Appendices

Appendix H Noise and Vibration Impact Assessment for the Westside Area Plan

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Noise and Vibration Impact Assessment
for the
Westside Area Plan

Los Angeles County, California

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LIST OF ACRONYMS AND ABBREVIATIONS

Area Plan	Westside Area Plan
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CBC	California Building Code
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
County	Los Angeles County
dB	Decibel
dBA	Decibel is A-weighted
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise

HUD	Housing and Urban Development
HVAC	Heating, ventilation, and air conditioning
Hz	Hertz
L_{dn}	Day-night average sound level
L_{eq}	Measure of ambient noise
L_{max}	The maximum A-weighted noise level during the measurement period.
L_{min}	The minimum A-weighted noise level during the measurement period.
NIOSH	National Institute for Occupational Safety and Health
Planning Area	Westside Planning Area
PPV	Peak particle velocity
RMS	Root mean square
SEL	Single Event Level
USEPA	United States Environmental Protection Agency
VdB	Vibration Velocity Level

1.0 INTRODUCTION

This report describes the potential impacts of noise resulting from adoption and implementation of the Westside Area Plan located in unincorporated Los Angeles County (County). The Westside Area Plan (Area Plan) is a community-based plan that focuses on land use and policy issues in selected unincorporated communities within the County that address the unique characteristics, needs, and resident objectives for the Westside Planning Area (Planning Area). This report describes the regulatory framework and existing conditions of the Planning Area, identifies criteria used to determine impact significance, and provides an analysis of the potential noise impacts. Noise monitoring data is included as Attachments to this report.

1.1 Project Location and Description

The Westside Area Plan is located in the southwest part of the County and includes several communities: Ladera Heights, View Park, and Windsor Hills; Marina del Rey; Ballona Wetlands; and Westside Islands, which includes West Los Angeles (Sawtelle Veterans Affairs), West Fox Hills, Franklin Canyon and Gilmore Island. This is a long-range policy document proposed by the County to guide long term growth in the unincorporated communities of the Planning Area. The Westside Area Plan furthers the efforts to promote active, healthy, and safe intergenerational neighborhoods where residents are well connected to great places to live, work, shop, recreate, and gather; to foster economic vitality while serving local needs; to protect and preserve natural resources and open spaces; and to support sustainable mobility options in an enhanced built environment. The primary objectives of the Westside Area Plan are to:

- Preserve community character by focusing new housing and commercial development within existing commercial corridors and centers and in proximity to transit, while allowing changes in existing residential neighborhoods consistent with State legislation.
- Provide greater housing choices for residents, consistent with the Housing Element.
- Foster the economic health and prosperity of local businesses by promoting a mix of uses and adaptability of buildings in response to the evolving commercial marketplace, nurturing small businesses, and attracting job opportunities and commercial services that serve local residents.
- Prioritize the development of businesses that serve and are accessible to their neighborhoods and reflect the history and culture of the Westside Planning Area.
- Transform today's automobile dominant land use pattern and densities and improve streetscapes to promote a more active pedestrian environment.
- Promote the inclusion of publicly accessible plazas and courtyards in new commercial and mixed-use development projects where residents can gather, participate in events, and celebrate the history and culture of the community.
- Protect open spaces and natural resources while emphasizing sustainable building practices and implementing infrastructure improvements that are environmentally sensitive and minimize impacts on energy, water, air, and climate.

- Provide a diversity of travel choices by enabling residents to efficiently and safely access destinations throughout the community by walking, biking, using public transit, and emerging forms of transportation.

At the time of this analysis, the Westside Area Plan does not include proposals for or approvals of any specific projects. However, land use and zoning changes and policies included in the Planning Area are intended to encourage and facilitate the development of future projects that could result in environmental impacts.

2.0 ENVIRONMENTAL SETTING

2.1 Noise and Vibration Fundamentals

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Therefore, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

2.1.1 Noise Exposure and Community Noise

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **L_{max}** is the instantaneous maximum noise level for a specified period of time.
- **L_{min}** is the minimum, instantaneous noise level experienced during a given period of time.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Table 2-1, *Common Noise Descriptors*, provides a list of other common acoustical descriptors.

Table 2-1. Common Acoustical Descriptors

Descriptor	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.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons 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 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (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 sounds 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 acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
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	A 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level, CNEL	A 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
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 on its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.
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.

2.1.2 Sound Measurements

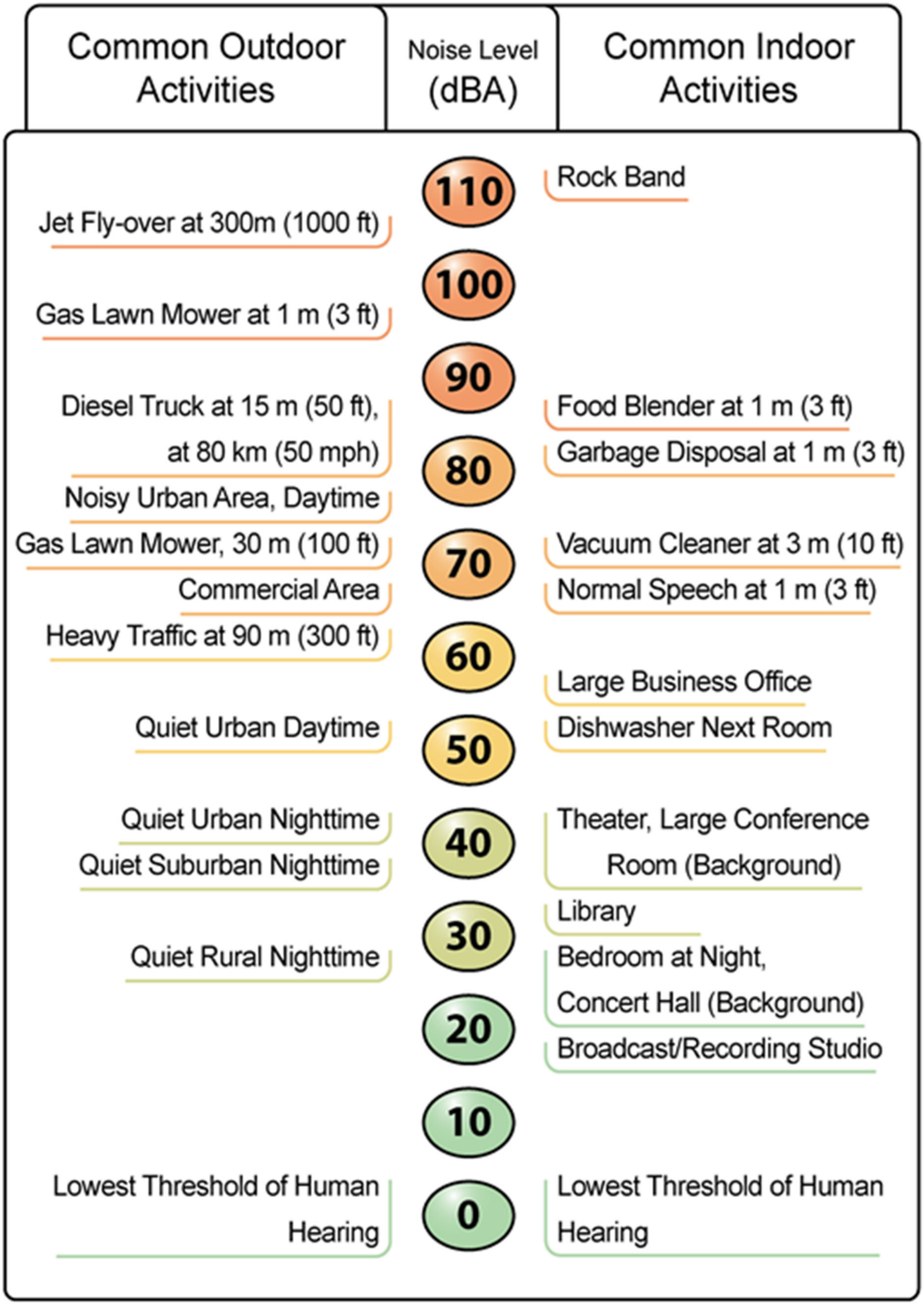
As previously described, sound pressure is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). When the standard logarithmic dB is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions (Federal Transit Administration 2018). For example, a 65-dBA source of sound, such as a truck, when joined by another 65 dBA source results in a sound amplitude of 68 dBA, not 130 dBA (i.e., doubling the source strength increases the sound pressure by three dBA). Under the decibel scale, three sources of equal loudness together would produce an increase of five dBA.

Typical noise levels associated with common noise sources are depicted in Figure 2-1, *Common Noise Levels*.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time it is less than this level. This level also represents the level exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time, or 1, 5, and 15 minutes per hour. These "L_n" values are typically used to demonstrate compliance for stationary noise sources with a city's noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). As described above, the CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 p.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The L_{dn} descriptor uses the same methodology but only adds a 10 dBA increment between 10:00 p.m. and 7:00 a.m. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher).



Source: California Department of Transportation (Caltrans) 2020a

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Figure 2-1. Common Noise Levels

2.1.3 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL or L_{dn} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response is expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

2.1.3.1 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 has a noise exposure standard that 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.

2.1.3.2 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 causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. Both the L_{dn} and CNEL as measures of noise have 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.

2.1.3.3 Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain.

2.1.4 Noise Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, as well as stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6.0 dB (dBA) for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3.0 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3.0 dB per doubling of distance is assumed (Federal Highway Administration [FHWA] 2017a).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2017b). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. 2021). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (California Department of Transportation [Caltrans] 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. 2006). Generally, in exterior noise environments ranging from 60 dBA L_{dn} to 65 dBA L_{dn}, interior noise levels can typically be maintained below 45 dBA, a typical residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class 28. In exterior noise environments of 65 dBA L_{dn} or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA L_{dn} with proper wall construction techniques following California Building Code (CBC) methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

2.1.5 Vibration Fundamentals

Vibration is an oscillating motion in the earth. Like noise, vibration is transmitted in waves, but through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard. Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humanmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. As with noise, vibration can be described by both its amplitude and frequency. Amplitude can be characterized in three ways—displacement, velocity, and acceleration. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response; however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1-second period (Federal Transit Administration 2018).

Table 2-2, *Human Reaction and Damage to Buildings from Typical Vibration Levels,* displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, 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, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Table 2-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Threshold at which there is a risk of architectural damage to extremely fragile historic buildings, ruins, ancient monuments
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Threshold at which there is a risk of architectural damage to fragile buildings. Virtually no risk of architectural damage to normal buildings
0.25	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to historic and some old buildings
0.3	96	Vibrations may begin to feel severe to people in buildings	Threshold at which there is a risk of architectural damage to older residential structures
0.5	103	Vibrations considered unpleasant by people subjected to continuous vibrations	Threshold at which there is a risk of architectural damage to new residential structures and Modern industrial/commercial buildings

Source: Caltrans 2020b

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 2-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth moving that requires the use of heavy-duty equipment.

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

3.0 REGULATORY FRAMEWORK

3.1 Federal Regulations

3.1.1 Federal Highway Administration

Proposed federal or federal-aided highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes the horizontal or vertical alignment or increases the number of through-traffic lanes, require an assessment of noise and consideration of noise abatement per 23 Code of Federal Regulations Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise." The Federal Highway Administration (FHWA) has adopted noise abatement criteria for sensitive receivers—such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals—when "worst-hour" noise levels approach or exceed 67 dBA L_{eq} (Caltrans 2020a).

3.1.2 U.S. Environmental Protection Agency

In addition to FHWA standards, the United States Environmental Protection Agency (USEPA) has identified the relationship between noise levels and human response. The USEPA has determined that over a 24-hour period, a L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at a L_{eq} of 55 dBA and interior levels at or below 45 dBA. These levels are relevant to planning and design and useful for informational purposes, but they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community; therefore, they are not mandated.

The USEPA also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as the difficulty of actually achieving a goal of 55 dBA L_{dn}, have settled on the 65 dBA L_{dn} level as their standard. At 65 dBA L_{dn}, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

3.1.3 United States Department of Housing and Urban Development

The United States Department of Housing and Urban Development (HUD) has set the goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted within the State of California.) Although HUD does not specify acceptable interior noise levels, standard construction of residential dwellings typically provides 20 dBA or more of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

3.1.4 Federal Interagency Committee on Noise

The Federal Interagency Committee on Noise (FICON) thresholds of significance assist in the evaluation of increased traffic noise. The 2000 FICON findings provide guidance as to the significance of changes in ambient noise levels due to transportation noise sources. FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. FICON's measure of substantial increase for transportation noise exposure is as follows:

- If the existing ambient noise levels at existing and future noise-sensitive land uses (e.g., residential, etc.) are less than 60 dBA L_{dn} and the project creates a readily perceptible 5 dBA L_{dn} or greater noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels range from 60 to 65 dBA L_{dn} and the project creates a barely perceptible 3 dBA L_{dn} or greater noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels already exceed 65 dBA L_{dn} and the project creates a community noise level increase of greater than 1.5 dBA L_{dn}.

3.1.5 National Institute of Occupational Safety and Health

A division of the US Department of Health and Human Services, the National Institute for Occupational Safety and Health (NIOSH) has established a construction-related noise level threshold as identified in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998. NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. The intention of these thresholds is to protect people from hearing losses resulting from occupational noise exposure.

3.1.6 Federal Aviation Administration Aircraft Noise Standards

The Federal Aviation Administration Advisory Circular Number 150 5020 2, entitled "Noise Assessment Guidelines for New Helicopters" recommends the use of a cumulative noise measure, the 24-hour equivalent sound level [L_{eq}(24)], so that the relative contributions of the heliport and other sound sources within the community may be compared. The L_{eq}(24) is similar to the L_{dn} used in assessing the impacts of fixed wing aircraft. The helicopter L_{eq}(24) values are obtained by logarithmically adding the single-event level (SEL) values over a 24-hour period.

Public Law 96 193 also directs the Federal Aviation Administration to identify land uses which are "normally compatible" with various levels of noise from aircraft operations. Because of the size and complexity of many major hub airports and their operations, Federal Aviation Regulation Part 150 identifies a large number of land uses and their attendant noise levels. These recommended noise levels are included in Table 3-1, *Federal Aviation Administration Normally Compatible Community Sound Levels*.

Table 3-1. Federal Aviation Administration Normally Compatible Community Sound Levels

Type of Area	L_{eq} (24)
Residential Suburban Urban City	 57 67 72
Commercial	72
Industrial	77

Source: Federal Aviation Administration Advisory Circular 1983
Notes: The L_{eq} is the Equivalent Continuous Noise Level, which describes sound levels that vary over time, resulting in a single decibel value that takes into account the total sound energy over the period of time of interest.

