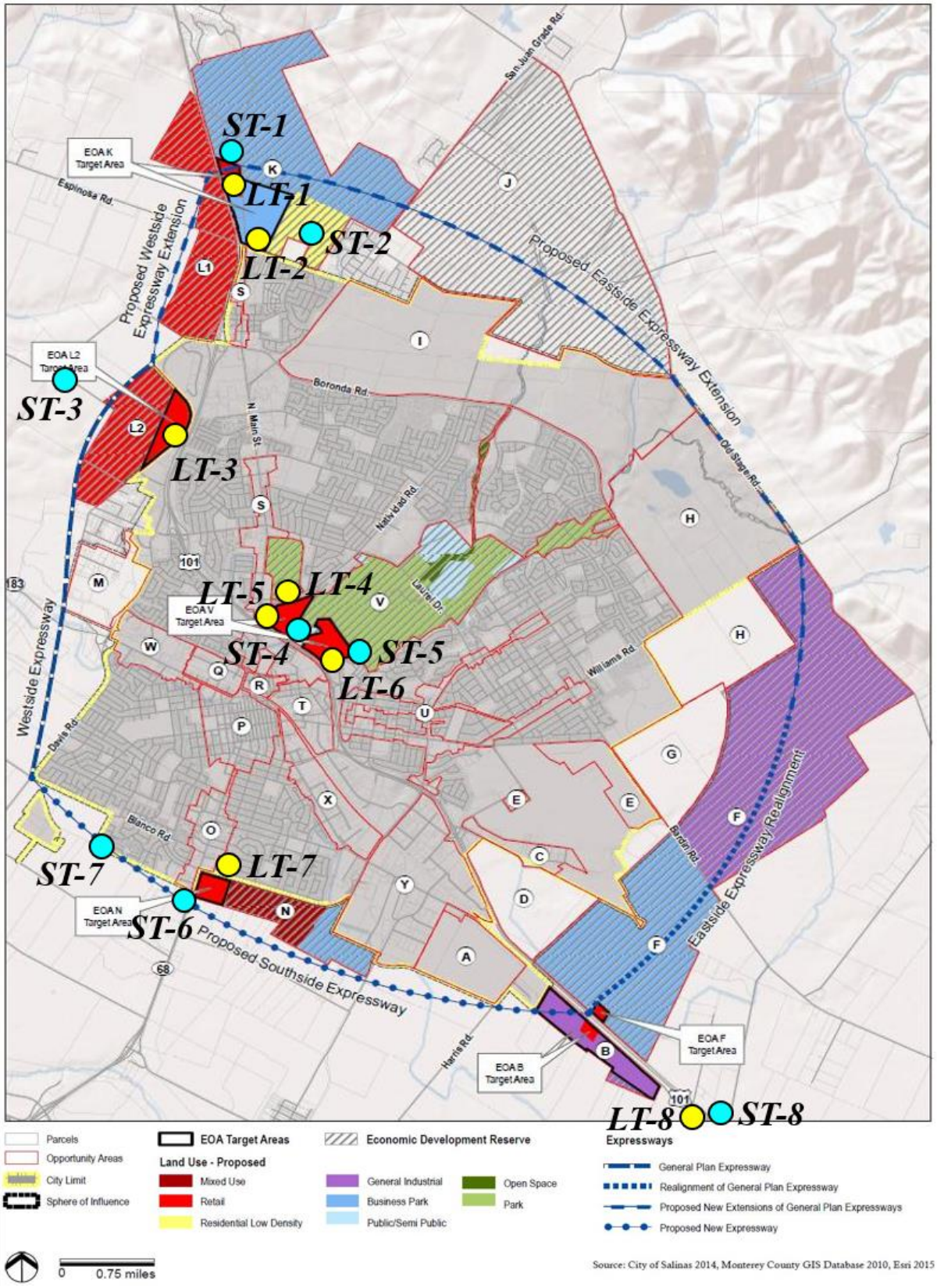


TABLE 7 Summary of Short-Term Noise Measurement Data (dBA)

Noise Measurement Location (Date, Time)	Noise Source	L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}	L_{dn}[1]
ST-1: ~35 feet west of the centerline of Harrison Road (12/1/2016, 10:00-10:10 a.m.)	Harrison Road	79	77	73	60	54	68	75
ST-2: end of Van Buren Avenue (12/1/2016, 10:30-10:40 a.m.)	Ambient Conditions	56	53	48	46	45	48	51
ST-3: ~25 feet north of the centerline of Boronda Road (12/1/2016, 11:10-11:20 a.m.)	Ambient Conditions	54	53	45	40	38	42	46
ST-4: ~65 feet east of Sherwood Drive (12/1/2016, 11:50 a.m.-12:00 p.m.)	Highway 101	76	75	74	70	62	71	73
ST-5: north of the fence line of the mobile home park (12/1/2016, 12:20-12:30 p.m.)	Ambient Conditions	56	51	50	48	46	48	51
ST-6: ~75 feet west of the centerline of South Main Street (12/1/2016, 1:00-1:10 p.m.)	SR 68/South Main St.	83	79	77	73	67	74	76
ST-7: end of Las Cruces Way (12/1/2016, 1:20-1:30 p.m.)	Ambient Conditions	48	46	44	41	38	41	43
ST-8: ~215 feet east of the nearest through lane of northbound US 101 (12/1/2016, 1:50-2:00 p.m.)	Ambient Conditions	72	70	69	66	63	67	67

[1] L_{dn} levels were estimated from the nearest long-term measurement results.

Future Noise Environment

SoundPLAN Version V7.4, a three-dimensional ray-tracing computer program, was used to calculate existing and future traffic noise level contours for the Target Areas and the vicinity, as well as along major roadways in Salinas. Calculations took into account the traffic volumes, speeds, vehicle mix information, and the topography of the area. The geometric data used to create the model were based on GIS information provided by the City. Existing and year 2045 Plus Project Buildout traffic volumes and travel speeds were also input into the model. For U.S. Highway 101, traffic volumes were provided in the traffic report,[1] and truck mix data input into the model were based on information published by the Caltrans. The predicted noise levels were then compared to measured noise levels for calibration purposes, and adjustments were made as necessary to create an accurate model. The noise map prepared based on existing conditions for the entire City of Salinas is shown on Figure 2, and the noise map prepared based on year 2045 plus project conditions for the entire City of Salinas is shown on Figure 3. Additionally, 2045 cumulative (no project) traffic conditions, which were provided in the Fehr & Peers traffic study[1], were also entered into the SoundPLAN model. Table 8 presents existing, year 2045 cumulative (no project), and year 2045 cumulative plus project L_{dn} noise levels calculated at a reference distance of 75 feet from the center of the near travel lane for the major roadways in Salinas.

The cumulative (no project) scenario results in an increase of 3 dBA L_{dn} or more, compared to the existing conditions, at the following roadway segments: along Harris Road west of Abbott Street, along Natividad Road between Alvin Drive and Boronda Road and between Rogge Road and Old Stage Road, along each segment of Old Stage Road, and along South Davis Road south of Blanco Road. This scenario reflects the future 2045 traffic conditions without the Target Area developments or the proposed expressways and with the inclusion of planned and approved projects. Therefore, the significant noise level increases under this scenario would not be due the proposed project.

The 2045 cumulative plus project scenario includes the planned and approved future projects as well as the proposed Target Areas and the future expressway loop shown in Figure 3 (note, the Target Areas, with respect to the noise contours under 2045 cumulative plus project conditions, are identified in Figures 4 through 6). As summarized in Table 8, the same segments resulting in a 3 dBA L_{dn} or more increase under the cumulative (no project) scenario also result in a 3 dBA L_{dn} or more increase for the cumulative plus project scenario when both scenarios are compared to the existing traffic conditions. Therefore, the inclusion of the project Target Areas and proposed expressways along these segments would not result in a quantifiable difference between the two cumulative scenarios.

Under the 2045 cumulative plus project scenario, the new expressways would increase noise levels substantially and would result in significant noise level increases above existing conditions (i.e., more than a 3 dBA L_{dn} increase). Similarly, the new expressways would result in a cumulatively considerable contribution to the substantial noise increase as compared to the cumulative (no project) conditions (i.e., difference of more than 1 dBA L_{dn}). Additionally, Rogge Road between San Juan Grade Road and Natividad Road, Russell Road between Van Buren Avenue and San

[1] Fehr & Peers, "Economic Development Element Draft Transportation Impact Analysis," November 2016.

Juan Grade Road, and San Juan Grade Road between Rogge Road and Hebert Road result in a 3 dBA L_{dn} or more increase under the cumulative plus project conditions, when compared to the existing conditions, and a difference of 1 dBA L_{dn} or more from cumulative (no project) conditions. Therefore, the project would significantly impact the future noise environment. The noise environment of each Target Area, and the noise and land use compatibility of the proposed land uses within each Target Area, is discussed in more detail in the General Plan Consistency section of this report. The impacts resulting from the proposed project on the existing land uses in the vicinity of each Target Area are discussed in the Noise Impacts and Mitigation Measures section of this report.

Aircraft activities related to operations at the Salinas Municipal Airport would also contribute to ambient noise levels within the vicinity of the Target Areas. Figure 5.3-2 of the Salinas General Plan shows the noise contours for the airport. All of the Target Areas for the General Plan EDE are located outside the 65 dBA CNEL contour line for aircraft activities associated with the airport.

Railroad lines are another significant source of transportation-related noise in Salinas. The UPRR mainline, runs parallel to SR 183 from Castroville to the northwest and turns southbound in central Salinas, running parallel to Highway 101. This line carries both Amtrak and freight train traffic. Amtrak trains travel into Salinas station twice daily. No freight trains were observed during field measurements, but based on noise measurements conducted adjacent to the rail line, it is estimated that approximately 4 to 6 freight trains pass through Salinas per day. Target Areas B and F are located adjacent to the railroad tracks in the southern part of the City.

FIGURE 2 Existing Traffic Noise Contours in Salinas

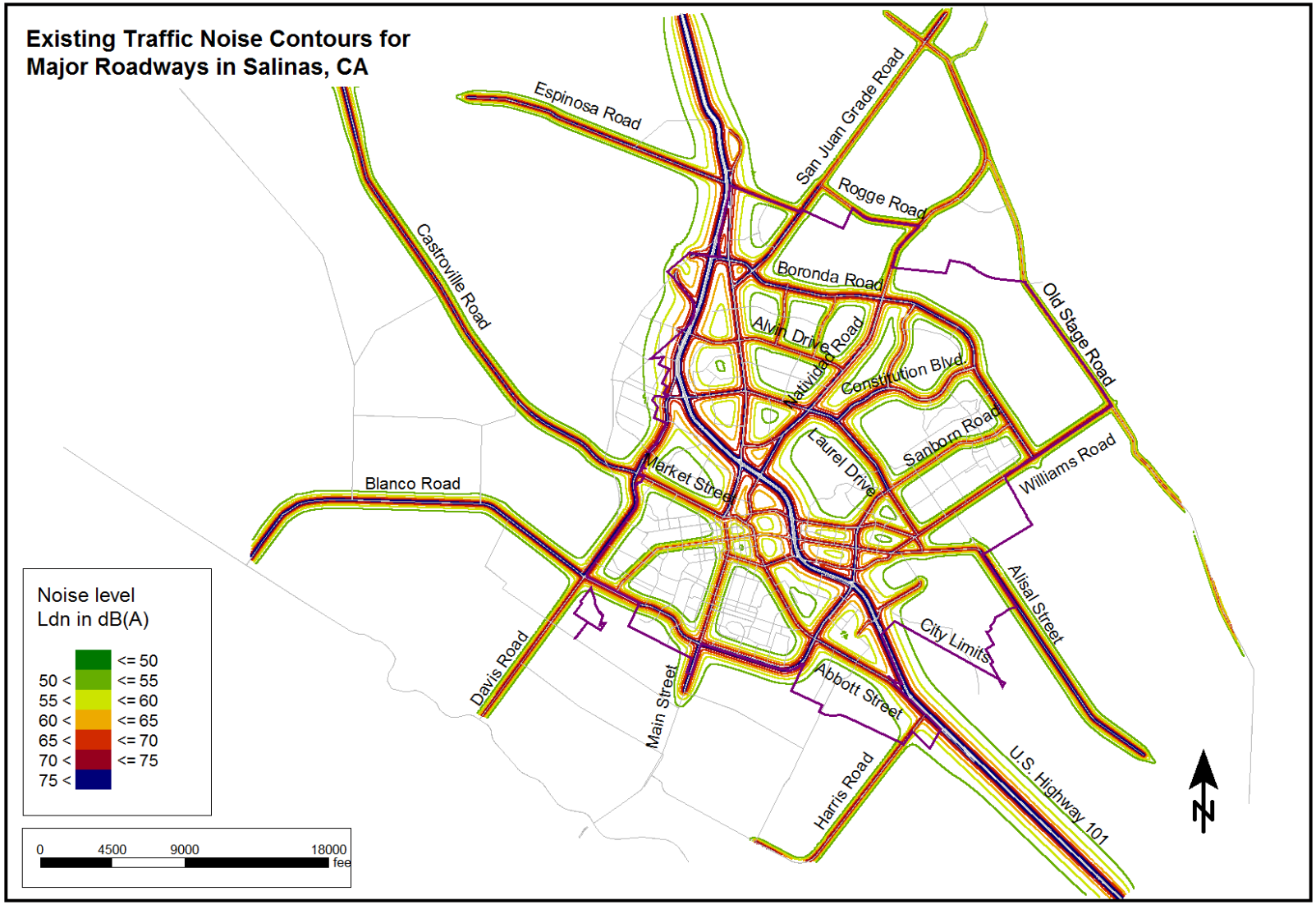


FIGURE 3 2045 General Plan Buildout Plus Project Traffic Noise Contours in Salinas

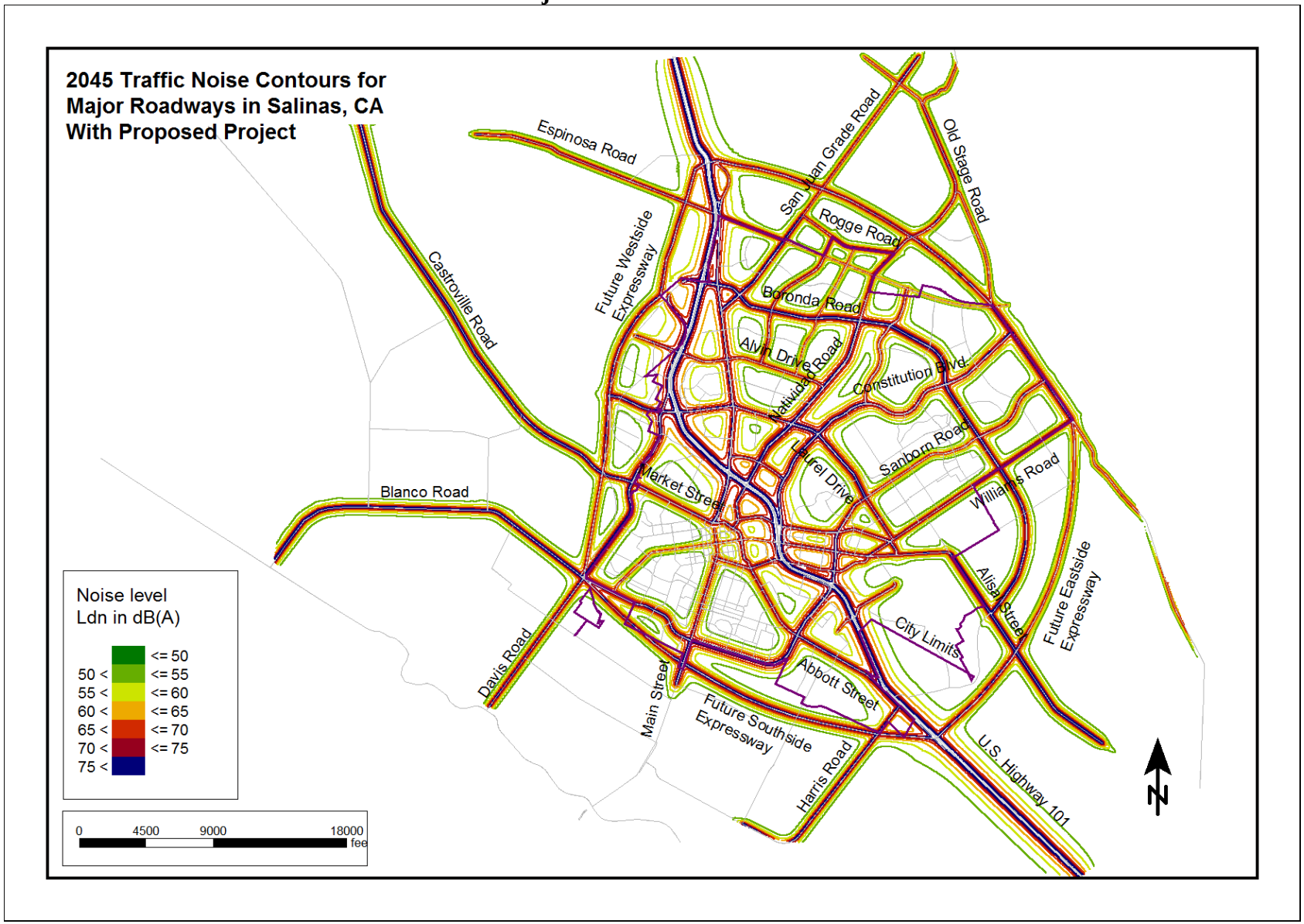


TABLE 8 Existing, 2045 No Project, and 2045 Plus Project Modeled Noise Levels Along Salinas Roadways

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
Abbott Street	South of Harris Rd.	70	70	70	0	0	0
	Harris Rd. to Harkins Rd.	68	69	69	1	1	0
	Harkins Rd. to South Sanborn Rd.	69	70	69	1	0	-1
	South Sanborn Rd. to John St.	66	67	67	1	1	0
Airport Boulevard	Hansen St. to Highway 101	62	63	63	1	1	0
	Highway 101 to Skyway Blvd.	65	66	65	1	0	-1
Alvin Drive	McKinnon St. to El Dorado Dr.	65	66	65	1	0	-1
Bernal Drive[1]	North Main St. to Natividad Rd.	67	68	68	1	1	0
Blanco Road	Alisal St. to Main St.	69	70	70	1	1	0
	West of Davis Rd.	71	72	72	1	1	0
Boronda Road	North Sanborn Rd. to Constitution Blvd.	68	70	70	2	2	0
	Natividad Rd. to El Dorado Dr.	70	72	72	2	2	0
	El Dorado Dr. to McKinnon St.	70	71	71	1	1	0
	San Juan Grade Rd. to North Main St.	70	71	71	1	1	0
	North Main St. to Highway 101	73	74	74	1	1	0

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
	Highway 101 to North Davis Rd.	70	71	71	1	1	0
Castroville Road	North Davis Rd. to McFadden Rd.	70	70	70	0	0	0
	McFadden Rd. to San Jon Rd.	68	70	70	2	2	0
	Espinosa Rd. to SR 156	74	74	74	0	0	0
Constitution Boulevard	East Laurel Dr. to Independence Blvd.	71	71	71	0	0	0
	Independence Blvd. to Boronda Rd.	66	67	67	1	1	0
East Alisal Street	Highway 101 to North Sanborn Rd.	66	67	67	1	1	0
	Williams Rd. to Bardin Rd.	65	67	67	2	2	0
East Blanco Road	SR 68/South Main St. to Abbott St.	72	73	73	1	1	0
East Laurel Drive	Natividad Rd. to Constitution Blvd.	73	73	73	0	0	0
	Constitution Blvd. to North Sanborn Rd.	70	71	71	1	1	0
	North Sanborn Rd. to Williams Rd.	66	67	67	1	1	0

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
East Market Street	Sherwood Dr. to Highway 101	65	67	67	2	2	0
	Highway 101 to North Sanborn Rd.	66	66	66	0	0	0
Eastside Expressway	Highway 101 to Alisal St.	<50	<50	67	0	**17**	**17**
	Alisal St. to Williams Rd. (Proposed)	<50	<50	62	0	**12**	**12**
	San Juan Grade Rd. to North Main St. (Proposed)	<50	<50	66	0	**16**	**16**
El Dorado Drive	Alvin Dr. to Boronda Rd.	59	59	59	0	0	0
Espinosa Road	West of Highway 101	69	69	66	0	-3	-3
Front Street	Alisal St. to East Market St.	65	67	67	2	2	0
Harris Road	West of Abbott St.	64	69	69	5	**5**	0
Harrison Road	Boronda Rd. to Russell Rd.	69	70	70	1	1	0
	Russell Rd. to Sala Rd.	68	70	70	2	2	0
	Sala Rd. to Martines Rd.	62	63	63	1	1	0
Hebert Road	San Juan Grade Rd. to Old Stage Rd.	60	62	60	2	0	-2
Highway 101[2]	SR 156 to Russell Rd.	76	77	77	1	1	0
	Russell Rd. to Boronda Rd.	77	78	78	1	1	0
	Boronda Rd. to West Laurel Dr.	78	79	79	1	1	0

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
	West Laurel Dr. to North Main St.	78	79	79	1	1	0
	North Main St. to East Market St.	78	79	79	1	1	0
	East Market St. to John St.	78	79	79	1	1	0
	John St. to South Sanborn Rd.	76	77	77	1	1	0
Independence Boulevard	Constitution Blvd. to Boronda Rd.	64	64	64	0	0	0
John Street	Monterey St. to Abbott St.	64	65	65	1	1	0
	Abbott St. to Highway 101	67	68	68	1	1	0
	Highway 101 to South Sanborn Rd.	65	66	66	1	1	0
Main Street	Central Ave. to East San Luis St.	64	65	64	1	0	-1
McKinnon Street	Alvin Dr. to Boronda Rd.	63	65	65	2	2	0
North Davis Road	West Market St. to West Laurel Dr.	71	71	71	0	0	0
	West Laurel Dr. to Boronda Rd.	73	74	74	1	1	0
North Main Street	Rossi St. to Highway 101	71	71	71	0	0	0
	Highway 101 to Alvin Dr.	69	70	70	1	1	0