3.2 State Regulations

3.2.1 State of California General Plan Guidelines

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. The General Plan Guidelines provide cities with recommended community noise and land use compatibility standards that can be adopted or modified at the local level based on conditions and types of land uses specific to that jurisdiction.

3.2.2 California Building Code

The State of California provides a minimum standard for building design through Title 24, Part 2, of the California Code of Regulations, commonly referred to as the "California Building Code" (CBC). The CBC is updated every three years. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The County of Los Angeles Building Regulations are presented in Chapter 7 of the County Code.

The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Future individual projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

3.2.3 California Airport Noise Standards

California Code of Regulations Title 21, Section 5012, establishes 65 dBA CNEL as the acceptable level of aircraft noise for persons living in the vicinity of airports. Noise-sensitive land uses are generally incompatible in locations where the aircraft exterior noise level exceeds 65 dBA CNEL, unless an aviation easement for aircraft noise has been acquired by the airport proprietor. Assembly Bill 2776 requires any person who intends to sell or lease residential properties in an Airport Influence Area to disclose that fact to the person buying the property.

3.3 Regional Regulations

3.3.1 Los Angeles County General Plan

The Project is located within the unincorporated areas of Los Angeles County. The County's Noise Element maintains the health and welfare of its residents with respect to noise through nuisance abatement ordinances and land use planning. By identifying noise-sensitive land uses and establishing compatibility guidelines for land use and noises, noise considerations will influence the general distribution, location, and intensity of future land uses. The result is that effective land use planning and mitigation can alleviate the majority of noise problems.

The General Plan Noise Element contains goals and policies aimed at reducing noise impacts. They are listed below:

Goal N 1: The reduction of excessive noise impacts.

Policy N1.1: Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.

Policy N1.2: Reduce exposure to noise impacts by promoting land use compatibility.

Policy N1.3: Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies.

Policy N1.4: Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.

Policy N1.5: Ensure compliance with the jurisdictions of State Noise Insulation Standards (Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code), such as noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or L_{dn}) noise exposure contours.

Policy N1.6: Ensure cumulative impacts related to noise do not exceed health-based safety margins.

Policy N1.7: Utilize traffic management and noise suppression techniques to minimize noise from traffic and transportation systems.

Policy N1.8: Minimize noise impacts to pedestrians and transit-riders in the design of transportation facilities and mobility networks.

Policy N1.9: Require construction of suitable noise attenuation barriers on noise-sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.

Policy N1.10: Orient residential units away from major noise sources (in conjunction with applicable building codes).

Policy N1.11: Maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.

Policy N1.12: Decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

3.3.2 Los Angeles County Code

The County's regulations with respect to noise are included in Chapter 12.08, Noise Control, of the County Code. Section 12.08.390 identifies exterior noise standards for various noise zones within the county and are presented in Table 3-2, *Exterior Noise Standards*.

Table 3-2. Exterior Noise Standards

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level (dB)
I	Noise-Sensitive Area	Anytime	45
II	Residential Properties	10:00 p.m. – 7:00 a.m. 7:00 a.m. – 10:00 p.m.	45 50
III	Commercial Properties	10:00 p.m. – 7:00 a.m. 7:00 a.m. – 10:00 p.m.	55 60
IV	Industrial Properties	Anytime	70

Source: Los Angeles County Code 2024

Section 12.08.400 identifies interior noise levels for multifamily residential land uses and are presented in Table 3-3, *Interior Noise Standards*.

Table 3-3. Interior Noise Standards

Designated Land Use	Time Interval	Interior Noise Level (dB)
Multifamily Residential	10:00 p.m. – 7:00 a.m. 7:00 a.m. – 10:00 p.m.	40 45

Source: Los Angeles County Code 2024

Construction noise standards are presented in Section 12.08.440. Per Section 12.08.440, construction work is prohibited between 7:00 p.m. and 7:00 a.m. or at anytime on Sundays or holidays, such that the sound creates a noise disturbance across a residential or commercial property line. Additionally, Table 3-4, *Construction Noise Standards,* presents construction noise standards at various land uses for mobile and stationary construction equipment.

Table 3-4. Construction Noise Standards

Time	Affected Land Use		
	Single Family Residential	Multifamily Residential	Semi Residential/ Commercial
Mobile Construction Equipment[1]			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60 dBA	64 dBA	70 dBA
Stationary Construction Equipment[2]			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

Source: Los Angeles County Code 2024
Notes: [1]Mobile Equipment- Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment. [2]Stationary Equipment- Maximum noise level for respectively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment.

Additionally, Section 12.08.440 states that nonscheduled, intermittent, short-term operation of mobile equipment at business structures should not exceed a maximum sound level of 85 dBA . Furthermore, Section 12.08.460 prohibits the loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of 10:00 p.m. and 6:00 a.m.

The County regulates vibration in Section 12.08.560 of the County Code. This section prohibits the operation of any device that creates a vibration that is above the vibration perception threshold of any individual at or beyond the property line of private property. The perception threshold shall be a motion velocity of 0.01 inches per second over the range of 1 to 100 Hertz.

3.3.3 Los Angeles County Airport Land Use Commission

The Los Angeles County Airport Land Use Commission's Airport Land Use Plan (adopted in 1991 and revised in 2004) covers all of the public airports in Los Angeles County. The Los Angeles County Airport Land Use Commission is responsible for promoting land use compatibility around the County's airports in order to minimize public exposure to excessive noise and safety hazards, and the Commission's Los Angeles County Airport Land Use Plan identifies noise compatibility zones in the form of airport noise contour graphics that are intended to prevent development that is incompatible with airport operations.

4.0 EXISTING CONDITIONS

4.1 Noise-Sensitive Land Uses

Some land uses are considered more sensitive to noise levels than others due to the duration and nature of time people spend at these uses. In general, residences are considered most sensitive to noise as people spend extended periods of time in them, including the nighttime hours. Therefore, noise impacts affecting rest and relaxation, sleep, and communication are highest at residential uses. Schools, hotels, hospitals, nursing homes, and recreational uses are also considered to be more sensitive to noise, as activities at these land uses involve rest, recovery, relaxation, and concentration, and increased noise levels tend to disrupt such activities. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate, are also sensitive to noise but, due to the limited time people spend at these uses, impacts are usually tolerable. Commercial and industrial uses are considered the least noise sensitive.

4.2 Existing Noise Environment

Noise sources are typically categorized as mobile or stationary. Most mobile sources are transportation related from vehicles operating on roadways, fixed railways, and aircraft and airport operations. Off-road construction equipment is also considered a mobile source. Stationary noise sources typically include machinery; fabrication; heating, ventilation, and air conditioning systems; compressors and generators; and landscape maintenance equipment. Stationary noise sources generated by light industrial and commercial activities can result in noise-related land use conflicts when these operations (e.g., loading docks or equipment operations) are adjacent to noise-sensitive land uses.

The communities of interest span the Westside Planning Area. Although they are not located directly adjacent to one another, the existing noise environment is similar due to the highly developed nature of the Planning Area. The greatest source of noise throughout the Westside Planning Area is vehicle traffic on local streets and freeways. Designated truck routes on the County's major roadways limit noise nuisances from heavy truck traffic in other areas of the County. Other major noise sources are fixed and on-site mobile equipment at commercial and industrial uses; parks with active sports fields; playgrounds; athletic and music events; mechanical equipment like heating, ventilation, and air conditioning systems; loading docks and other delivery-related activities, and businesses like car washes, automobile repair including autobody repair, animal board and care, nightclubs, fire stations, outdoor dining, and drive-throughs, where proximity to sensitive land uses can create noise nuisance concerns.

4.3 Existing Community Noise

The predominant source of existing noise through the Planning Area is traffic noise on local streets and freeways. In order to quantify existing ambient noise levels within the Westside Planning Area, ECORP Consulting, Inc. conducted four 24-hour noise measurements starting on January 18th, 2023, and extending into January 22nd. These 24-hour noise measurement sites are representative of typical existing noise exposure at various locations throughout the communities during a typical 24-hour day (see Attachment A). Additionally, ECORP conducted ten short-term (15-minute) noise measurements on the morning and afternoon of January 15th, 2023. These short-term noise measurements are representative of typical existing noise exposure in the communities during the daytime (see Attachment A). The 15-minute measurements were taken between 10:12 a.m. and 2:05 p.m. The sound level meters used for noise monitoring consisted of Larson Davis SoundExpert LxT precision sound level meters, which satisfy the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. The measurement locations, described below, are shown in Figure 4-1, Noise Measurement Locations, below and the results are reported in Table 4-1, *Existing (Baseline) Noise Measurements*.

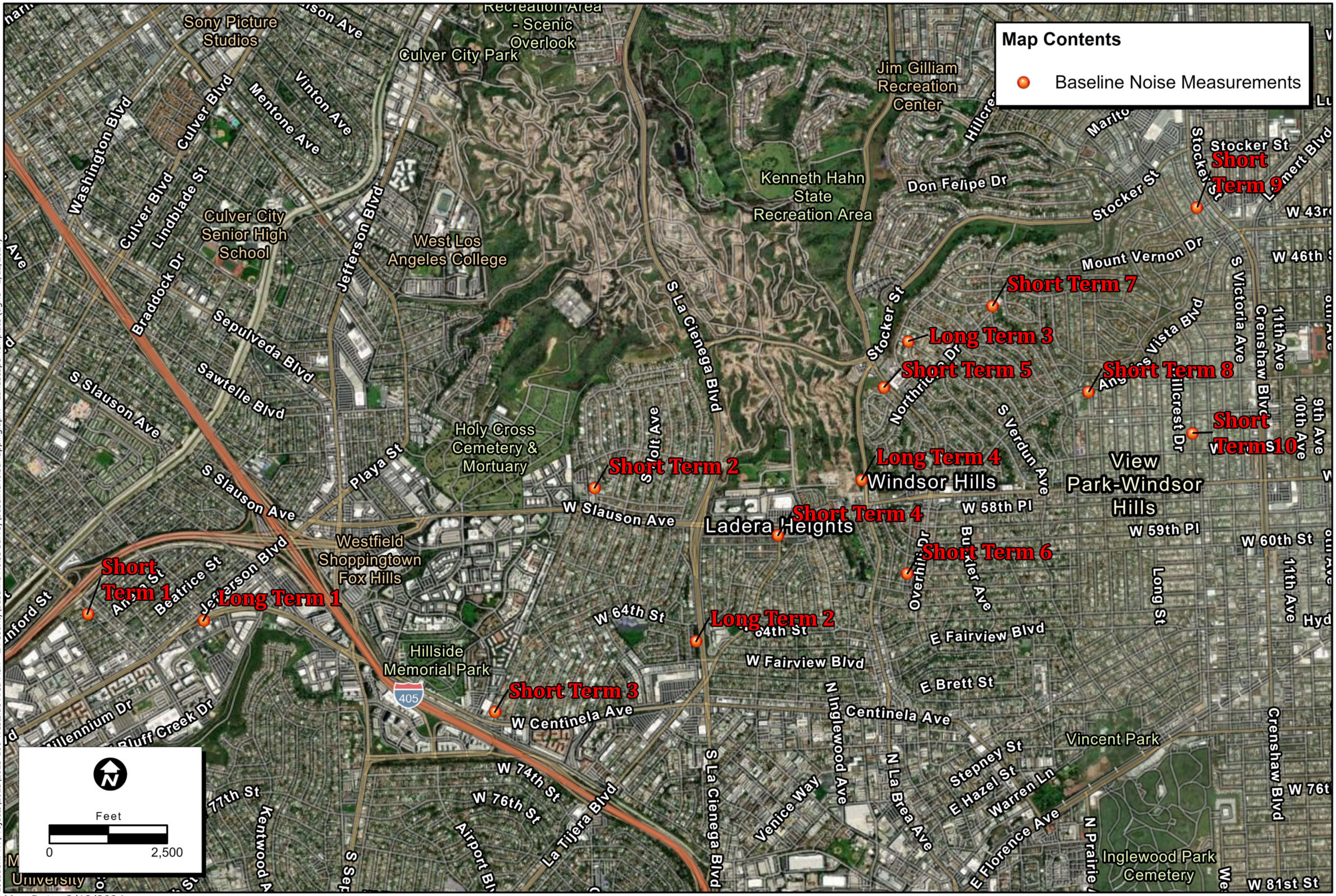
Table 4-1. Existing (Baseline) Noise Measurements						
Location Number	Location Description	CNEL dBA	L_{eq} dBA	L_{min} dBA	L_{max} dBA	Time
Long-Term Measurements (24-Hours)						
LT 1	On South Centinela Avenue adjacent to 12025 Waterfront Drive	**70.4**	66.7	43.8	98.6	2:56 p.m. – 2:56 p.m.
LT 2	On wester side of La Cienega Boulevard adjacent to La Tijera Elementary School	**71.2**	64.9	37.6	83.2	10:04 a.m. – 10:04 a.m.
LT 3	On South Verdun Avenue north of the Victoria Burns Art Advisory	**59.2**	52.6	32.2	77.9	10:31 a.m. – 10:31 a.m.
LT 4	On La Brea Avenue north of 4701 Slauson Avenue	**76.0**	71.2	42.2	99.0	10:36 a.m. – 10:36 a.m.
Short-Term Measurements (15-Minutes)						
Location Number	Location Description	L_{eq} dBA	L_{min} dBA	L_{max} dBA	Time	
ST 1	On parkway south of Hammack Street 100 feet from Centinela Avenue	**58.3**	51.6	74.8	10:12 a.m. – 10:17 a.m.	
ST 2	West of Shenandoah Avenue north of 57th Street	**57.4**	44.4	71.8	10:43 a.m. – 10:58 a.m.	
ST 3	Southeast corner University Church parking lot	**58.7**	49.0	67.7	11:22 a.m. – 11:37 a.m.	
ST 4	On sidewalk of La Tijera Boulevard adjacent to the La Tijera Boulevard / Slauson Avenue bus stop	**59.8**	46.5	75.4	11:45 a.m. – 12:00 p.m.	
ST 5	On Overhill Drive east of La Brea Avenue	**67.0**	43.2	82.0	12:29 p.m. – 12:44 p.m.	
ST 6	Parkway southeast of intersection of 61st and Citrus Avenue	**52.9**	35.2	74.5	12:10 p.m. – 12:25 p.m.	
ST 7	On Valley Ridge Avenue adjacent to Creative	**61.7**	36.3	77.5	12:47 p.m. – 1:03 p.m.	