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
	Alvin Dr. to San Juan Grade Rd.	69	70	70	1	1	0
North Sanborn Road	East Market St. to East Laurel Dr.	67	68	68	1	1	0
	East Laurel Dr. to Boronda Rd.	62	62	62	0	0	0
Natividad Road	East Bernal Dr. to East Laurel Dr.	72	73	73	1	1	0
	Alvin Dr. to Boronda Rd.	68	71	71	3	**3**	0
	Rogge Rd. to Old Stage Rd.	62	66	65	4	**3**	-1
Old Stage Road	Crazy Horse Canyon Rd. to Hebert Rd.	49	61	61	12	**12**	0
	Hebert Rd. to Natividad Rd.	64	67	66	3	2	-1
	Natividad Rd. to Russell Rd.	57	61	61	4	**4**	0
	Russell Rd. to Williams Rd.	60	65	68	5	**8**[3]	3[3]
	East of Williams Rd.	58	61	61	3	**3**	0
Rogge Road	San Juan Grade Rd. to Natividad Rd.	63	63	66	0	**3**	**3**
Russell Road	Van Buren Ave. to San Juan Grade Rd.	63	65	66	2	**3**	**1**
	McKinnon St. to El Dorado Dr. (extension)	<50	59	59	9	**9**	0

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
	Natividad Rd. to Independence Blvd. (extension)	<50	60	56	10	**6**	-4
Sala Road	Highway 101 to Harrison Rd.	69	70	70	1	1	0
San Juan Grade Road	Boronda to Van Buren Ave.	69	70	70	1	1	0
	Rogge Road to Hebert Rd.	60	61	63	1	**3**	**2**
	Hebert Rd. to Crazy Horse Canyon Rd.	68	68	69	0	1	1
Sherwood Drive	East Market St. to Highway 101	67	69	69	2	2	0
	Highway 101 to Natividad Rd.	71	72	72	1	1	0
South Davis Road	South of Blanco Rd.	65	68	68	3	**3**	0
	Central Ave. to West Market St.	72	72	72	0	0	0
South Main Street	San Miguel Ave. to Blanco Rd.	66	66	66	0	0	0
	Blanco Rd. to Hunter Ln.	71	71	71	0	0	0
South Sanborn Road	Highway 101 to John St.	70	72	71	2	1	-1
Southside Expressway (proposed)	Harris Rd. to Harkins Rd.	<50	<50	68	0	**18**	**18**
	Harkins Rd. to South Main St.	<50	<50	69	0	**19**	**19**
	South Main St. to South Davis Rd.	<50	<50	66	0	**16**	**16**

Roadway	Segment	L_{dn} at 75 feet, dBA			Increase Over Existing, dBA		Increase of 2045 Plus Project Over 2045 No Project, dBA
		Existing	2045 No Project	2045 Plus Project	2045 No Project	2045 Plus Project	
West Alisal Street	Lincoln Ave. to Blanco Rd.	59	61	60	2	1	-1
West Laurel Drive	North Davis to Highway 101	70	72	72	2	2	0
	Highway 101 to Adams St.	69	70	70	1	1	0
	North Main St. to Natividad Rd.	67	67	67	0	0	0
West Market Street	North Davis Rd. to Clark St.	67	67	67	0	0	0
Westside Expressway	Blanco Rd. to West Market St.	<50	<50	63	0	**13**	**13**
	West Market St. to Boronda Rd.	<50	<50	67	0	**17**	**17**
	Boronda Rd. to Espinosa Rd. (Proposed)	<50	<50	65	0	**15**	**15**
Williams Road	East Laurel Dr. to Boronda Rd.	65	67	67	2	2	0

[1] *Bernal Drive would be realigned under 2045 Buildout conditions.*
[2] *Barriers along Highway 101 were not entered into the model and were not taken into account.*
[3] *The location of this receptor is where the future Eastside Expressway runs parallel to or overtop Old Stage Road. Therefore, the difference between the 2045 No Project and 2045 Plus Project is due to the addition of the new Eastside Expressway.*

GENERAL PLAN CONSISTENCY ANALYSIS

This section summarizes the analysis of the land use compatibility of the proposed developments within each Target Area with respect to the future noise environment. Recommendations are made to ensure that future developments within each Target Area are not exposed to excessive noise levels. Noise and vibration impacts attributable to the proposed project are discussed in the Noise Impacts and Mitigation Measures section.

Noise and Land Use Compatibility

Future Exterior Noise Environment

The City's General Plan establishes noise and land use compatibility noise level thresholds, which are provided in Table 4 of this report.

Existing and future project noise levels in the Target Areas were measured and calculated for this EIR using SoundPLAN Version V7.4. The proposed project would allow for future economic development at one Target Area within the city limits (V) and at five Target Areas outside the city limits (B, F, N, K, and L2). Results for each of the target areas are discussed individually below.

Target Area V

Target Area V, which is located in the central part of the City, north of Highway 101, between North Main Street and East Market Street, is currently vacant and would be developed with commercial retail land uses under future project conditions. Based on the thresholds summarized in Tables 4 and 6, future exterior noise levels in Target Area V are required to be maintained at or below 65 dBA L_{dn} for commercial retail land uses. Figure 4 shows the future 2045 contour lines with Target Area V identified.

Noise produced by vehicular traffic along roadways in the vicinity of Target Area V could potentially expose the proposed land uses to levels exceeding the exterior compatibility thresholds. Future exterior noise levels at a distance of 75 feet from the centerline of the primary roadways bordering Target Area V would typically range from 67 dBA L_{dn} along the future Constitution Boulevard extension to 73 dBA L_{dn} along Natividad Road between Bernal Drive and East Laurel Drive. Future exterior noise levels within 75 feet of the nearest through lane of northbound Highway 101 would be approximately 79 dBA L_{dn}. Table 9 summarizes the distances to the 65 and 70 dBA L_{dn} noise contours along the roadways surrounding Target Area V.

TABLE 9 2045 General Plan Buildout Plus Proposed Project Traffic Noise Contour Distances in the Vicinity of Target Area V

Roadway	Segment	Distance from Centerline to Traffic Noise Contour, feet	
		70 dBA L_{dn}	65 dBA L_{dn}
Bernal Drive	North Main St. to Natividad Rd.	<50 feet	115 feet
Constitution Boulevard	Independence Blvd. to Boronda Rd.	<50 feet	110 feet
Highway 101	East Market St. to North Main St.	270 feet	480 feet
North Main Street	Highway 101 to Alvin Dr.	75 feet	165 feet
Natividad Road	Bernal Dr. to East Laurel Dr.	130 feet	260 feet
Sherwood Drive	Highway 101 to Natividad Rd.	110 feet	225 feet

Target Areas B, F, and N

Target Areas B and F are located outside the city limits at the southern end of the City where the future Eastside and Southside Expressways meet Highway 101. The proposed land uses at Target Area B include general industrial with some retail, and at Target Area F, the proposed land uses include commercial retail. Target Area N is located in the southeastern corner of the East Blanco Road/SR 68 intersection. The future Southside Expressway passes near this target area. The proposed land uses at Target Area N include commercial retail. According to the City's General Plan (see Table 4) and the City's Zoning Ordinance (see Table 6), the maximum noise thresholds for outdoor use areas at these target areas would be 65 dBA L_{dn} at the commercial retail and 70 dBA L_{dn} for the general industrial land uses.

Figure 5 shows the future 2045 noise contours for Target Areas B, F, and N. For Target Areas B and F, Highway 101 would have the greatest impact on the proposed industrial and commercial land uses. Along this segment of Highway 101, 2045 plus project noise levels at a distance of 75 feet from the centerline of the nearest through lanes would be 77 dBA L_{dn}. The future Eastside and Southside Expressways, as well as Abbott Road, would also impact these target areas. At 75 feet from the centerline of these roadways, the future exterior noise levels would range from 67 to 70 dBA L_{dn}. These levels would potentially exceed the 65 dBA L_{dn} limit for commercial retail outdoor use areas. However, only Highway 101 would exceed the exterior noise threshold of 70 dBA L_{dn} for industrial uses at a distance of 75 feet from the centerline of the nearest through lane.

The major roadways in the vicinity of Target Area N that would impact the future noise environment include SR 68/South Main Street, East Blanco Road, and the future Southside Expressway. From Table 8, these roadways would result in future exterior noise levels ranging from 69 to 73 dBA L_{dn} at setbacks of 75 feet from the centerline of the roadways. Future noise levels at Target Area N would potentially exceed the noise and land use compatibility threshold of 65 dBA L_{dn} for commercial retail.

Table 10 summarizes the distances from the centerline of the roadways to the 65 dBA L_{dn} and 70 dBA L_{dn} contours in the vicinity of Target Areas B, F, and N.

TABLE 10 2045 General Plan Buildout Plus Proposed Project Traffic Noise Contour Distances in the Vicinity of Target Areas B, F, and N

Roadway	Segment	Distance from Centerline to Traffic Noise Contour, feet	
		70 dBA L_{dn}	65 dBA L_{dn}
Target Areas B and F			
Abbott Street	South of Harris Rd.	75 feet	175 feet
Harris Road	West of Abbott Street	55 feet	140 feet
Highway 101	Sanborn Rd. to John St.	225 feet	395 feet
Eastside Expressway (proposed)	Highway 101 to Alisal St.	<50 feet	105 feet
Southside Expressway (proposed)	Harris Rd. to Harkins Rd.	50 feet	130 feet
Target Area N			
East Blanco Road	South Main St./SR 68 to Abbott St.	115 feet	235 feet
South Main Street	Blanco Rd. to Hunter Lane	85 feet	200 feet
Southside Expressway (proposed)	Harkins Rd. to South Main St.	55 feet	145 feet

Target Areas K and L2

The two target areas located in the northern part of the City of Salinas are Target Area K, which is proposed north of Russell Road and east of Highway 101, and Target Area L2, which is proposed south of Boronda Road and west of North Davis Road and Highway 101. Target Area K would consist of business parks and commercial retail, and Target Area L2 would consist of commercial retail. As mentioned above, the City of Salinas has established exterior noise thresholds of 65 dBA L_{dn} for commercial retail and business parks.