Table 4-1. Existing (Baseline) Noise Measurements					
	Little Stars Preschool Daycare				
ST 8	Wayfinder Family Services parking lot adjacent to Angles Vista Boulevard	**68.1**	51.3	83.9	1:06 p.m. – 1:21 p.m.
ST 9	Homeland Drive and Victoria Avenue	**60.3**	45.0	76.3	1:30 p.m. – 1:45 p.m.
ST 10	On West Boulevard Between 54th Street and 57th Street	**60.0**	38.0	77.8	1:50 p.m. – 2:05 p.m.

Source: Measurements were taken by ECORP with a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. See Attachment A for noise measurement outputs.

Notes: L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. L_{min} is the minimum noise level during the measurement period and L_{max} is the maximum noise level during the measurement period. CNEL is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

As shown in Table 4-1, the ambient recorded noise levels range over the course of the ten short term noise measurements was 52.9 dBA to 68.1 dBA L_{eq}. The four long term noise measurements resulted in ambient noise levels ranging from 59.2 to 76.0 dBA CNEL. The most common noise in the Westside Planning Area is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles) on area roadways and local highways.



Location: W:\Projects\2023\2023-160 Westside Area Plan - LA County\Baseline Noise Survey\BaselineNoiseMapping.aprx - Landscape Template (agne - 2/12/2024)

Map Date: 2/12/2024
Sources: Esri 2024

Noise Measurement Locations Map

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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4.3.1 Existing Traffic Noise

Traffic noise levels depend primarily on the speed of the traffic and the volume of heavy-duty vehicles (trucks). The primary source of noise from automobiles is high-frequency tire noise, which increases with speed. Trucks and older automobiles produce engine and exhaust noise, and trucks can also generate wind noise. Tire noise from cars is produced at ground level (i.e., where the tire contacts the road), whereas truck noise can be generated at a height of 10 to 15 feet above the road, depending on the height of the exhaust pipe(s) and engine.

As previously described, the dominant noise source within the Planning Area is vehicle traffic on its roadways. Traffic noise in the Planning Area is a pervasive issue that impacts the daily lives of residents and other noise-sensitive land uses. With its sprawling urban landscape and extensive network of highways, freeways, and busy local streets, the County is often characterized by persistent vehicular noise.

4.3.2 Existing Rail Noise

Los Angeles County has an extensive rail network that is focused on the efficient and safe movement of people and goods throughout the region. For transporting people via rail lines, there are three systems that operate within the County: Metro, Metrolink, and Amtrak. For the movement of goods, the Southern Pacific Railway and the Union Pacific Railway operate between the ports of Los Angeles and Long Beach and the central Los Angeles freight yard transfer stations, with connections onward to the transcontinental rail network. No communities of interest within the Planning Area are located adjacent to or have rail lines running through them. As such, allowed projects within the Westside Area Plan would not be impacted by rail noise.

4.3.3 Existing Aircraft Noise

The County occasionally experiences noise from aircraft departing from and arriving at area airports. There are two airports in close proximity to the communities of interest in the Planning Area; the Los Angeles International Airport located south of Marina Del Ray/ Ballona Wetlands community and the Santa Monica Municipal Airport located south of West Los Angeles community. The Los Angeles County Airport Land Use Commission's Airport Land Use Plan (adopted in 1991 and revised in 2004) covers all of the public airports in Los Angeles County, including the Los Angeles International Airport and the Santa Monica Municipal Airport. The Los Angeles County Airport Land Use Commission is responsible for promoting land use compatibility around the County's airports in order to minimize public exposure to excessive noise and safety hazards, and the Commission's Los Angeles County Airport Land Use Plan identifies noise compatibility zones in the form of airport noise contour graphics that are intended to prevent development that is incompatible with airport operations. None of the communities of interest within the Planning Area are located within the 65 dBA noise contours of either of these airports or any airport within the County.

5.0 Impact Assessment

5.1 Standards of Significance

The proposed Westaside Area Plan would result in a significant noise impact if it would:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2) Generation of excessive groundborne vibration or groundborne noise levels.

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

5.2 Methodology

This is a program-level analysis that considers the potential impacts of the implementation of the Westside Area Plan and its allowed projects. The proposed Westside Area Plan does not outline specific development projects but, for the purposes of environmental review, establishes the potential buildout of the proposed Planning Area. To capture the potential noise and vibration impact of future development with implementation of the Westside Area Plan, this analysis utilizes the baseline existing conditions described above and analyzes the impacts of urban development qualitatively.

5.3 Impact Analysis

5.3.1 Would the Implementation of the Westside Area Plan result in the generation of a substantial temporary and/or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Temporary Construction Noise

The Project is planning for future growth within the Westside Planning Area; thus, no actual development is being proposed at this time. As such, construction noise is discussed qualitatively taking into consideration typical construction methods, types of equipment used, and equipment usage time. Despite the variety in types and sizes of construction equipment used for various projects within the Westside Planning Area, similarities in the dominate noise sources and patterns of operation allow construction related noise to be analyzed in such a way for this analysis.

Construction noise associated with the Westside Area Plan would result in short-term noise impacts associated with the demolition and various construction activities associated with future development projects and activities. Construction activities would involve both off-road construction equipment (e.g., excavators, dozers, cranes, etc.) and transport of workers and equipment to and from construction sites.

Table 5-1, *Reference Construction Equipment Noise Levels (50 Feet from Source)*, shows typical noise levels produced by the types of off-road equipment that would likely be used during future construction within the Westside Planning Area. It is noted that future development within the Planning Area could potentially require installation of pile foundations that may utilize impact pile drivers or similar equipment that may be expected to generate high noise levels.

Construction noise is currently a substantial source of temporary noise within Los Angeles County, as well as the Westside Planning Area, and will continue to be so regardless of whether the Area Plan is implemented. Current noise levels near individual construction sites associated with development and activities under the Westside Area Plan would not be substantially different from what was experienced during the baseline noise measurements (Table 4-1 above). Since specific future projects are unknown at this time, it is conservatively assumed that the construction areas associated with these future projects could be located within 50 feet of sensitive land uses. As depicted in Table 5-1, noise levels generated by individual pieces of construction equipment typically range from approximately 74 dBA to 101.3 dBA L_{max} at 50 feet and 67.7 dBA to 94.3 dBA L_{eq} at 50 feet. Average hourly noise levels associated with construction projects can vary, depending on the activities performed, equipment used, and equipment usage time. Short-term increases in vehicle traffic, including worker commute trips and haul truck trips, may also result in temporary increases in ambient noise levels at nearby receptors. During each stage of construction, a different mix of equipment would operate, and noise levels would vary based on the amount of equipment on-site and the location of the activity. Construction noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and the receptor. Intervening structures or terrain would result in lower noise levels at distant receivers.

Table 5-1. Reference Construction Equipment Noise Levels (50 feet from source)		
Equipment	**Typical Noise Level (dBA) at 50 Feet from Source**	
	L_{max}	**L_{eq}**
Aerial Lift	74.7	67.7
Air Compressor	77.7	73.7
Backhoe	77.6	73.6
Blasting	94.0	73.0
Boring Jack (Power Unit)	83.0	80.0
Boring Jack (Horizontal)	82.0	76.0
Chain Saw	83.7	76.7
Compactor (Ground)	83.2	76.2
Concrete Mixer Truck	78.8	74.8
Concrete Mixer (Vibratory)	80.0	73.0
Concrete Pump Truck	81.4	79.4
Concrete Saw	89.9	82.6
Crane	80.6	72.6
Dozer	81.7	77.7
Drill Rig	84.4	77.4
Drill Rig Truck	79.1	72.2
Drum Mixer	80.0	77.0
Dump Truck	76.5	72.5
Excavator	80.7	76.7
Front End Loader	79.1	75.1
Generator	80.6	77.6
Gradall	83.4	79.4
Grader	85.0	81.0

Table 5-1. Reference Construction Equipment Noise Levels (50 feet from source)		
Hydraulic Break Ram	90.0	80.0
Impact Hammer/Hoe Ram (Mounted)	90.3	83.3
Jackhammer	88.9	81.9
Other Equipment	85.0	82.0
Pavement Scarifier	89.5	82.5
Paver	77.2	74.2
Pile Driver (Impact)	101.3	94.3
Pile Driver (Vibratory)	100.8	93.8
Pneumatic Tools	85.2	82.2
Pumps	80.9	77.9
Rock Drill	81.0	74.0
Roller	80.0	73.0
Scraper	83.6	79.6
Tractor	84.0	80.0
Truck (Flat Bed)	74.3	70.3
Truck (Pick Up)	75.0	71.0
Vacuum Street Sweeper	81.6	71.6
Welder	74.0	70.0

Source: FHWA 2006

The Los Angeles County Code Section 12.08.440 states that construction work is prohibited between 7:00 p.m. and 7:00 a.m. or at any time on Sundays or holidays, such that the sound creates a noise disturbance across a residential or commercial property line. Additionally, Section 12.08.440 presents construction noise standards at various land uses for mobile and stationary construction equipment, presented in Table 3-4 above, lasting more than ten days.

Future Projects within the Westside Area Plan would be required to conduct a CEQA analysis on a case-by-case basis as specific land use development projects are proposed, which would determine the level of significance based on each individual project's site plan specifics. The employment of construction noise-reducing mitigation measures, such as the use of temporary noise barriers, ensure that the majority of construction-related noise impacts would be mitigated to levels below County construction noise thresholds. As previously described, noise barriers or enclosures can provide a sound reduction of 35 dBA or greater (WEAL 2021). To be effective, a noise enclosure/barrier must physically fit in the available space, must completely break the line of sight between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. However, due to the nature of construction, even with mandatory adherence with the County Code, it is possible that some projects would be large enough in size, intensity, and proximity to noise-sensitive land uses that construction noise levels could exceed significance thresholds presented in the County Code. Therefore, while the construction of the majority of individual future projects allowed under the Westside Area Plan would be able to be mitigated to noise levels below County noise limits, there is the potential that certain future construction projects could result in significant construction noise levels that are unable to be reduced to levels below County standards. Therefore, this impact is significant. The following mitigation measure is required to reduce the significance of construction-related noise impacts:

Mitigation Measure

N-1: **Construction Noise**. Applicants for future development projects pursuant to implementation of the Westside Area Plan that are within 500 feet of sensitive receptors (e.g., residences, hospitals, schools) shall submit a noise study to the Los Angeles County Department of Public Health (LACDPH) for review and approval prior to issuance of a grading or building permit. The study shall include noise-reduction measures, if necessary, to ensure project construction noise will be in compliance with the County Noise Ordinance standards (i.e., LACC 12.08.440). All noise-reduction measures approved by LACDPH shall be incorporated into appropriate construction-related plans (e.g., demolition plans, grading plans and building plans) and implemented during construction activities. Potential noise-reduction measures may include, but are not limited to, one or more of the following, as applicable to the project:

- Install temporary sound barriers for construction activities that occur adjacent to occupied noise-sensitive receptors.
- Equip construction equipment with effective mufflers, sound-insulating hoods or enclosures, vibration dampers, and other Best Available Control Technology.
- Limit nonessential idling of construction equipment to no more than five minutes per hour.

This mitigation measure shall not apply and is superseded once a Countywide noise ordinance goes into effect that establishes construction noise standards for noise-reduction measures that ensures project construction noise compliance with the County Noise Ordinance standards (i.e., LACC 12.08.440) for development projects within the Westside Area Plan.

Stationary Source Noise

The Westside Area Plan would encourage new developments while maintaining the character of existing residential neighborhoods to achieve the goals of the Westside Area Plan as described in Chapter 3, Project Description. Future development within the Planning Area could introduce new stationary sources of noise. The development of residential, commercial, recreational, and other land uses under the Westside Area Plan could generate substantial stationary noise. Such sources could generate noise from heating, ventilation, and air conditioning (HVAC) mechanical equipment, back-up diesel generators in some cases, parking lot activity, backup beepers from internal truck and equipment maneuvering, and other sources. Table 5-2*, Reference Stationary Source Noise Levels (At the Source)*, identifies noise levels generally associated with common stationary noise sources.

Table 5-2. Reference Stationary Noise Levels (at the Source)

Stationary Noise Source	L_{eq}
Commercial Car Wash[a]	79.1 dBA
Drive Thru Activity (speaker) [b]	89.1 dBA
Gasoline Dispensing Station [c]	64.7 dBA
Generators [d]	75.0 dBA
HVAC Mechanical Equipment [e]	56.8 dBA
Parking Garage [f]	52.6 dBA
Regional Shopping Center Parking Lot [g]	61.1 dBA
Small Parking Lot [h]	53.2 dBA
Tire and Lube Service Station [i]	62.3 dBA
Truck Backup Beeper [j]	79.0 dBA
Truck Yard/Warehouse [k]	62.4 dBA

Notes:
a. The average of two noise measurements conducted at commercial carwashes in 2019 and 2022.
b. The average of six noise measurements conducted within fast food restaurant drive thru while drive thru speaker in use.
c. The average of five noise measurements conducted within the fuel canopy of gasoline dispensing stations in 2019 and 2021.
d. Generac Mobile Diesel Generator Set Specification Sheet 2020.
e. One noise measurement conducted at an operating HVAC unit in 2017.
f. One noise measurement conducted within a parking garage in 2019.
g. One noise measurement conducted within a Safeway parking lot in 2019.
h. The average of three noise measurements conducted within a strip mall parking lot in 2022, hotel parking lot in 2021, and medical facility parking lot in 2020.
i. The average of two noise measurements conducted at a Big O Tires in 2019 and a Jiffy Lube in 2022.
j. City of San Jose 2014 Midpoint at 237 Loading Dock Noise Study.
k. The average of five noise measurements conducted at four truck yards and one distribution center in 2021.

Stationary source noise is currently a substantial source of noise within the Planning Area and will continue to be so regardless of whether the proposed Westside Area Plan is adopted. Noise levels near individual sources under the proposed Westside Area Plan would not be substantially different from what they would be under current conditions. The potential significance of stationary source noise levels during operations would be determined by the types of equipment used and the locations of future projects. While stationary noise sources could exist within current developments, there is also the possibility of future new developments under the Westside Area Plan being situated near noise-sensitive receptors. The County's noise-protecting General Plan Policy N1.3 seeks to minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies. The employment of noise barriers designed and built to block the transmission of noise from a stationary source to a sensitive receptor is a highly effective noise-reducing mitigation on stationary noise sources. As previously described, noise barriers or enclosures can provide a sound reduction of 35 dBA or greater (WEAL 2021). Furthermore, General Plan Policy N1.11 seeks to maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.