Figure 6 shows the 2045 General Plan Buildout plus project noise contours for the northern part of the City of Salinas. Highway 101 and the future Eastside Expressway would impact Target Area K, as would local roadways consisting of Russell Road, Espinosa Road, Harrison Road, and Sala Road. This segment of Highway 101 would result in future exterior noise levels up to 77 dBA L_{dn} at a distance of 75 feet from the centerline of the nearest through lane. Due to the geometry of the proposed site, Highway 101 is slightly elevated above the surrounding area, which would provide some shielding; as noted in Table 8, however, these future noise level estimates do not account for shielding. Additionally, the future Eastside Expressway and other surrounding local roadways would result in future exterior noise levels at Target Area K ranging from 66 to 71 dBA L_{dn}. This would potentially exceed the 65 dBA L_{dn} threshold for businesses and commercial retail.

The future noise environment at Target Area L2 would primarily be affected by traffic along Highway 101, the future Westside Expressway, and North Davis Road. While Highway 101 adjacent to Target Area L2 would result in future noise levels of 78 dBA L_{dn} at a distance of 75 feet from the centerline of the nearest through lane, the future noise levels from the other roadways would range from 67 to 74 dBA L_{dn}. The future noise levels would potentially exceed the 65 dBA L_{dn} threshold for commercial retail.

Table 11 summarizes the distances from the centerline of the roadways to the 65 dBA L_{dn} and 70 dBA L_{dn} contours in the vicinity of Target Areas K and L2.

TABLE 11 2045 General Plan Buildout Plus Proposed Project Traffic Noise Contour Distances in the Vicinity of Target Areas K and L2

Roadway	Segment	Distance from Centerline to Traffic Noise Contour, feet	
		70 dBA L_{dn}	65 dBA L_{dn}
Target Area K			
Eastside Expressway (proposed)	San Juan Grade Rd. to North Main St.	<50 feet	85 feet
Espinosa Road	West of Highway 101	<50 feet	80 feet
Harrison Road	Russell Rd. to Sala Rd.	75 feet	160 feet
Highway 101	Russell Rd. to SR 156	225 feet	395 feet
Russell Road	Van Buren Ave. to San Juan Grade Rd.	<50 feet	100 feet
Sala Road	Highway 101 to Harrison Rd.	80 feet	180 feet
Target Area L2			
Highway 101	East Laurel Dr. to Boronda Rd.	270 feet	480 feet
North Davis Road	West Laurel Dr. to Boronda Rd.	150 feet	285 feet
Westside Expressway (proposed)	West Market St. to Boronda Rd.	<50 feet	110 feet

During project-level design of specific developments at the Target Areas discussed above, the locations of outdoor use areas should be selected considering the surrounding traffic noise sources, and the distances to the City's maximum noise level thresholds that are summarized above in Tables 9 through 11.

The Salinas Municipal Airport is a public airport, which is located at the southeastern boundary of the City Limits. The airport is approximately 1.2 miles north of Target Areas B and F, 2.1 miles east of Target Area N, 1.9 miles southeast of Target Area V, and 4 miles or more southeast of Target Areas K and L2. The Monterey County ALUC has jurisdiction over new land uses in the vicinity of airports. Each of the Target Areas is located outside the 65 dBA CNEL contour for aircraft activities associated with Salinas Municipal Airport. Noise from aircraft operations would

be considered by Monterey County ALUC to be compatible with the land uses proposed in the project Target Areas.

FIGURE 4 2045 General Plan Buildout Plus Project Traffic Noise Contours at Target Area V

FIGURE 5 2045 General Plan Buildout Plus Project Traffic Noise Contours at Target Areas B, F, and N

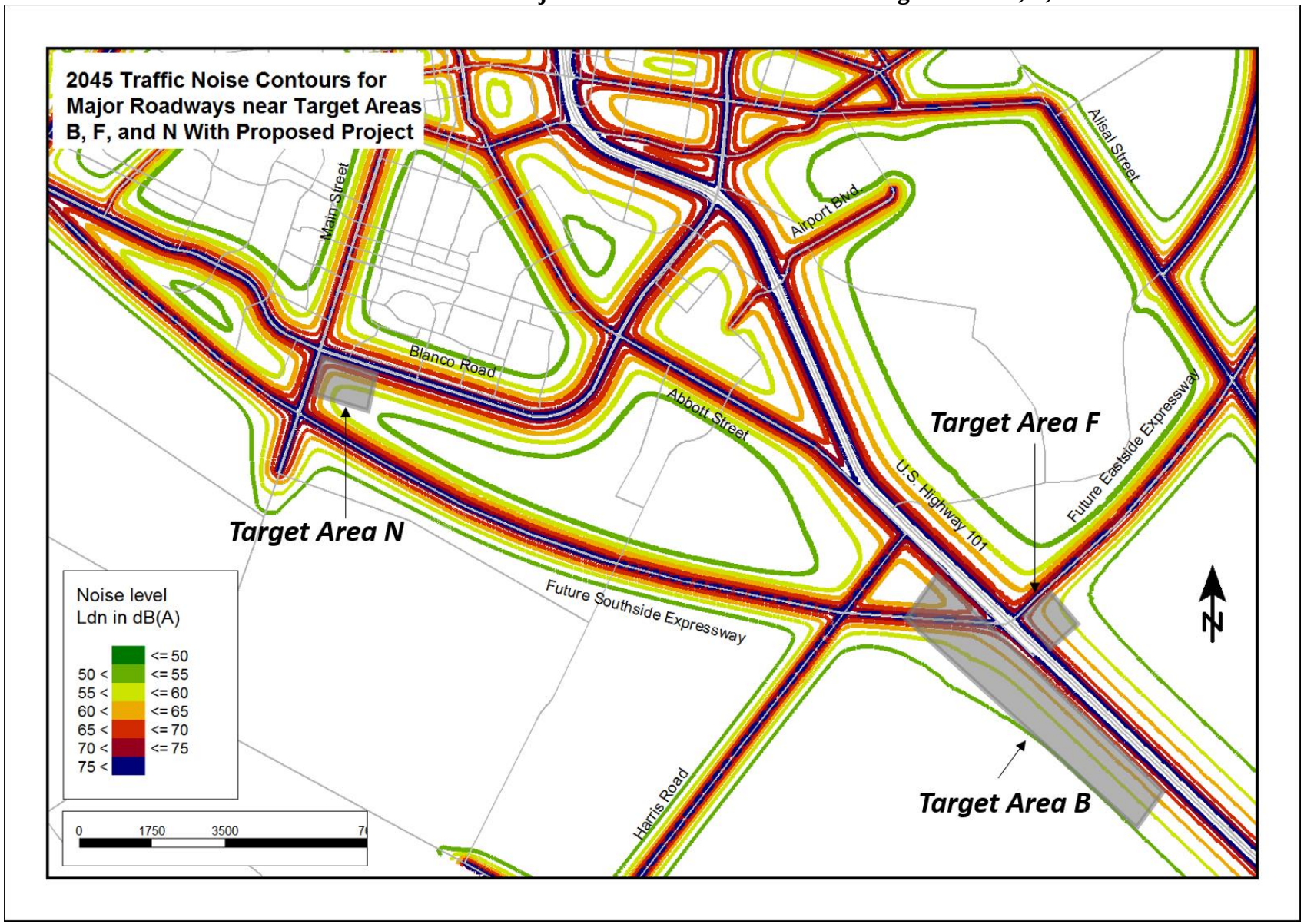
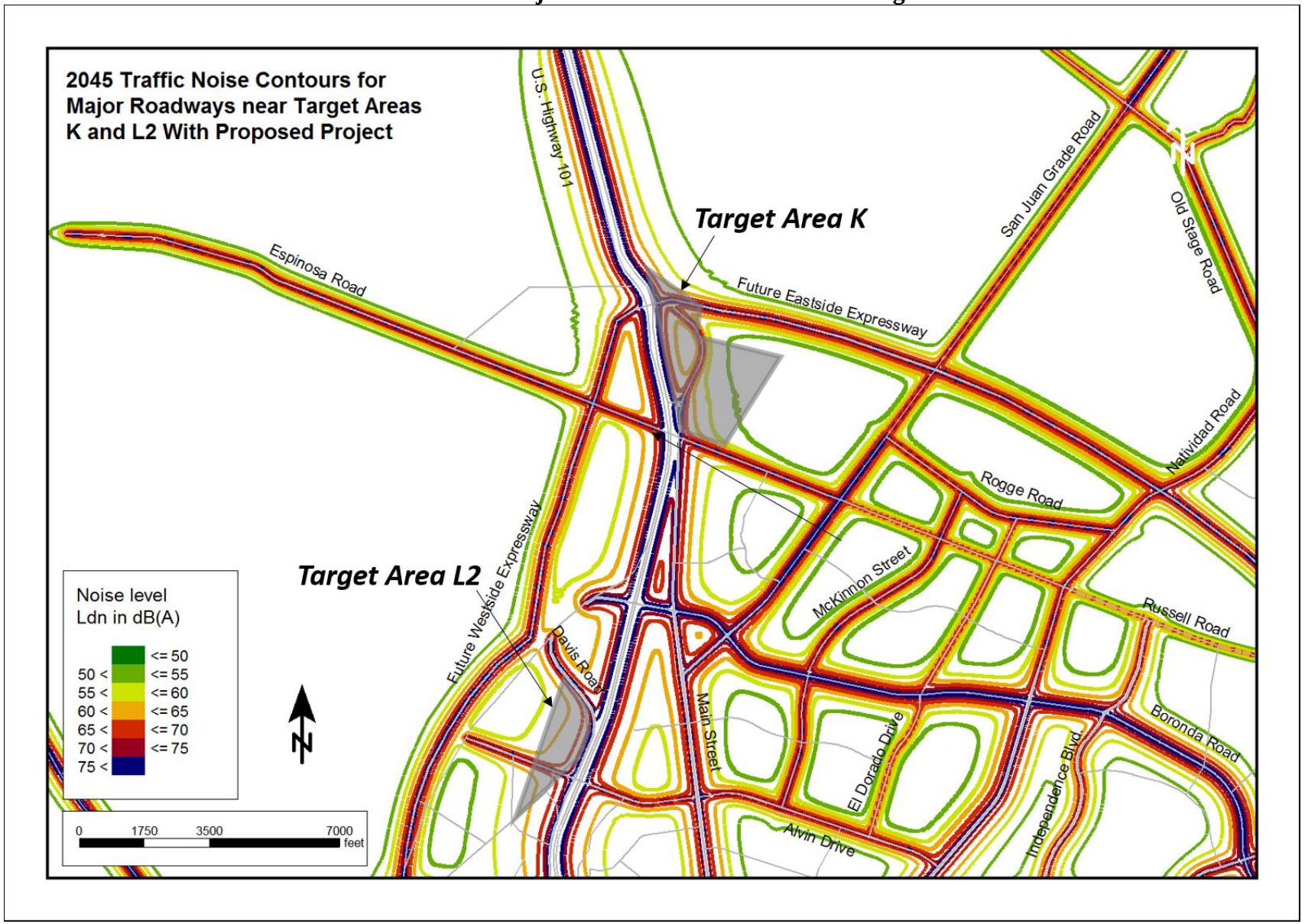


FIGURE 6 2045 General Plan Buildout Plus Project Traffic Noise Contours at Target Areas K and L2



Future Interior Noise Environment

Policy N-1.4 of the City's General Plan requires that proposed development sites meet the Title 24 Noise Insulation Standards for construction established by the State of California. For commercial land uses, the 2016 Cal Green Code would apply. The State of California requires that wall and roof-ceiling assemblies exposed to the adjacent roadways have a composite Sound Transmission Class (STC)[2] rating of at least 50 or a composite Outdoor-Indoor Transmission Class (OITC) rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the commercial property falls within the 65 dBA CNEL/L_{dn} noise contour for a roadway. The State also requires interior noise levels to be maintained at 50 dBA $L_{eq(1\text{-}hr)}$ or less during hours of operation.

Each of the Target Areas would be developed with industrial, commercial retail land uses and/or business parks. As shown in Figures 4 through 6, portions of each proposed target area are located within the 65 dBA L_{dn} contour of Highway 101 and/or the other surrounding roadways. Under the Cal Green Code, this would require buildings located within this contour to be constructed with at least STC 50/OITC 40 wall assemblies with exterior windows of at least STC 40/OITC 30. These construction materials would provide at least 35 to 40 dBA noise reduction in interior spaces. The inclusion of adequate forced-air mechanical ventilation systems is normally required so windows may be kept closed at the occupant's discretion. Business hours would occur during daytime hours, and during these hours, hourly average noise levels would need to meet the 50 dBA $L_{eq(1\text{-}hr)}$ threshold established by the 2016 Cal Green Code.

When project-level development information, such as building elevations, floor plans, and the position of buildings within the Target Areas, are known, site-specific project-level noise studies should be conducted to confirm the applicability of the Cal Green Code and the recommendations for interior noise control following either the prescriptive or performance methods established in the Cal Green Code.

Recommendations to Reduce Future Exterior and Interior Noise Levels

As mandated in Section 37-50.180 of the City's Zoning Ordinance, an acoustical study shall be conducted when an application is received for a development project that could be exposed to noise greater than that deemed acceptable by the maximum noise levels specified in Table 6 for any given land use proposed on the site. In accordance with Policy N-1.1, Policy N-1.4, and Implementation Program N-1 of the City of Salinas General Plan, the study shall determine compliance with the noise and land use compatibility standards, identify potential noise impacts, and propose site-specific measures to reduce exposure to exterior and interior noise levels that exceed maximum permissible levels.

[2] **Sound Transmission Class (STC)** A single figure rating designed to give an estimate of the sound insulation properties of a partition. Numerically, STC represents the number of decibels of speech sound reduction from one side of the partition to the other. The STC is intended for use when speech and office noise constitute the principal noise problem.

The following general recommendations shall be considered to reduce exterior noise levels to meet the normally acceptable thresholds of 65 dBA L_{dn} at business parks or commercial retail uses or 70 dBA L_{dn} at industrial uses:

- When developing project site plans, locate noise-sensitive outdoor use areas away from major roadways or other significant sources of noise. Shield noise-sensitive spaces with buildings or noise barriers to reduce exterior noise levels. The final detailed design of the heights and limits of proposed noise barriers shall be completed at the time that the final site and grading plans are submitted.

If the 50 dBA $L_{eq(1\text{-}hr)}$ threshold would not be met, other site-specific measures, such as increasing setbacks of the buildings from the adjacent roadways, using shielding by other buildings or noise barriers to reduce noise levels, implementing additional sound treatments to the building design, etc. shall be considered to reduce interior noise levels to meet the Cal Green Code threshold.

NOISE IMPACTS AND MITIGATION MEASURES

The following section summarizes the analysis of the noise and vibration impacts resulting from the project upon existing land uses. Both temporary impacts, such as construction noise, and permanent impacts, such as increased traffic noise, resulting from the proposed project are considered. This section describes the significance criteria used to evaluate project impacts at off-site receptor locations, provides a discussion of each project impact, and presents mitigation measures, where necessary, to provide a compatible project in relation to adjacent land uses.

Significance Criteria

Paraphrasing from Appendix G of the CEQA Guidelines, a project would normally result in significant noise impacts if noise levels generated by the project conflict with adopted environmental standards or plans, if the project would generate excessive ground-borne vibration levels, or if ambient noise levels at sensitive receptors would be substantially increased over a permanent, temporary, or periodic basis. The following criteria were used to evaluate the significance of environmental noise resulting from the project:

- **Noise Levels in Excess of Standards:** A significant noise impact would be identified if the proposed project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan, Municipal Code, or Zoning Ordinance.

- **Ground-borne Vibration from Construction:** A significant impact would be identified if the construction of projects facilitated by the proposed project would expose persons to excessive vibration levels. Ground-borne vibration levels exceeding 0.3 in/sec PPV would have the potential to result in cosmetic damage to normal buildings.

  Ground-borne vibration due to train pass-bys are not analyzed as part of this report. The U.S. Department of Transportation (U.S. DOT) Federal Transit Administration (FTA) defines three categories of sensitive-use categories in the FTA 2006 Transit Noise and

Vibration Impact Assessment,[3] and buildings that are primarily used for industrial use would not be included in any of the three sensitive-use categories. Since Target Areas B and F, which would both consist primarily of industrial and commercial retail uses, are the only target areas adjacent to UPRR tracks, these sites would not require ground-borne vibration analysis since equipment within the buildings are not expected to be vibration-sensitive.

- **Permanent Increases in Traffic Noise:** For a substantial permanent cumulative noise increase to occur, two qualifications must be met: 1) if the 2045 cumulative plus project traffic volumes result in a noise level increase at sensitive receptors of 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or of 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater, compared to existing traffic volumes; and 2) if the 2045 cumulative plus project traffic volumes result in a 1 dBA L_{dn} or more noise level increase compared to 2045 cumulative (no project) conditions, which would be considered a cumulatively considerable contribution to the overall traffic noise increase.

- **Temporary Construction Noise:** A significant noise impact would be identified if construction-related noise would temporarily increase ambient noise levels at sensitive receptors. Hourly average noise levels exceeding 60 dBA L_{eq} at the property lines shared with residential land uses, and the ambient by at least 5 dBA L_{eq}, for a period of more than one year would constitute a significant temporary noise increase at adjacent residential land uses. For commercial uses, a significant impact would be identified if construction noise were to exceed 70 dBA L_{eq} and exceeds the ambient noise environment by at least 5 dBA L_{eq} for a period exceeding one year.

Impact 1: **Noise Levels in Excess of Standards.** The City of Salinas does not establish specific allowable construction hours in the General Plan, Municipal Code, or Zoning Ordinance, and no other construction-related noise thresholds are specified. Therefore, project construction noise would not conflict with any specified City standards. Noise levels produced by the operation of stationary equipment would be required to adhere to the allowable noise limits specified in the City's Zoning Ordinance. With the implementation of the City's maximum noise limits and the appropriate design planning features, **this is a less-than-significant impact.**

Construction Noise

General Plan Policy N-3.1 ensures that noise emanating from construction activities are minimized by enforcing the Noise Ordinance, and Implementation Program N-3 controls construction noise activities by requiring compliance with Title 24 of the California Code of Regulations, the City's Zoning Ordinance, and Chapter 21A of the City's Municipal Code. Assuming the proposed project follows these regulations, construction noise levels would not be in excess of standards, resulting in a less than-significant impact.

Operational Noise

[3] US Department of Transportation Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

The proposed project would facilitate the development of noise-generating land uses that would have the potential to generate noise levels in excess of allowable noise limits. The City's Zoning Ordinance provides maximum noise levels, as measured on specific land uses (see Table 6). Additionally, Policy N-3.1 enforces the City's Noise Ordinance to ensure stationary noise sources are minimized.

Various mechanical equipment for heating, ventilation, and cooling purposes, exhaust fans, emergency generators, and other similar equipment could produce noise levels exceeding the maximum noise limits when located near existing or proposed land uses. Due to the number of variables inherent in the mechanical equipment needs of an individual project (number and types of units, locations, size, housing, specs, etc.), the impacts of mechanical equipment noise on nearby noise-sensitive uses should be assessed during the final design stage of individual projects.

Implementation Program N-1 of the City's General Plan states that proposed development projects should be reviewed for potential on- and off-site stationary and vehicular noise impacts per the CEQA requirements. The individual projects at each Target Area would be reviewed at the time of the project-level environmental analysis in compliance with this City standard. In accordance with Policy N-1.2 and Implementation Program N-1, design planning should take into account the noise criteria associated with such equipment and utilize site planning to locate equipment in less noise-sensitive areas. Other noise controls could include, but shall not be limited to, fan silencers, enclosures, and screen walls. Additionally, Implementation Program N-2 limits delivery or service hours for stores or businesses when access driveways and delivery zones are located near existing noise-sensitive receptors. With the implementation the City of Salinas's maximum noise limits provided in the Zoning Ordinance and project-level environmental analysis and design planning features described in the City's General Plan, the impact upon existing receptors within the Target Areas and in the vicinity of the Target Areas would be less-than-significant.

Mitigation Measures: **No additional measures are required.**

Impact 2: **Exposure to Excessive Ground-borne Vibration due to Construction.** Residences, businesses, and historic structures could be exposed to construction-related vibration during the excavation and foundation phases of development project facilitated by the General Plan EDE. **This is a significant impact.**

Construction of projects within the proposed project Target Areas or construction of the proposed expressways may, in some cases, be located directly adjacent to or near existing structures. Construction activities may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels would also occur on some project sites and vibratory pile driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is

a major concern, and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened.

Table 12 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

Pile driving has the potential of generating the highest ground vibration levels and is of primary concern to architectural damage, particularly when it occurs within 100 to 200 feet of structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods, and equipment used, but could exceed the recommended PPV thresholds to avoid architectural damage. Other project construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may also potentially generate substantial vibration in the immediate vicinity.

Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels may be high enough to damage existing structures. Given the scope of the proposed project and the location of each Target Area and the proposed expressways with respect to existing structures in the immediate vicinity (i.e., within 200 feet), ground-borne vibration impacts would be potentially significant.

As with any type of construction, vibration levels may at times be perceptible. However, construction phases that have the highest potential of producing vibration (pile driving and use of jackhammers and other high power tools) would be intermittent and would only occur for short periods of time for any individual project site. The City of Salinas General Plan and Noise Ordinance do not address construction vibration. By use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with least potential to affect nearby businesses, perceptible vibration can be kept to a minimum and as such would not result in a significant impact with respect to perception.

TABLE 12 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Approximate L_v at 25 ft. (VdB)
Pile Driver (Impact)	upper range	1.158	112
	typical	0.644	104
Pile Driver (Sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.

Mitigation Measures:

The following measures are recommended to reduce vibration from construction activities involving pile driving within 200 feet of buildings, or other construction activities with the potential to cause high levels of vibration, to a less-than-significant level:

- Avoid impact pile driving where possible. Drilled piles cause lower vibration levels where geological conditions permit their use.

- Avoid using vibratory rollers and tampers near sensitive areas.