Each future Project within the Westside Area Plan would be required to conduct a CEQA analysis on a case-by-case basis as it is proposed, which would determine the level of significance based on each individual project's specific noise-generating components. However, even with mandatory compliance with the Los Angeles County General Plan and County Code, it is possible that some future projects within the Westside Planning Area would be large enough in scale and intensity and/or located near noise-sensitive receptors, such that stationary source noise levels could exceed the exterior noise standards for various land uses presented in Table 3-2. Thus, this impact would be significant. The following mitigation measure is required to reduce the significance of stationary source noise impacts:

Mitigation Measure

N-2: **Operational Noise**. Prior to issuance of a building permit for any future discretionary development projects within the Westside Planning Area that are within 500 feet of sensitive receptors, the project applicant shall submit a noise mitigation plan to LACDPH for review and approval. The noise mitigation plan shall be prepared by a sound engineer and be sufficient for LACDPH to make a determination of whether the project will be in compliance with all applicable County noise standards and regulations. At a minimum, the noise mitigation plan shall include the following information: a list of all electro-mechanical equipment (HVAC, refrigeration systems, generators, etc.) that will be installed at the project site; sound level that would be produced by each piece of equipment; noise-reduction measures, as necessary; and sufficient predictive analysis of project operational noise impact. All noise-reduction measures approved by LACDPH shall be incorporated into the project building plans and implemented during project construction. Potential noise-reduction measures may include, but are not limited to, one or more of the following, as applicable to the project:

- Install permanent noise-occluding shrouds or screens on operating equipment.
- Maintain all equipment and noise control features in accordance with the manufacturer's specifications.
- Orient equipment vents and other sources of sound emissions away from noise-sensitive receptors and/or behind structures, containers, or natural features.
- Increase distance between the operating equipment and the noise-sensitive receptor(s) of concern, to the maximum extent feasible.
- Install portable sound-occluding barriers to attenuate noise between the source(s) and the noise-sensitive receptor(s).

This mitigation measure shall not apply and is superseded once a Countywide noise ordinance goes into effect that establishes noise standards for commercial and mixed-use projects within the Westside Planning Area.

Traffic Noise

Future development and activities allowed under the Westside Area Plan are expected to affect the community noise environment mainly by generating additional traffic. New land uses, such as residential and commercial land uses that are a focus of the Westside Area Plan, lead to an increase in the number of vehicles on the roads as residents, employees, and visitors commute to and from these locations. According to Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013), a doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). Future development allowed under the Westside Area Plan could introduce new land uses to the communities which would result in an increase in traffic noise impacting noise-sensitive receptors. The size and types of the future land use projects within the Planning Area will influence the number of trips contributed to area roadways. As previously described, the County's noise-protecting General Plan Policy N1.3 seeks to minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies. General Plan Policy N1.4 requires the County to enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards (see Table 3-2 above) and other applicable noise standards while Policy N1.7 mandates the use of traffic management and noise suppression techniques to minimize noise from traffic and transportation systems. Policy N1.10 requires the orientation of residential units away from major noise sources, including traffic facilities (in conjunction with applicable building codes). Finally, County General Plan Policy N1.12 states that all decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

Each future Project within the Westside Area Plan would be required to conduct a CEQA analysis on a case-by-case basis as it is proposed, which would determine the level of significance based on each individual project's specific noise-generating components, including a project's contribution to offsite traffic noise. An industry standard for addressing increases in traffic noise includes the FICON standards of significance, described in detail in Section 3.1.4, *Federal Interagency Committee on Noise*, above. These standards provide guidance on how to analyze significant changes in ambient noise levels due to transportation noise sources. FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise and are widely used in CEQA analyses. Nonetheless, even with application of FICON standards and mandatory compliance with the Los Angeles County General Plan and County Code, it is possible that some future projects within the Westside Planning Area would be large enough in scale and intensity and/or located near noise-sensitive receptors, such that transportation source noise levels could exceed the applicable noise standard. It is noted that the mitigation of traffic source noise impacts can be difficult in that lead agencies have limited remedies at their disposal to effectively reduce traffic-related noise. Addressing traffic noise at the receiver rather than the source usually takes the form of noise barriers (i.e., sound walls). While constructing noise barriers along streets would reduce noise, the placement of sound walls between existing residences/businesses and local roadways would not be desirable as it would conflict with the community's aesthetic, design and character and is therefore deemed infeasible. Furthermore, such barriers would likely require property owner approval, which cannot be ensured.

This impact would be significant.

5.3.2 Would implementation of the Westside Area Plan result in the generation of excessive groundborne vibration or groundborne noise levels?

Construction Vibration

Construction vibration is a potential occurrence within the Planning Area and will continue to be so regardless of whether the Westside Area Plan is adopted. Construction-related vibration near individual construction sites associated with development under the proposed Westside Area Plan would not be substantially different from what it would be under existing conditions. Construction activities will occur in a variety of locations throughout the Westside Planning Area and will most likely require the use of off-road equipment known to generate some degree of vibration. Construction activities that generate excessive vibration, such as blasting, would not be expected to occur from future development under the Area Plan due to the geography and limited undeveloped land within the Planning Area, which reduces the likelihood of blasting during construction. Receptors sensitive to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and the sick), and equipment (e.g., magnetic resonance imaging equipment, high resolution lithographic, optical and electron microscopes). Regarding the potential effects of groundborne vibration to people, except for long-term occupational exposure, vibration levels rarely affect human health.

The majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout a construction site and at various distances from sensitive receptors. Since specific future projects under the Westside Area Plan are unknown at this time, it is conservatively assumed that the construction areas associated with these future projects could be located within 50 feet of sensitive structures. The primary vibration-generating activities would occur during grading, placement of underground utilities, and construction of foundations. Table 5-3, *Representative Vibration Source Levels for Construction Equipment*, shows the typical vibration levels produced by construction equipment at 50 feet.

Table 5-3. Representative Vibration Source Levels for Construction Equipment	
Equipment	**Peak Particle Velocity at 50 Feet (inches per second)**
Pile Driver (Impact)	0.225
Pile Driver (Sonic)	0.059
Vibratory Roller	0.073
Hoe Ram	0.031
Large Bulldozer	0.031
Caisson Drilling	0.031
Loaded Trucks	0.026
Jackhammer	0.012
Small Bulldozer	0.001

Source: Caltrans 2020b

The Los Angeles County Code Section 12.08.560 prohibits the operation of any device that creates a vibration that is above 0.01 inches per second. Depending on the proximity of the future developments to vibration-sensitive receptors, construction activities could generate excessive ground vibration and potentially exceed 0.01 inches per second. The size, intensity, and locations of the future projects allowed under the Westside Area Plan would dictate whether the level of groundborne vibration and groundborne noise during construction would be above or below the significance thresholds. Future projects within the Westside Planning Area would be required to conduct a CEQA analysis on a case-by-case basis as projects are proposed. There is the potential that certain future construction projects could result in significant construction vibration levels that are unable to be reduced to levels below County standards. Therefore, this impact is significant. The following mitigation measures is required to reduce the significance of construction vibration impacts:

Mitigation Measure

N-3: **Construction Vibration**. For future development projects that utilize vibration-intensive construction equipment (e.g., pile drivers, jack hammers, and vibratory rollers) within 300 feet of sensitive receptors within the Westside Area Plan, project applicant shall submit a vibration impact evaluation to LACDPH for review and approval prior to issuance of a grading or building permit. The evaluation shall include a list of project construction equipment and the associated vibration levels and a predictive analysis of potential project vibration impacts. If construction-related vibration is determined to be perceptible at vibration-sensitive uses (i.e., exceed the County's standard of 0.01 inches per second RMS vibration velocity [within the range of 1 to 100 Hz frequency]), project-specific measures shall be required to ensure project compliance with vibration standards. All project-specific measures approved by LACDPH shall be incorporated into appropriate construction-related plans (e.g., demolition plans, grading plans and building plans) and implemented during project construction.

Examples of equipment vibration source-to-receptor distances at which impact evaluation should occur vary with equipment type (based on FTA reference vibration information) and are as follows:

- Jackhammer: 23 feet
- Dozer, hoe-ram, drill rig, front-end loader, tractor, or backhoe: 43 feet
- Roller (for site ground compaction or paving): 75 feet
- Impact pile-driving: 280 feet

This mitigation measure shall not apply and is superseded once a Countywide groundborne vibration ordinance goes into effect that establishes construction groundborne vibration standards for vibration-reduction measures that ensures project construction groundborne vibration compliance with the County standard of 0.01 inches per second RMS vibration velocity [within the range of 1 to 100 Hz frequency]) for development projects within the Westside Area Plan.

Operational Vibration

It is not anticipated that any projects allowed in the Westside Area Plan would include the use of any stationary equipment that would result in excessive vibration levels. While some land uses may accommodate the use of heavy-duty trucks for deliveries, these vehicles can only generate groundborne vibration velocity levels of 0.006 inches per second at 50 feet under typical circumstances. Additionally, according to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) stationary equipment such as pumps and compressors generate groundborne vibration levels of 0.5 inche per second at one foot and 0.004 inches per second at twenty-five feet (ASHRAE 1999). It is anticipated that any future development that would install such equipment would located it on the future project building rooftop or within or near project buildings such that the equipment would not generate groundborne vibration off the project site. Therefore, groundborne vibration from the operations is not expected to exceed the County standard. Impacts would be less than significant.

5.3.3 Would implementation of the Westside Area Plan expose people residing or working in the project area to excessive noise levels within the vicinity of a private airstrip or an airport land use plan.

Aircraft overflight occurs regularly within the Planning Area as there are multiple airports located within it. Two airports are in close proximity to the communities of interest in the Planning Area; the Los Angeles International Airport located south of Marina Del Ray/ Ballona Wetlands community and the Santa Monica Municipal Airport located south of West Los Angeles community. As previously described, the Los Angeles County Airport Land Use Commission's Airport Land Use Plan (adopted in 1991 and revised in 2004) covers all of the public airports in Los Angeles County. The Los Angeles County Airport Land Use Commission is responsible for promoting land use compatibility around the County's airports in order to minimize public exposure to excessive noise and safety hazards, and the Commission's Los Angeles County Airport Land Use Plan identifies noise compatibility zones in the form of airport noise contour graphics that are intended to prevent development that is incompatible with airport operations. No communities in the Planning Area are located within the 65 dBA noise contours, or any noise contours, for airports within the Planning Area. Therefore, no impact would occur.

6.0 REFERENCES

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Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment.

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Western Electro-Acoustic Laboratory, Inc. Western Electro-Acoustic Laboratory, Inc. 2021. Sound Transmission Sound Test Laboratory Report No. TL 21-227.

LIST OF ATTACHMENTS

ATTACHMENT A

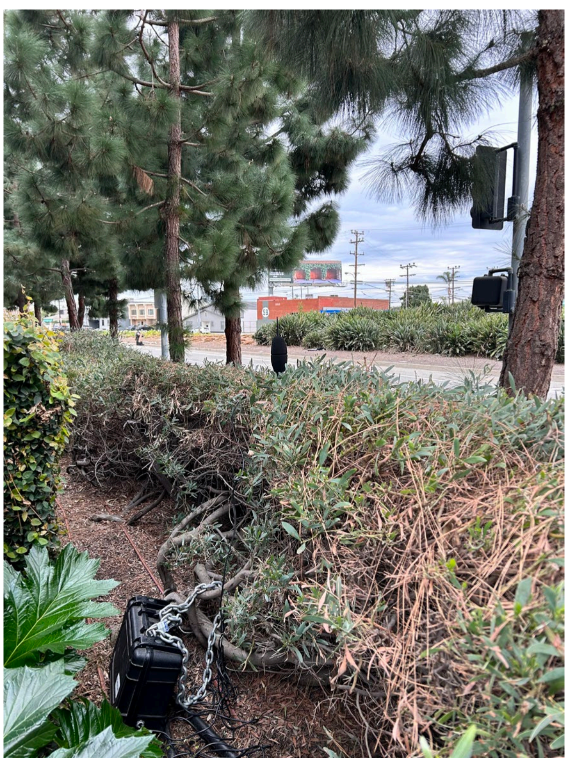
Baseline (Existing) Noise Measurements

Site Number: LT 1			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/18/2023 – 12/19/2023			
Time: 2:56 p.m. – 2:56 p.m.			
Location: On South Centinela Avenue adjacent to 12025 Waterfront Drive			
Source of Peak Noise: Vehicles along South Centinela Avenue			
Noise Data			
CNEL	**Leq (dB)**	**Lmin (dB)**	**Lmax (dB)**
70.4	66.7	43.8	98.6

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 24 hours		**Sky:** Overcast
	Note: dBA Offset = 0.35		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	3	66	30.03

Photo of Measurement Location



Measurement Report

Report Summary

Meter's File Name	LxT_Data.061.s	Computer's File Name	LxT_0006133-20231218 095232-LxT_Data.061.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-18 09:52:32	Duration	24:00:00.0		
End Time	2023-12-19 09:52:32	Run Time	24:00:00.0	Pause Time	0:00:00.0
Pre-Calibration	2023-12-18 09:43:08	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	66.7 dB		
LAE	116.1 dB	SEA	--- dB
EA	44.9 mPa²h		
EA8	15.0 mPa²h		
EA40	74.8 mPa²h		
LZS_{peak}	115.0 dB	2023-12-19 02:56:57	
LAS_{max}	98.6 dB	2023-12-19 02:56:57	
LAS_{min}	43.8 dB	2023-12-19 03:08:58	
LA_{eq}	66.7 dB		
LC_{eq}	73.1 dB	LC_{eq} - LA_{eq}	6.4 dB
LAI_{eq}	69.4 dB	LAI_{eq} - LA_{eq}	2.7 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	9	0:00:32.6
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
70.0 dB	68.1 dB	0.0 dB	
LDEN	**LDay**	**LEve**	**LNight**
70.4 dB	68.6 dB	65.5 dB	62.1 dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	66.7 dB		--- dB		--- dB	
$Ls_{(max)}$	98.6 dB	2023-12-19 02:56:57	--- dB	None	--- dB	None
$LS_{(min)}$	43.8 dB	2023-12-19 03:08:58	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	115.0 dB	2023-12-19 02:56:57