- In areas where project construction is anticipated to include vibration-generating activities, such as pile driving, in close proximity to existing structures, site-specific vibration studies should be conducted to determine the area of impact and to present appropriate mitigation measures that may include the following:

    - Identification of sites that would include vibration compaction activities such as pile driving and have the potential to generate ground-borne vibration, and the sensitivity of nearby structures to ground-borne vibration. Vibration limits should be applied to all vibration-sensitive structures located within 200 feet of the project. A qualified structural engineer should conduct this task.

    - Development of a vibration monitoring and construction contingency plan to identify structures where monitoring would be conducted, set up a vibration monitoring schedule, define structure-specific vibration limits, and address the need to conduct

photo, elevation, and crack surveys to document before and after construction conditions.

- Construction contingencies would be identified for when vibration levels approached the limits.

- At a minimum, vibration monitoring should be conducted during initial demolition activities and during pile driving activities. Monitoring results may indicate the need for more or less intensive measurements.

- When vibration levels approach limits, suspend construction and implement contingencies to either lower vibration levels or secure the affected structures.

- Conduct post-survey on structures where either monitoring has indicated high levels or complaints of damage has been made. Make appropriate repairs or compensation where damage has occurred as a result of construction activities.

Impact 3: **Permanent Noise Level Increase.** The proposed project would generate traffic that results in a substantial permanent noise level increase at the noise-sensitive residential land uses located along roadways within the vicinity of the Target Areas and along new expressways. **This is a significant impact.**

Increases in traffic noise gradually degrade the environment in areas sensitive to noise as development occurs and the population increases. Proposed roadway modifications could also increase or decrease traffic noise levels depending on the circumstances of each individual project.

For a substantial permanent cumulative noise increase to occur, two qualifications must be met: 1) if the 2045 cumulative plus project traffic volumes result in a noise level increase at sensitive receptors of 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or of 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater, compared to existing traffic volumes; and 2) if the 2045 cumulative plus project traffic volumes result in a 1 dBA L_{dn} or more noise level increase compared to 2045 cumulative (no project) conditions, which would be considered a cumulatively considerable contribution to the overall traffic noise increase.

SoundPLAN Version V7.4 was used to calculate the traffic noise increase expected for the 2045 cumulative (no project) scenario, and for the 2045 cumulative plus project scenario using the traffic data supplied by Fehr and Peers.[2] All of the predicted noise levels and increases are summarized in Table 8. As indicated in Table 8 and discussed above, noise levels on several roadway segments in the City would increase by 3 dBA L_{dn} or more with the 2045 cumulative plus project scenario, when compared to the existing traffic conditions: the new Eastside Expressway, Harris Road, Natividad Road, Old Stage Road, South Davis Road, Rogge Road, Russell Road, San Juan Grade Road, the new Southside Expressway, and the new Westside Expressway. These increases are bolded in the second to last column of Table 8 to identify them as significant. Increased traffic on each of these segments results in a future noise level of 60 dBA L_{dn} or greater under the 2045 cumulative plus project conditions, and noise-sensitive receptors are located along these roadways. Of these roadways, the traffic noise on the new Eastside Expressway, Rogge Road, Russell Road,

San Juan Grade Road, the new Southside Expressway, and the new Westside Expressway would increase by 1 dBA L_{dn} or more under 2045 cumulative plus project conditions when compared to the 2045 cumulative (no project) conditions. These increases are bolded in the last column of Table 8 to identify them as making a cumulatively considerable contribution to the overall traffic noise at the noise-sensitive receptors along these roadways. This would be a potentially significant cumulative impact.

Implementation Program N-1 of the City's General Plan would require that the roadway improvements proposed by the project be reviewed for potential noise impacts upon sensitive receptors. Of the roadways mentioned above that would result in a potentially significant cumulative traffic noise impact, the following subset of roadways located in the vicinity of the Target Areas and new expressways includes the new Eastside Expressway, Russell Road, the new Southside Expressway, and the new Westside Expressway. Table 13, below, summarizes the noise contour distances to the 60, 65, and 70 dBA L_{dn} contours along the new Eastside Expressway, Russell Road, the new Southside Expressway, and the new Westside Expressway. This table can be used as a guide when refining the alignment of new roadways in order to avoid impacting existing sensitive receptors.

TABLE 13 2045 General Plan Buildout Plus Proposed Project Traffic Noise Contour Measurements in the Vicinity of Russell Road and the New Expressways

Roadway	Segment	Distance from Centerline to Traffic Noise Contour, feet		
		70 dBA L_{dn}	65 dBA L_{dn}	60 dBA L_{dn}
Eastside Expressway (proposed)	Highway 101 to Alisal St.	<50 feet	105 feet	215 feet
	Alisal St. to Williams Rd.	<50 feet	<50 feet	105 feet
	San Juan Grade Rd. to North Main St.	<50 feet	85 feet	200 feet
Russell Road	Van Buren Ave. to San Juan Grade Rd.	<50 feet	100 feet	200 feet
Southside Expressway (proposed)	Harris Rd. to Harkins Rd.	<50 feet	130 feet	255 feet
	Harkins Rd. to South Main St.	55 feet	145 feet	280 feet
	South Main St. to South Davis Rd.	<50 feet	100 feet	200 feet
Westside Expressway (proposed)	Blanco Rd. to West Market St.	<50 feet	50 feet	130 feet
	West Market St. to Boronda Rd.	<50 feet	75 feet	175 feet
	Boronda Rd. to Espinosa Rd.	<50 feet	110 feet	225 feet

Mitigation Measures:

The City of Salinas General Plan provides policies and implementation programs to reduce transportation-related noise at sensitive receptors. Policy N-2.1 and Implementation N-5 state that noise impacts would be reduced with the incorporation of noise control measures, such as earthen berms, landscaped walls, sound walls, and lowered streets, etc. Policy N-2.2 minimizes transportation-related noise impacts due to truck traffic by controlling truck routes near sensitive

land uses. Implementation Program N-1 states that a CEQA study should be performed for each project-level development proposal to minimize the impacts on noise-sensitive land uses.

Methods available to mitigate project-generated noise level increases would need to be studied on a case-by-case basis at receptors that would be considered noise impacted. Noise reduction methods could include the following:

- New or larger noise barriers or other noise reduction techniques could be constructed to protect sensitive outdoor use areas at existing residential land uses, where reasonable and feasible. Final design of such barriers should be completed during project-level review on a parcel-by-parcel basis.

- Alternative noise reduction techniques could be implemented, such as re-paving streets with "quieter" pavement types including Open-Grade Rubberized Asphaltic Concrete. The use of "quiet" pavement can reduce noise levels by 2 to 5 dBA, depending on the existing pavement type, traffic speed, traffic volumes, and other factors.

- Installing traffic calming measures to slow traffic.

- Affected residences could be provided building sound insulation such as sound rated windows and doors on a case-by-case basis as a method of reducing noise levels in interior spaces.

- For the proposed Eastside Expressway, Southside Expressway, and Westside Expressway, project-level design alignment considerations could be made to avoid existing noise-sensitive receptors.

Significance After Mitigation:

Given the scope of the project and expected noise level increases resulting from project traffic, it may not be reasonable or feasible to reduce project-generated traffic noise at all affected receptors. The increase in development density would increase noise levels noticeably at receptors. Measures available to reduce the project noise level increases would not likely be reasonable or feasible in all areas, therefore, the impact would be considered significant and unavoidable.

Impact 4: **Temporary Construction Noise.** Construction activities would temporarily increase ambient noise levels at noise-sensitive receptors within and adjacent to each Target Area and in the vicinity of each new expressway. Recognizing the duration of exterior construction activities and the incorporation of construction best management practices as project conditions of approval would result in a **less-than-significant** temporary noise impact.

Construction activities for the proposed project would occur intermittently at different sites within in the City of Salinas and along new expressway corridors until full build-out. Although the related noise impacts at any one location would be temporary, construction of individual projects could cause adverse localized effects on the ambient noise environment. Where noise from construction

activities exceeds 60 dBA L_{eq} and exceeds the ambient noise environment by at least 5 dBA L_{eq} at noise-sensitive residential uses for a period exceeding one year, the impact would be considered significant. For commercial uses, a significant impact would be identified if construction noise were to exceed 70 dBA L_{eq} and exceeds the ambient noise environment by at least 5 dBA L_{eq} for a period exceeding one year. Industrial uses are not typically considered noise-sensitive uses.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Major noise-generating construction activities associated with new Target Areas would typically include removal of existing pavement and structures, site grading and excavation, installation of utilities, the construction of building foundations, cores, and shells, paving, and landscaping. Construction activities expected for the new expressway corridors include earthwork, excavation, and grading; possibly construction of retaining walls; concrete work; paving; and installation of signs, railings, utilities, and electrical conduits. While the proposed Target Area locations are currently undeveloped, some of the new expressway corridors pass in close-proximity to existing structures. Assuming the expressway alignment would not change, the highest noise levels would be generated during the demolition of these existing structures when impact tools are used (e.g., jackhammers, hoe rams). At the Target Areas, the construction of building foundations would also generate high noise levels if impact pile driving is required to support the structure. Site grading, excavation activities, the operation of heavy construction equipment, and the arrival/departure of heavy-duty trucks would also generate high noise levels, as these phases often require the simultaneous use of multiple pieces of heavy equipment such as dozers, excavators, scrapers, and loaders.

Typical hourly average construction generated noise levels are about 81 to 88 dBA L_{eq}, measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.). Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor. Shielding by buildings or terrain often result in lower construction noise levels at distant receptors. Lower noise levels result from building construction activities when these activities move indoors and less heavy equipment is required to complete the tasks. Typical construction noise levels at a distance of 50 feet are shown in Tables 14 and 15. Table 14 shows the average noise level ranges, by construction phase, and Table 15 shows the maximum noise level ranges for different construction equipment.

TABLE 14 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	**II**	**I**	**II**	**I**	**II**	**I**	**II**
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

TABLE 15 Construction Equipment 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:

[1] Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.

[2] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

[3] Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Temporary construction noises are disturbances that are necessary for the construction or repair of buildings and structures in urban and rural areas. Reasonable regulation of the hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction materials, are necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life. Limiting the hours when construction can occur to daytime hours is often a simple method to reduce the potential for noise impacts. In areas immediately adjacent to construction, controls such as constructing temporary noise barriers and utilizing "quiet" construction equipment can also reduce the potential for noise impacts.

Policy N-3.1 and Implementation Program N-3 of the City's General Plan requires that all construction activity comply with the City's established noise regulations included in Title 24 of the California Code of Regulations, the Zoning Ordinance, and Chapter 21A of the Municipal Code. Noise generated by construction activities would temporarily elevate noise levels at adjacent noise-sensitive receptors, but this would be considered a less-than-significant impact assuming that construction activities are conducted in accordance with these provisions and with the implementation of construction best management practices.