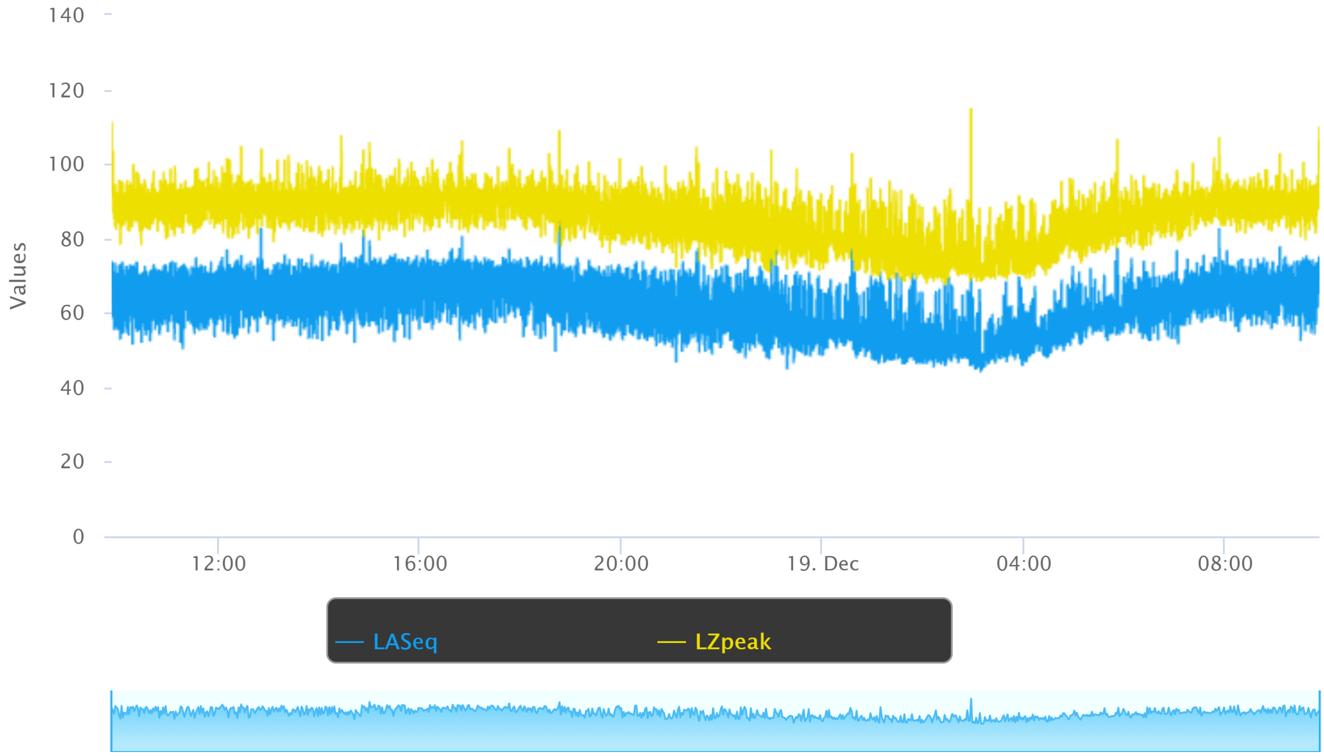
Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	73.3 dB
LAS 10.0	71.3 dB
LAS 33.3	63.2 dB
LAS 50.0	60.3 dB
LAS 66.6	57.3 dB
LAS 90.0	50.6 dB

Time History



Site Number: LT 2			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/19/2023 – 12/20/2023			
Time: 10:04 a.m. – 10:04 a.m.			
Location: On wester side of La Cienega Boulevard adjacent to La Tijera Elementary School			
Source of Peak Noise: Vehicles on La Cienega Boulevard			
Noise Data			
CNEL	**Leq (dB)**	**Lmin (dB)**	**Lmax (dB)**
71.2	64.9	37.6	83.2

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 24 hours		**Sky:** Overcast
	Note: dBA Offset = 0.35		**Sensor Height (ft):** 4
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	5	62	29.95

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.062.s	Computer's File Name	LxT_0006133-20231219 100451-LxT_Data.062.ldbin		
Meter	LxT1 0006133	Firmware	2.404		
User		Location			
Job Description					
Note					
Start Time	2023-12-19 10:04:51	Duration	24:00:00.0		
End Time	2023-12-20 10:04:51	Run Time	24:00:00.0	Pause Time	0:00:00.0
Pre-Calibration	2023-12-18 09:43:07	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	64.9 dB		
LAE	114.3 dB	SEA	--- dB
EA	29.7 mPa²h		
EA8	9.9 mPa²h		
EA40	49.4 mPa²h		
LZS_{peak}	104.4 dB	2023-12-19 14:57:38	
LAS_{max}	83.2 dB	2023-12-19 12:44:00	
LAS_{min}	37.6 dB	2023-12-20 03:08:04	
LA_{eq}	64.9 dB		
LC_{eq}	74.9 dB	LC_{eq} - LA_{eq}	10.0 dB
LAI_{eq}	65.7 dB	LAI_{eq} - LA_{eq}	0.8 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
70.9 dB	65.2 dB	0.0 dB	
LDEN	**LDay**	**LEve**	**LNight**
71.2 dB	65.3 dB	64.9 dB	64.4 dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	64.9 dB		--- dB		--- dB	
$Ls_{(max)}$	83.2 dB	2023-12-19 12:44:00	--- dB	None	--- dB	None
$LS_{(min)}$	37.6 dB	2023-12-20 03:08:04	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	104.4 dB	2023-12-19 14:57:38

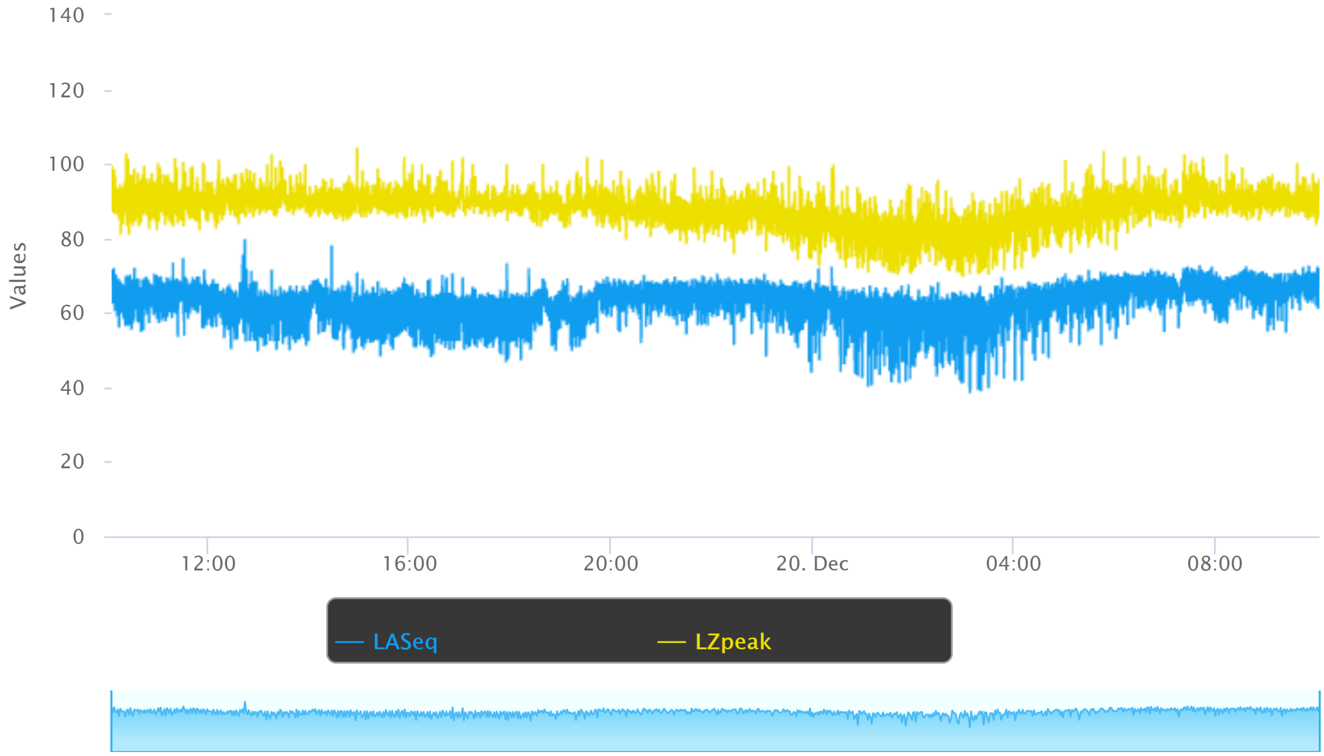
Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	69.6 dB
LAS 10.0	68.5 dB
LAS 33.3	65.3 dB
LAS 50.0	63.6 dB
LAS 66.6	61.2 dB
LAS 90.0	54.5 dB

Time History



Site Number: LT 3			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/20/2023 – 12/21/2023			
Time: 10:31 a.m. – 10:31 a.m.			
Location: On South Verdun Avenue north of the Victoria Burns Art Advisory			
Source of Peak Noise: Vehicles on adjacent roadways			
Noise Data			
CNEL	**Leq (dB)**	**Lmin (dB)**	**Lmax (dB)**
59.2	52.6	32.2	77.9

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration: 24 hours**	**Sky:** drizzle/ rain	
	Note: dBA Offset = 0.35	**Sensor Height (ft): 3.5**	
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	8	61	29.90

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.063.s	Computer's File Name	LxT_0006133-20231220 103131-LxT_Data.063.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-20 10:31:31	Duration	24:00:03.2		
End Time	2023-12-21 10:36:34	Run Time	24:00:01.8	Pause Time	0:00:01.4
Pre-Calibration	2023-12-18 09:43:07	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	52.6 dB		
LAE	102.0 dB	SEA	137.6 dB
EA	1.7 mPa²h		
EA8	582.3 µPa²h		
EA40	2.9 mPa²h		
LZS_{peak}	122.4 dB	2023-12-21 10:23:52	
LAS_{max}	77.9 dB	2023-12-21 10:23:34	
LAS_{min}	32.2 dB	2023-12-21 10:25:19	
LA_{eq}	52.6 dB		
LC_{eq}	64.4 dB	LC_{eq} - LA_{eq}	11.8 dB
LAI_{eq}	60.2 dB	LAI_{eq} - LA_{eq}	7.6 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
59.1 dB	52.5 dB	0.0 dB	

LDEN	LDay	LEve	LNight
59.2 dB	53.3 dB	46.9 dB	52.7 dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	52.6 dB		--- dB		--- dB	
$Ls_{(max)}$	77.9 dB	2023-12-21 10:23:34	--- dB	None	--- dB	None
$LS_{(min)}$	32.2 dB	2023-12-21 10:25:19	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	122.4 dB	2023-12-21 10:23:52

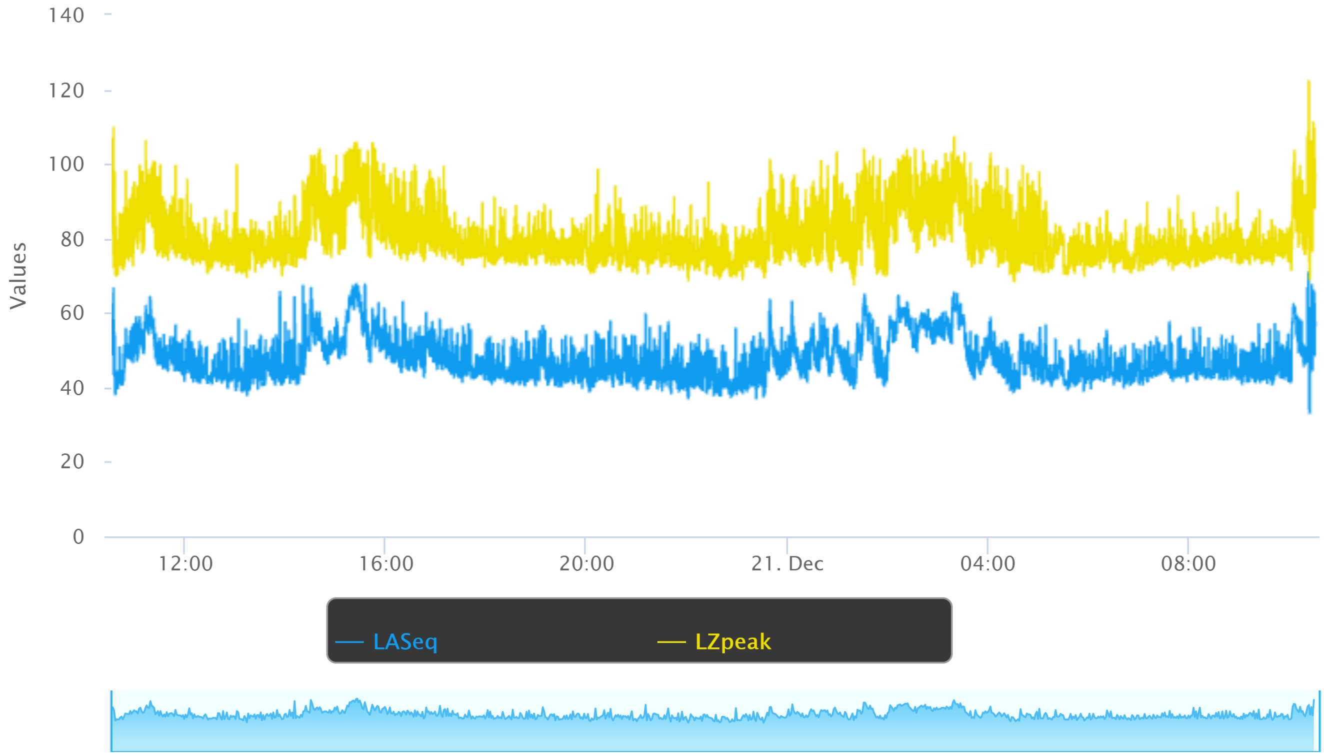
Overloads

Count	Duration
2	0:00:04.1

Statistics

LAS 5.0	58.8 dB
LAS 10.0	55.8 dB
LAS 33.3	48.7 dB
LAS 50.0	45.9 dB
LAS 66.6	43.9 dB
LAS 90.0	41.3 dB

Time History



Site Number: LT 4
Recorded By: Lindsay Buck
Job Number: 2023-160
Date: 12/21/2023 – 12/22/2023
Time: 10:36 a.m. – 10:36 a.m.
Location: On La Brea Avenue north of 4701 Slauson Avenue
Source of Peak Noise: Vehicles along La Brea Avenue

Noise Data			
CNEL	**Leq (dB)**	**Lmin (dB)**	**Lmax (dB)**
76.0	71.2	42.2	99.0

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 24 hours		**Sky:** heavy rain
	Note: dBA Offset = 0.35		**Sensor Height (ft):** 4
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	5	58	29.88

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.064.s	Computer's File Name	LxT_0006133-20231221 103641-LxT_Data.064.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-21 10:36:41	Duration	24:00:00.0		
End Time	2023-12-22 10:36:41	Run Time	24:00:00.0	Pause Time	0:00:00.0
Pre-Calibration	2023-12-18 09:43:07	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	71.2 dB		
LAE	120.6 dB	SEA	140.8 dB
EA	126.6 mPa²h		
EA8	42.2 mPa²h		
EA40	210.9 mPa²h		
LZS_{peak}	122.4 dB	2023-12-21 10:37:53	
LAS_{max}	99.0 dB	2023-12-21 13:16:28	
LAS_{min}	42.2 dB	2023-12-22 04:14:07	
LA_{eq}	71.2 dB		
LC_{eq}	77.3 dB	$LC_{eq} - LA_{eq}$	6.1 dB
LAI_{eq}	73.9 dB	$LAI_{eq} - LA_{eq}$	2.7 dB

Exceedances	Count	Duration
LAS > 85.0 dB	29	0:01:53.5
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	75.5 dB	72.4 dB	0.0 dB	
	LDEN	LDay	LEve	LNight
	76.0 dB	72.4 dB	72.3 dB	68.2 dB

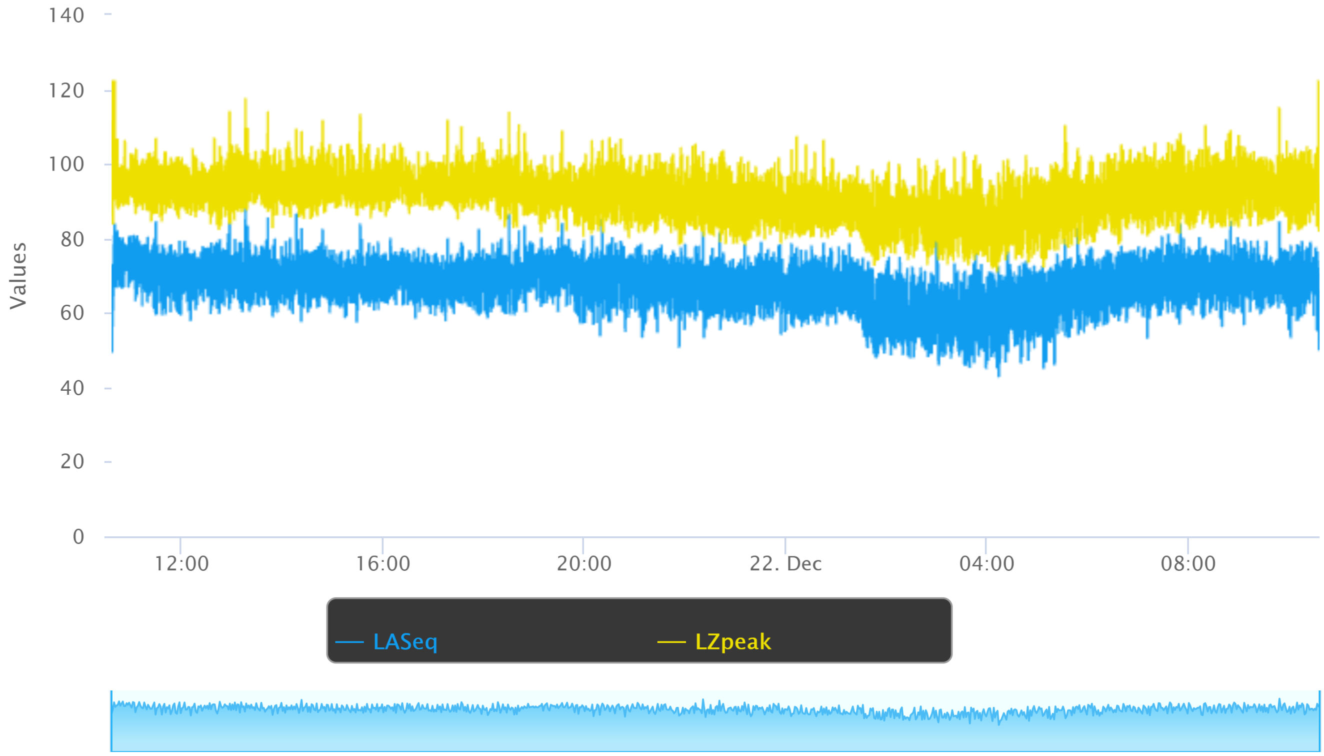
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	71.2 dB		--- dB		--- dB	
$Ls_{(max)}$	99.0 dB	2023-12-21 13:16:28	--- dB	None	--- dB	None
$LS_{(min)}$	42.2 dB	2023-12-22 04:14:07	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	122.4 dB	2023-12-21 10:37:53

Overloads	Count	Duration
	5	0:00:10.2

Statistics

LAS 5.0	76.9 dB
LAS 10.0	75.3 dB
LAS 33.3	70.2 dB
LAS 50.0	67.0 dB
LAS 66.6	63.8 dB
LAS 90.0	57.6 dB

Time History



Site Number: ST 1			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 10:12 a.m. – 10:127 a.m.			
Location: On parkway south of Hammack Street 100 feet from Centinela Avenue			
Source of Peak Noise: Vehicles on Hammack Street and Centinela Avenue			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
58.3	51.6	74.8	106.0

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration: 15 minutes**	**Sky:** clear	
	Note: dBA Offset = 0.08	**Sensor Height (ft): 3.5**	
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	4	66	30.61

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.051.s	Computer's File Name	LxT_0006133-20231215 101246-LxT_Data.051.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 10:12:46	Duration	0:15:00.3		
End Time	2023-12-15 10:27:46	Run Time	0:15:00.3	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	58.3 dB		
LAE	87.8 dB	SEA	--- dB
EA	67.6 µPa²h		
EA8	2.2 mPa²h		
EA40	10.8 mPa²h		
LZS_{peak}	106.0 dB	2023-12-15 10:12:55	
LAS_{max}	74.8 dB	2023-12-15 10:25:13	
LAS_{min}	51.6 dB	2023-12-15 10:16:49	
LA_{eq}	58.3 dB		
LC_{eq}	67.4 dB	LC_{eq} - LA_{eq}	9.1 dB
LAI_{eq}	61.0 dB	LAI_{eq} - LA_{eq}	2.7 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	58.3 dB	58.3 dB	0.0 dB	
	LDEN	LDay	LEve	LNight
	58.3 dB	58.3 dB	--- dB	--- dB

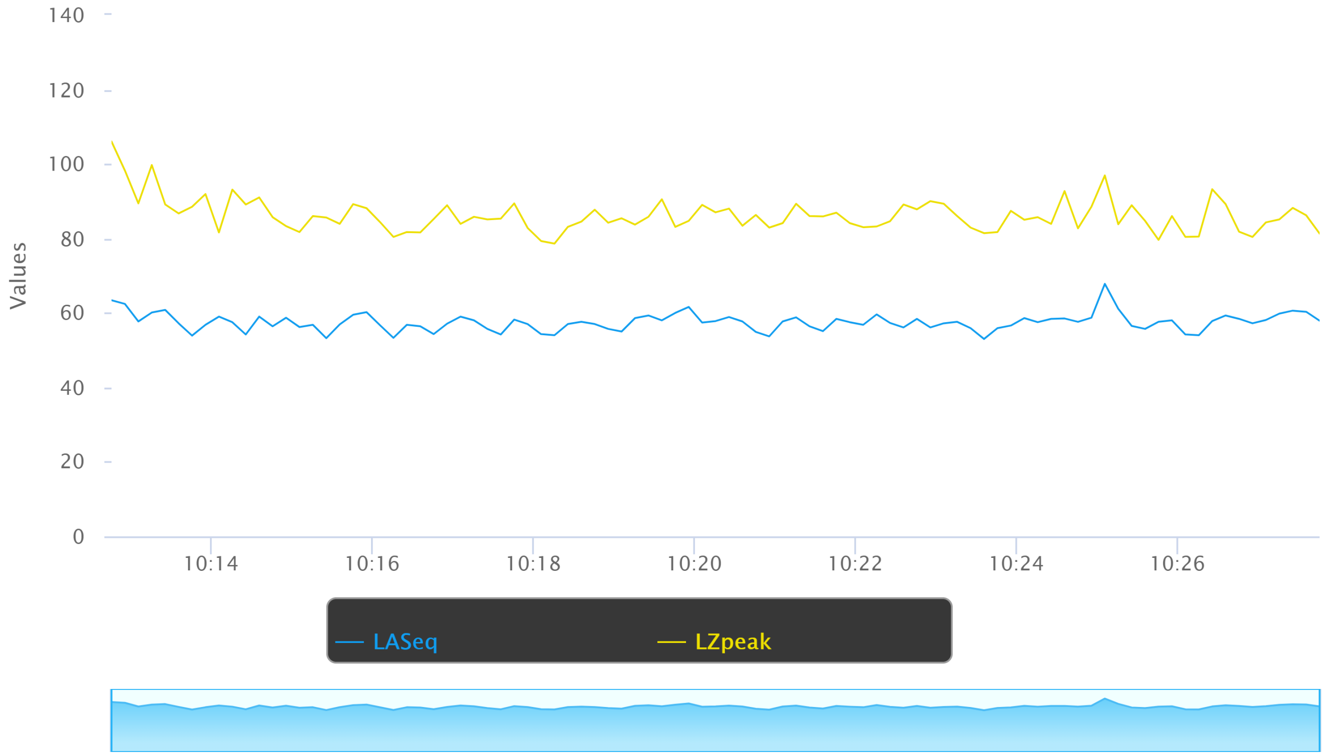
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	58.3 dB		--- dB		--- dB	
$Ls_{(max)}$	74.8 dB	2023-12-15 10:25:13	--- dB	None	--- dB	None
$LS_{(min)}$	51.6 dB	2023-12-15 10:16:49	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	106.0 dB	2023-12-15 10:12:55

Overloads	Count	Duration
	0	0:00:00.0

Statistics

LAS 5.0	61.3 dB
LAS 10.0	60.3 dB
LAS 33.3	58.3 dB
LAS 50.0	57.2 dB
LAS 66.6	56.1 dB
LAS 90.0	53.6 dB

Time History



Site Number: ST 2			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 10:43 a.m. – 10:58 a.m.			
Location: West of Shenandoah Avenue north of 57th Street			
Source of Peak Noise: Vehicles on Shenandoah Avenue and 57th Street			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
57.4	44.4	71.8	94.5

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes	**Sky:** clear	
	Note: dBA Offset = 0.08	**Sensor Height (ft):** 3.5	
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	4	66	30.15

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.052.s	Computer's File Name	LxT_0006133-20231215 104341-LxT_Data.052.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 10:43:41	Duration	0:15:00.4		
End Time	2023-12-15 10:58:41	Run Time	0:15:00.4	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	57.4 dB		
LAE	86.9 dB	SEA	--- dB
EA	55.0 µPa²h		
EA8	1.8 mPa²h		
EA40	8.8 mPa²h		
LZS_{peak}	94.5 dB	2023-12-15 10:46:19	
LAS_{max}	71.8 dB	2023-12-15 10:46:20	
LAS_{min}	44.4 dB	2023-12-15 10:57:38	
LA_{eq}	57.4 dB		
LC_{eq}	66.3 dB	LC_{eq} - LA_{eq}	8.9 dB
LAI_{eq}	59.3 dB	LAI_{eq} - LA_{eq}	1.9 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
57.4 dB	57.4 dB	0.0 dB	
LDEN	**LDay**	**LEve**	**LNight**
57.4 dB	57.4 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	57.4 dB		--- dB		--- dB	
$Ls_{(max)}$	71.8 dB	2023-12-15 10:46:20	--- dB	None	--- dB	None
$LS_{(min)}$	44.4 dB	2023-12-15 10:57:38	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	94.5 dB	2023-12-15 10:46:19

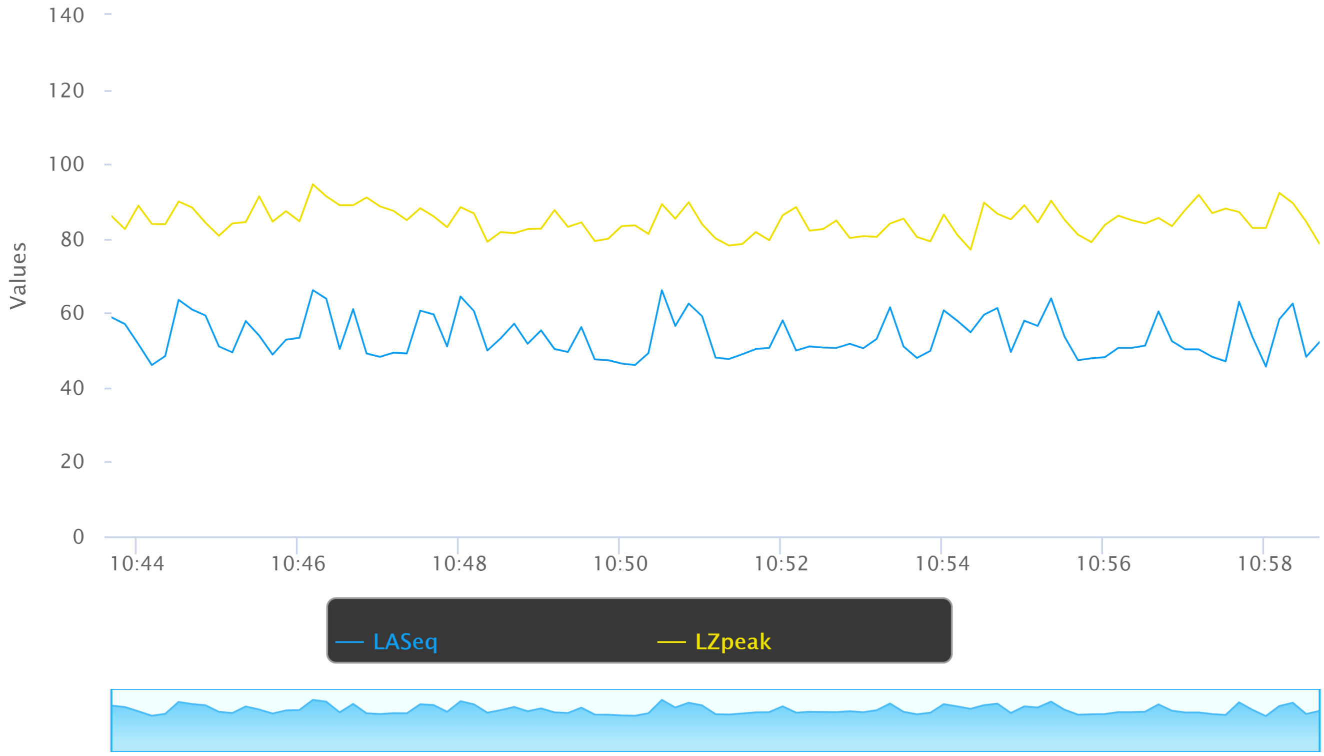
Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	64.7 dB
LAS 10.0	61.3 dB
LAS 33.3	52.2 dB
LAS 50.0	50.5 dB
LAS 66.6	49.3 dB
LAS 90.0	47.1 dB