Construction Best Management Practices

A Construction Noise Logistics Plan shall be developed and specify the hours of construction, noise and vibration minimization measures, posting or notification of the method of construction and schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints. Additionally, the Construction Noise Logistics Plan shall include measures required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses. A typical Construction Noise Logistics Plan would include, but not be limited to, the following measures to reduce construction noise levels as low as practical:

- Restrict noise-generating activities at construction sites or in areas adjacent to construction sites to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday. Construction shall be prohibited on Saturdays, Sundays and holidays unless prior written approval is granted by the building official.

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Unnecessary idling of internal combustion engines should be strictly prohibited.

- Locate all stationary noise generating equipment, such as air compressors or portable power generators, construction staging areas, and construction material areas as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise generating equipment when located near adjoining sensitive land uses. Temporary noise barriers could reduce construction noise levels by 5 dBA.

- Utilize "quiet" models of 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.

- Control noise from construction workers' radios to a point where they are not audible at properties bordering the construction site.

- If impact pile driving is proposed, multiple pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced.

- If impact pile driving is proposed, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected.

- If impact pile driving is proposed, foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile. Pre-drilling foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile.

- Notify all adjacent land uses of the construction schedule in writing.

- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

The implementation of the reasonable and feasible controls outlined above would reduce construction noise levels emanating from the individual development sites by 5 to 10 dBA in order to minimize disruption and annoyance. With the implementation of these controls, as well as accordance with the noise standards established by the City of Salinas General Plan, Municipal Code, and Zoning Ordinance, the impact would be reduced to a less-than-significant level.

Mitigation Measures: **No additional measures are required.**

APPENDIX A: LONG-TERM NOISE MEASUREMENT SUMMARY

FIGURE A1 Daily Trend in Noise Levels at LT-1, Wednesday, November 30 through Friday, December 2, 2016

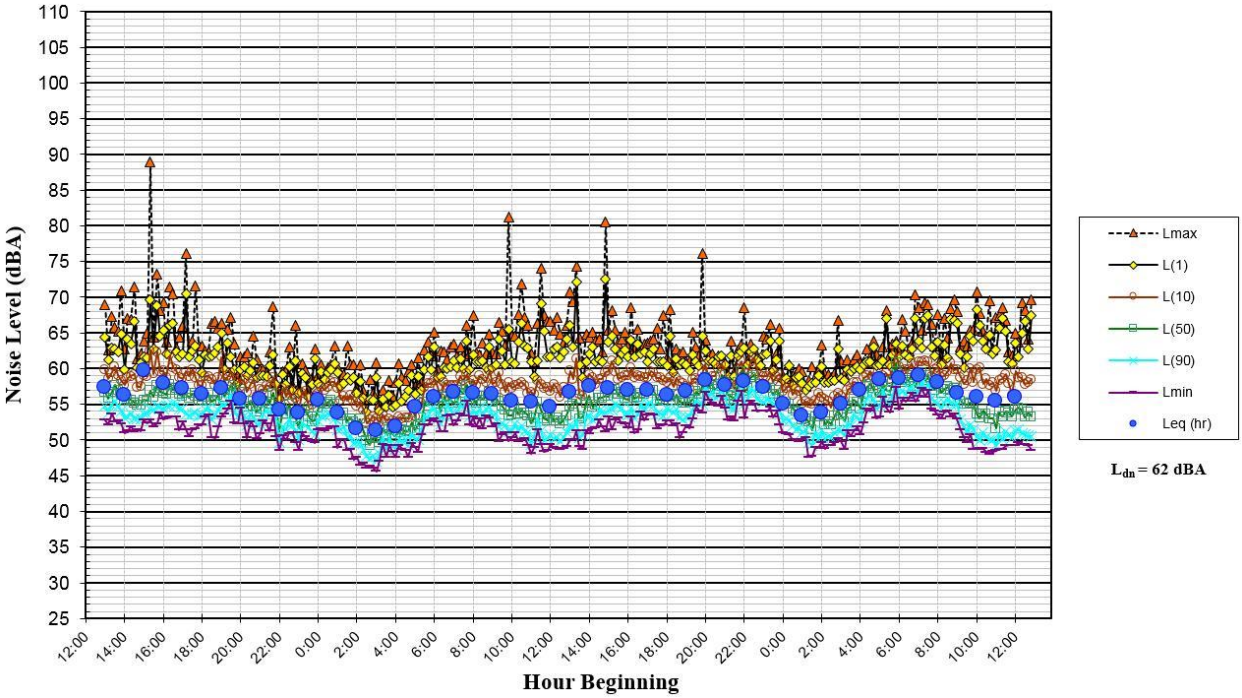


FIGURE A2 Daily Trend in Noise Levels at LT-2, Wednesday, November 30 through Friday, December 2, 2016

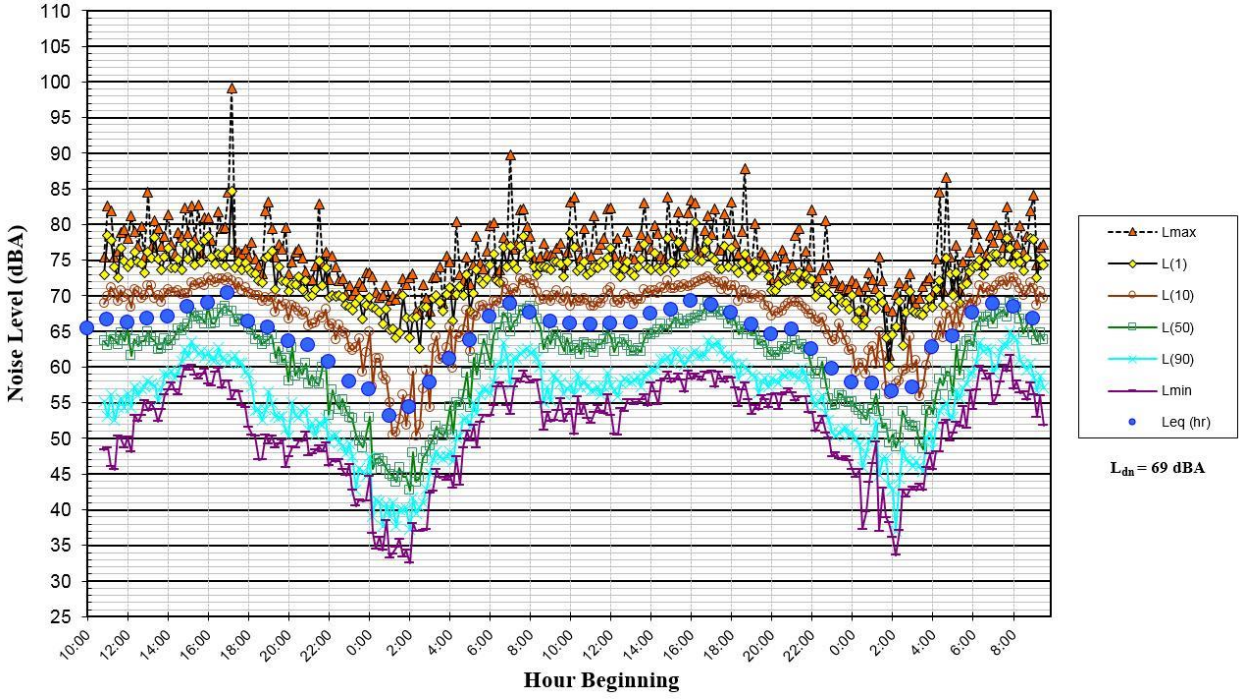


FIGURE A3 Daily Trend in Noise Levels at LT-3, Wednesday, November 30 through Friday, December 2, 2016

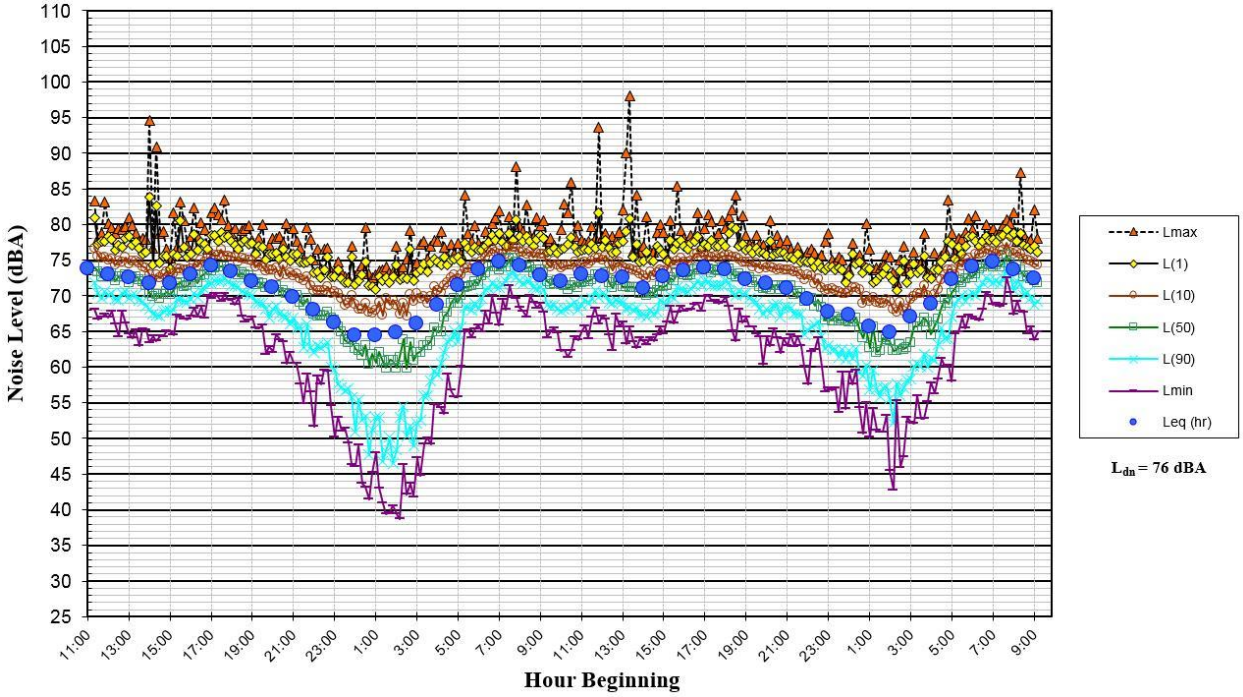


FIGURE A4 Daily Trend in Noise Levels at LT-4, Wednesday, November 30 through Friday, December 2, 2016