Time History



Site Number: ST 3			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 11:22 a.m. – 11:37 a.m.			
Location: Southeast corner University Church parking lot			
Source of Peak Noise: Vehicles on adjacent roadways			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
58.7	49.0	67.7	100.5

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes		**Sky:** clear
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	3	68	30.14

<u>Photo of Measurement Location</u>

Measurement Report

Report Summary

Meter's File Name	LxT_Data.053.s	Computer's File Name	LxT_0006133-20231215 112240-LxT_Data.053.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 11:22:40	Duration	0:15:00.1		
End Time	2023-12-15 11:37:40	Run Time	0:15:00.1	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	58.7 dB		
LAE	88.2 dB	SEA	--- dB
EA	74.1 µPa²h		
EA8	2.4 mPa²h		
EA40	11.9 mPa²h		
LZS_{peak}	100.5 dB	2023-12-15 11:22:45	
LAS_{max}	67.7 dB	2023-12-15 11:22:45	
LAS_{min}	49.0 dB	2023-12-15 11:37:30	
LA_{eq}	58.7 dB		
LC_{eq}	69.8 dB	LC_{eq} - LA_{eq}	11.1 dB
LAI_{eq}	60.5 dB	LAI_{eq} - LA_{eq}	1.8 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
58.7 dB	58.7 dB	0.0 dB	
LDEN	**LDay**	**LEve**	**LNight**
58.7 dB	58.7 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	58.7 dB		--- dB		--- dB	
$Ls_{(max)}$	67.7 dB	2023-12-15 11:22:45	--- dB	None	--- dB	None
$LS_{(min)}$	49.0 dB	2023-12-15 11:37:30	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	100.5 dB	2023-12-15 11:22:45

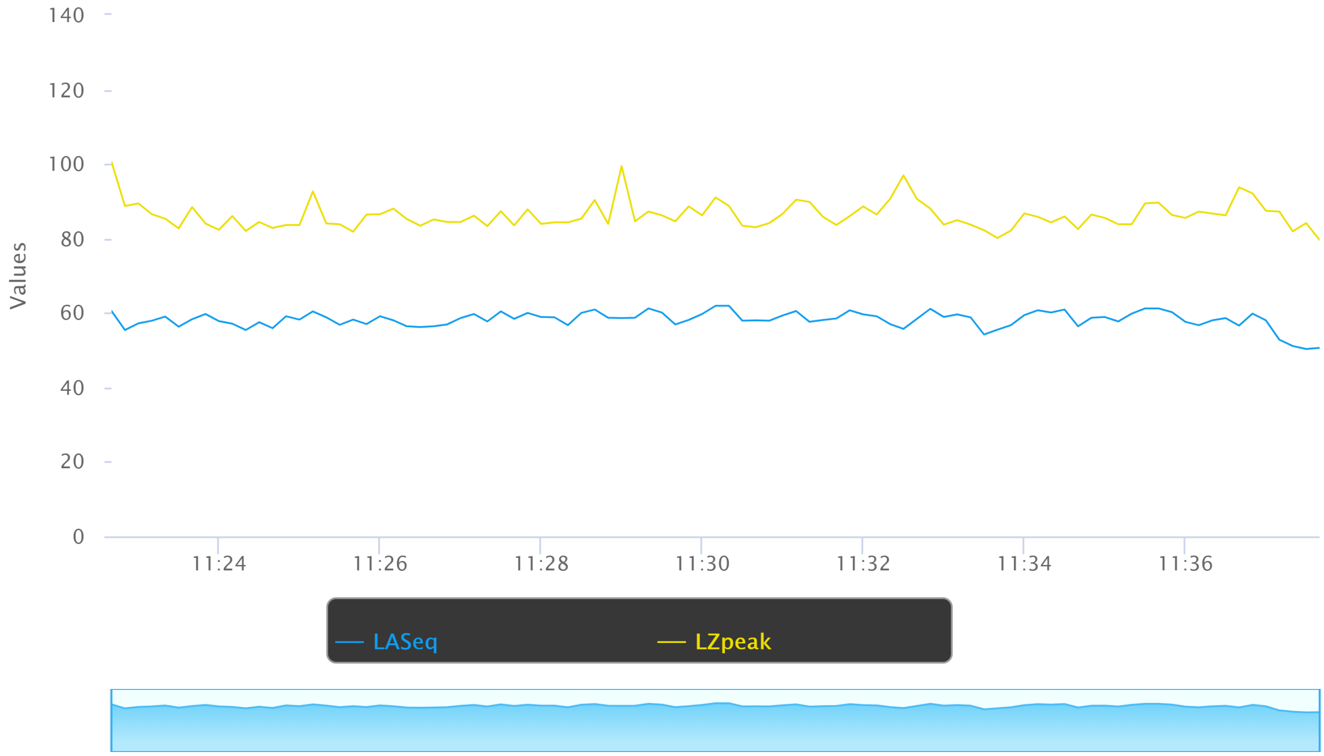
Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	61.6 dB
LAS 10.0	60.9 dB
LAS 33.3	59.0 dB
LAS 50.0	58.1 dB
LAS 66.6	57.3 dB
LAS 90.0	55.4 dB

Time History



Site Number: ST 4			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 11:45 a.m. – 12:00 p.m.			
Location: On sidewalk of La Tijera Boulevard adjacent to the La Tijera Boulevard / Slauson Avenue bus stop			
Source of Peak Noise: Vehicles on Tijera Boulevard and Slauson Avenue			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
59.8	46.5	75.4	98.1

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes		**Sky:** clear
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	5	69	30.13

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.054.s	Computer's File Name	LxT_0006133-20231215 114550-LxT_Data.054.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 11:45:50	Duration	0:15:00.1		
End Time	2023-12-15 12:00:50	Run Time	0:14:10.4	Pause Time	0:00:49.7
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	59.8 dB		
LAE	89.1 dB	SEA	--- dB
EA	90.2 µPa²h		
EA8	3.1 mPa²h		
EA40	15.3 mPa²h		
LZS_{peak}	98.1 dB	2023-12-15 11:48:28	
LAS_{max}	75.4 dB	2023-12-15 11:48:28	
LAS_{min}	46.5 dB	2023-12-15 11:52:42	
LA_{eq}	59.8 dB		
LC_{eq}	71.6 dB	LC_{eq} - LA_{eq}	11.8 dB
LAI_{eq}	61.9 dB	LAI_{eq} - LA_{eq}	2.1 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
59.8 dB	59.8 dB	0.0 dB	
LDEN	**LDay**	**LEve**	**LNight**
59.8 dB	59.8 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	59.8 dB		--- dB		--- dB	
$Ls_{(max)}$	75.4 dB	2023-12-15 11:48:28	--- dB	None	--- dB	None
$LS_{(min)}$	46.5 dB	2023-12-15 11:52:42	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	98.1 dB	2023-12-15 11:48:28

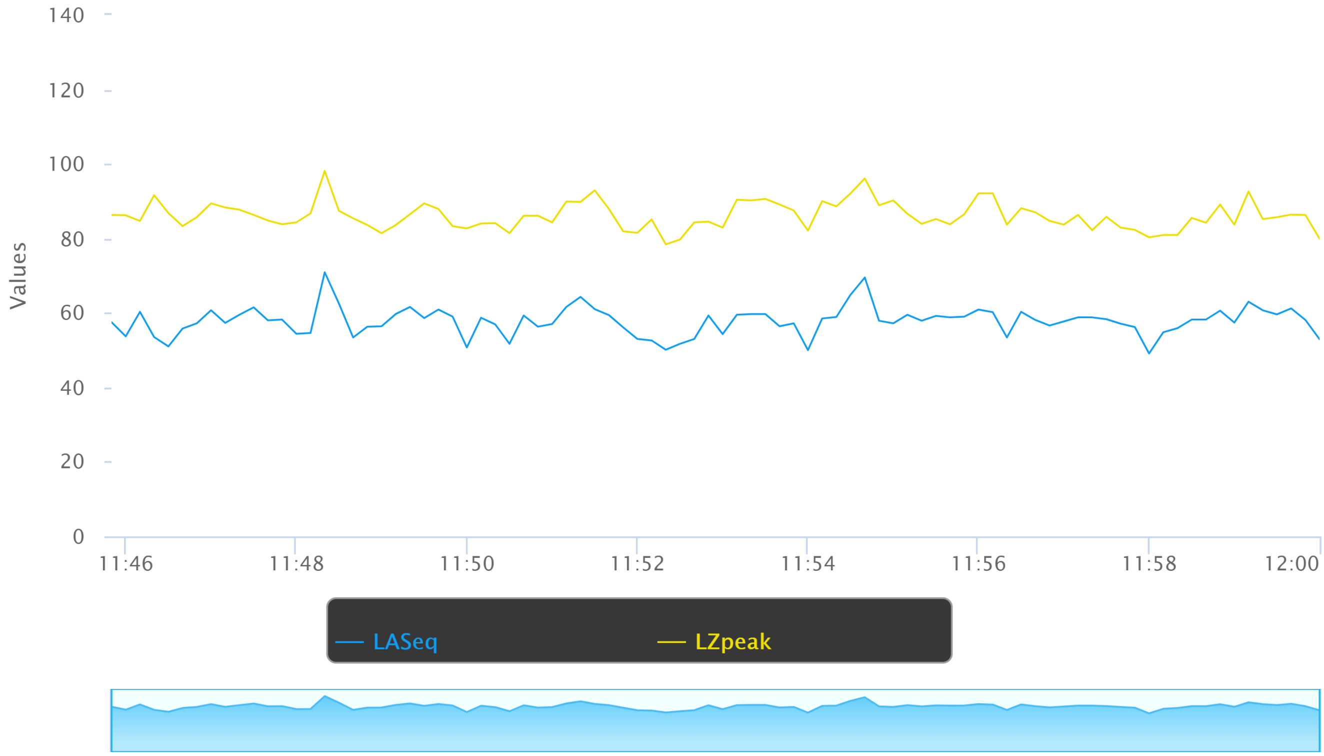
Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	63.4 dB
LAS 10.0	61.8 dB
LAS 33.3	59.1 dB
LAS 50.0	57.8 dB
LAS 66.6	55.8 dB
LAS 90.0	50.7 dB

Time History



Site Number: ST 5
Recorded By: Lindsay Buck
Job Number: 2023-160
Date: 12/15/2023
Time: 12:29 p.m. – 12:44 p.m.
Location: On Overhill Drive east of La Brea Avenue
Source of Peak Noise: Vehicles on Overhill Drive

Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
67.0	43.2	82.0	103.8

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes		**Sky:** clear
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	3	70	30.13

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.056.s	Computer's File Name	LxT_0006133-20231215 122930-LxT_Data.056.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 12:29:30	Duration	0:15:00.3		
End Time	2023-12-15 12:44:31	Run Time	0:15:00.3	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	67.0 dB		
LAE	96.5 dB	SEA	--- dB
EA	501.4 µPa²h		
EA8	16.0 mPa²h		
EA40	80.2 mPa²h		
LZS_{peak}	103.8 dB	2023-12-15 12:34:03	
LAS_{max}	82.0 dB	2023-12-15 12:34:03	
LAS_{min}	43.2 dB	2023-12-15 12:37:36	
LA_{eq}	67.0 dB		
LC_{eq}	75.5 dB	LC_{eq} - LA_{eq}	8.5 dB
LAI_{eq}	69.1 dB	LAI_{eq} - LA_{eq}	2.1 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	67.0 dB	67.0 dB	0.0 dB	
	LDEN	LDay	LEve	LNight
	67.0 dB	67.0 dB	--- dB	--- dB

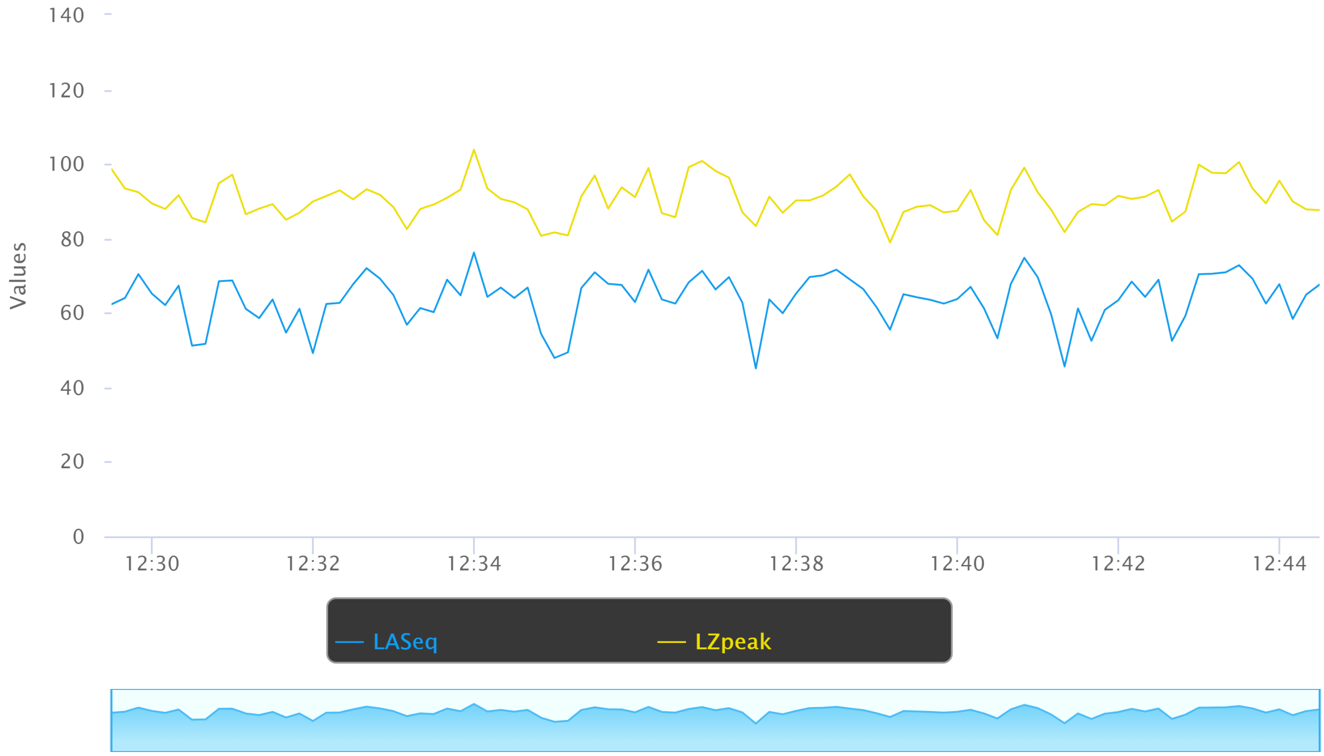
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	67.0 dB		--- dB		--- dB	
$Ls_{(max)}$	82.0 dB	2023-12-15 12:34:03	--- dB	None	--- dB	None
$LS_{(min)}$	43.2 dB	2023-12-15 12:37:36	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	103.8 dB	2023-12-15 12:34:03

Overloads	Count	Duration
	0	0:00:00.0

Statistics

LAS 5.0	72.7 dB
LAS 10.0	71.1 dB
LAS 33.3	66.5 dB
LAS 50.0	62.5 dB
LAS 66.6	57.7 dB
LAS 90.0	49.2 dB

Time History



Site Number: ST 6

Recorded By: Lindsay Buck

Job Number: 2023-160

Date: 12/15/2023

Time: 12:10 p.m. – 12:25 p.m.