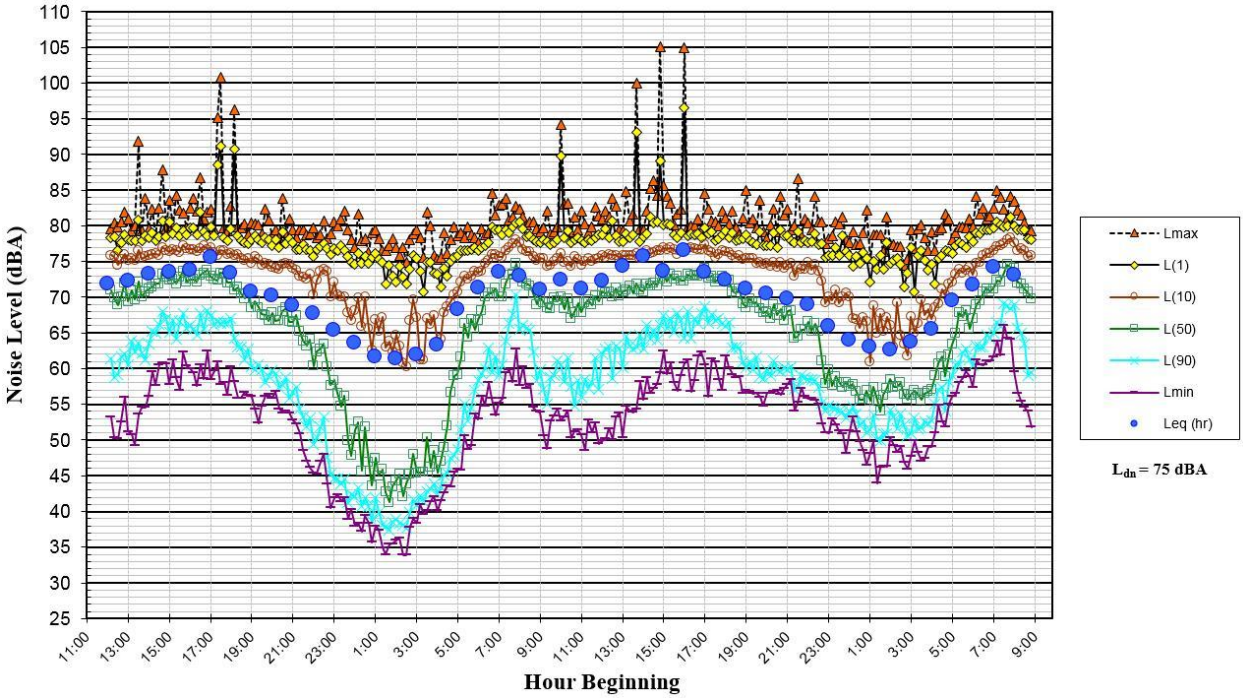


FIGURE A5 Daily Trend in Noise Levels at LT-5, Wednesday, November 30 through Friday, December 2, 2016

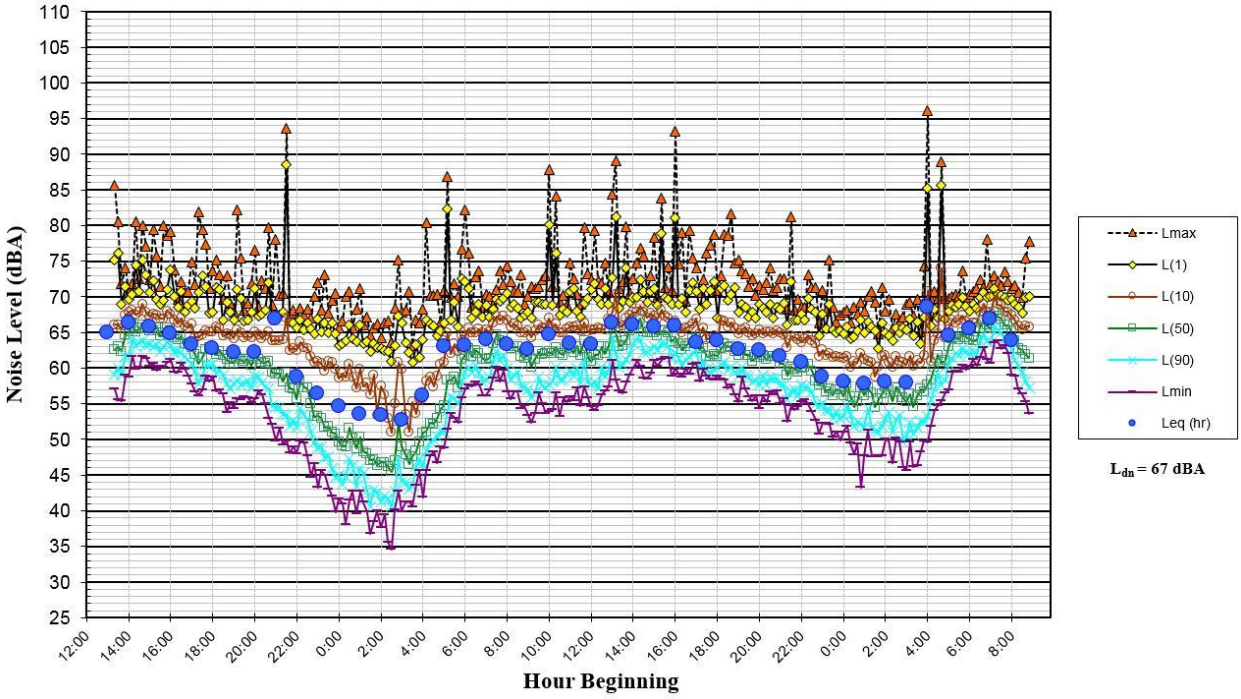


FIGURE A6 Daily Trend in Noise Levels at LT-6, Wednesday, November 30 through Friday, December 2, 2016

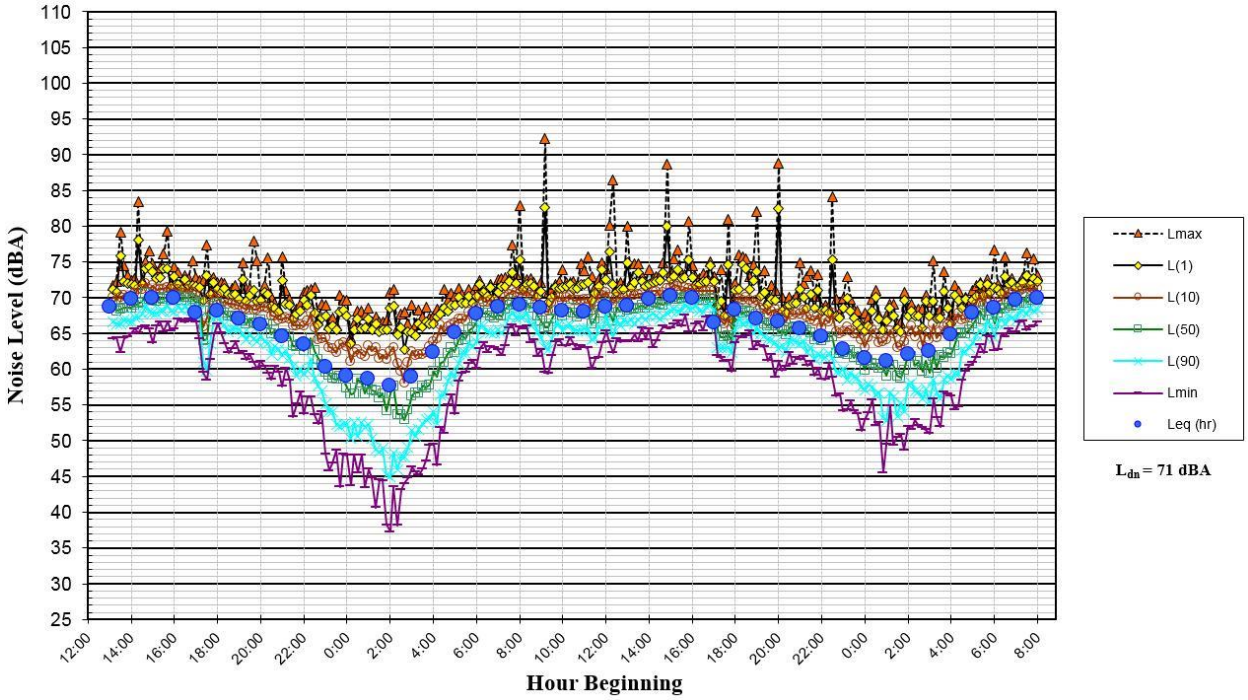


FIGURE A7 Daily Trend in Noise Levels at LT-7, Wednesday, November 30 through Friday, December 2, 2016

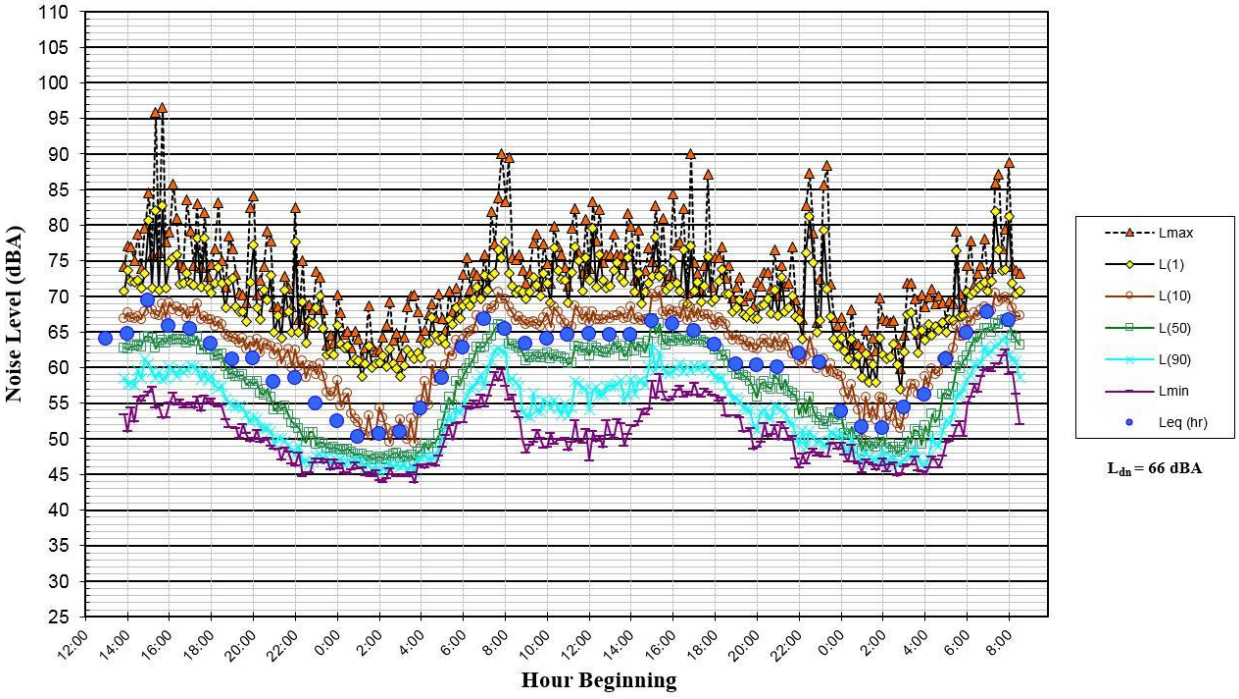


FIGURE A8 Daily Trend in Noise Levels at LT-8, Wednesday, November 30 through Friday, December 2, 2016