Location: Parkway southeast of intersection of 61st and Citrus Avenue

Source of Peak Noise: Vehicles on adjacent roadways and dogs barking

Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
52.9	35.2	74.5	98.9

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes		**Sky:** clear
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Wind Ave Speed (mph)**
	3	70	3

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.055.s	Computer's File Name	LxT_0006133-20231215 121008-LxT_Data.055.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 12:10:08	Duration	0:15:00.1		
End Time	2023-12-15 12:25:08	Run Time	0:15:00.1	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	52.9 dB		
LAE	82.4 dB	SEA	--- dB
EA	19.5 µPa²h		
EA8	624.0 µPa²h		
EA40	3.1 mPa²h		
LZS_{peak}	98.8 dB	2023-12-15 12:16:19	
LAS_{max}	74.5 dB	2023-12-15 12:16:19	
LAS_{min}	35.2 dB	2023-12-15 12:19:23	
LA_{eq}	52.9 dB		
LC_{eq}	63.2 dB	LC_{eq} - LA_{eq}	10.3 dB
LAI_{eq}	56.4 dB	LAI_{eq} - LA_{eq}	3.5 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	52.9 dB	52.9 dB	0.0 dB	
	LDEN	LDay	LEve	LNight
	52.9 dB	52.9 dB	--- dB	--- dB

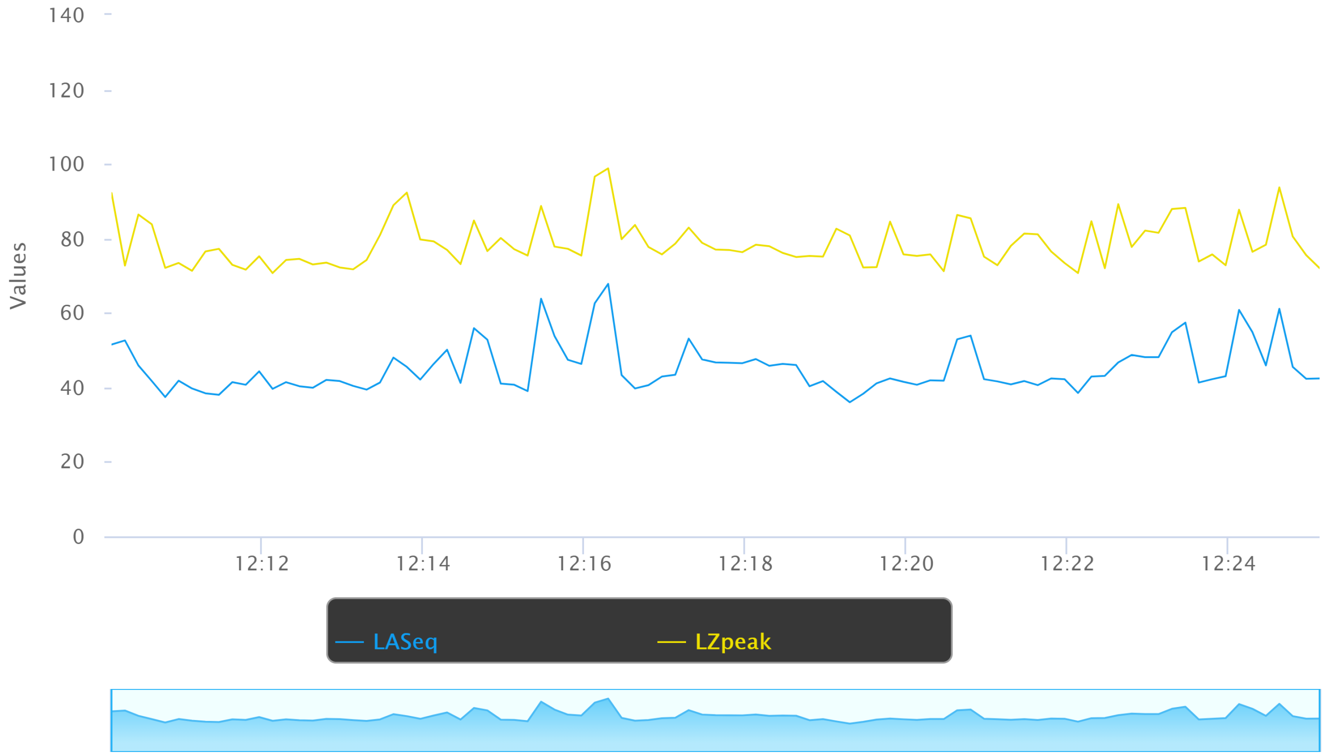
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	52.9 dB		--- dB		--- dB	
$Ls_{(max)}$	74.5 dB	2023-12-15 12:16:19	--- dB	None	--- dB	None
$LS_{(min)}$	35.2 dB	2023-12-15 12:19:23	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	98.8 dB	2023-12-15 12:16:19

Overloads	Count	Duration
	0	0:00:00.0

Statistics

LAS 5.0	56.3 dB
LAS 10.0	50.6 dB
LAS 33.3	44.6 dB
LAS 50.0	42.6 dB
LAS 66.6	41.0 dB
LAS 90.0	38.1 dB

Time History



Site Number: ST 7			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 12:47 p.m. – 1:03 p.m.			
Location: On Valley Ridge Avenue adjacent to Creative Little Stars Preschool Daycare			
Source of Peak Noise: Landscaping equipment and vehicles on Valley Ridge Avenue			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
61.7	36.3	77.5	99.3

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	
Weather Data						
Est.	**Duration:** 15 minutes		**Sky:** clear			
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5			
	Wind Ave Speed (mph)		**Temperature (degrees Fahrenheit)**		**Wind Ave Speed (mph)**	
	3		70		3	

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.057.s	Computer's File Name	LxT_0006133-20231215 124739-LxT_Data.057.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 12:47:39	Duration	0:15:00.0		
End Time	2023-12-15 13:02:39	Run Time	0:15:00.0	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	61.7 dB		
LAE	91.2 dB	SEA	--- dB
EA	147.9 µPa²h		
EA8	4.7 mPa²h		
EA40	23.7 mPa²h		
LZS_{peak}	99.3 dB	2023-12-15 13:02:26	
LAS_{max}	77.5 dB	2023-12-15 12:58:39	
LAS_{min}	36.3 dB	2023-12-15 13:01:50	
LA_{eq}	61.7 dB		
LC_{eq}	68.3 dB	LC_{eq} - LA_{eq}	6.6 dB
LAI_{eq}	67.0 dB	LAI_{eq} - LA_{eq}	5.3 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	61.7 dB	61.7 dB	0.0 dB	
	LDEN	**LDay**	**LEve**	**LNight**
	61.7 dB	61.7 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	61.7 dB		--- dB		--- dB	
$Ls_{(max)}$	77.5 dB	2023-12-15 12:58:39	--- dB	None	--- dB	None
$LS_{(min)}$	36.3 dB	2023-12-15 13:01:50	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	99.3 dB	2023-12-15 13:02:26

Overloads	Count	Duration
	0	0:00:00.0

Statistics

LAS 5.0	68.1 dB
LAS 10.0	66.4 dB
LAS 33.3	58.7 dB
LAS 50.0	54.0 dB
LAS 66.6	50.9 dB
LAS 90.0	45.1 dB

Site Number: ST 8			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 1:06 p.m. – 1:21 p.m.			
Location: Wayfinder Family Services parking lot adjacent to Angles Vista Boulevard			
Source of Peak Noise: Vehicles on Angles Vista Boulevard			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
68.1	51.3	83.9	112.4

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	
Weather Data						
Est.	**Duration:** 15 minutes		**Sky:** clear			
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5			
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Wind Ave Speed (mph)**			
	3	70	3			

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.058.s	Computer's File Name	LxT_0006133-20231215 130613-LxT_Data.058.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 13:06:13	Duration	0:15:09.2		
End Time	2023-12-15 13:21:22	Run Time	0:15:09.2	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	68.1 dB		
LAE	97.7 dB	SEA	--- dB
EA	652.3 µPa²h		
EA8	20.7 mPa²h		
EA40	103.3 mPa²h		
LZS_{peak}	112.4 dB	2023-12-15 13:20:51	
LAS_{max}	83.9 dB	2023-12-15 13:21:15	
LAS_{min}	51.3 dB	2023-12-15 13:17:50	
LA_{eq}	68.1 dB		
LC_{eq}	76.1 dB	LC_{eq} - LA_{eq}	8.0 dB
LAI_{eq}	72.9 dB	LAI_{eq} - LA_{eq}	4.8 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight	
68.1 dB	68.1 dB	0.0 dB	
LDEN	**LDay**	**LEve**	**LNight**
68.1 dB	68.1 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	68.1 dB		--- dB		--- dB	
$Ls_{(max)}$	83.9 dB	2023-12-15 13:21:15	--- dB	None	--- dB	None
$LS_{(min)}$	51.3 dB	2023-12-15 13:17:50	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	112.4 dB	2023-12-15 13:20:51

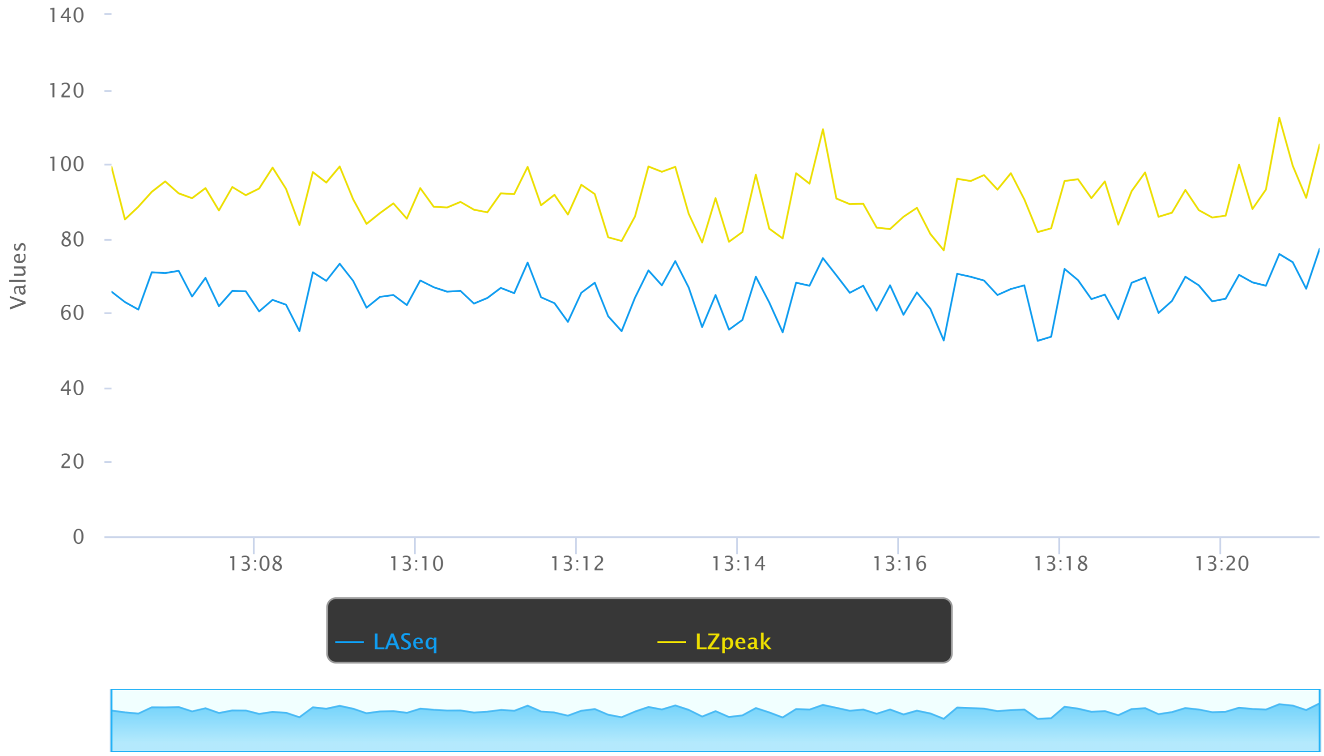
Overloads

Count	Duration
0	0:00:00.0

Statistics

LAS 5.0	73.4 dB
LAS 10.0	71.8 dB
LAS 33.3	67.1 dB
LAS 50.0	64.2 dB
LAS 66.6	60.9 dB
LAS 90.0	55.3 dB

Time History



Site Number: ST 9			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 1:30 p.m. – 1:45 p.m.			
Location: Homeland Drive and Victoria Avenue			
Source of Peak Noise: Vehicles on adjacent roadways			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
60.3	45.0	76.3	98.7

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes		**Sky:** clear
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Wind Ave Speed (mph)**
	3	70	3

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.059.s	Computer's File Name	LxT_0006133-20231215 133011-LxT_Data.059.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 13:30:11	Duration	0:15:00.2		
End Time	2023-12-15 13:45:11	Run Time	0:15:00.2	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	60.3 dB		
LAE	89.8 dB	SEA	--- dB
EA	107.2 µPa²h		
EA8	3.4 mPa²h		
EA40	17.1 mPa²h		
LZS_{peak}	98.7 dB	2023-12-15 13:30:23	
LAS_{max}	76.3 dB	2023-12-15 13:31:05	
LAS_{min}	45.0 dB	2023-12-15 13:39:22	
LA_{eq}	60.3 dB		
LC_{eq}	69.9 dB	LC_{eq} - LA_{eq}	9.6 dB
LAI_{eq}	62.9 dB	LAI_{eq} - LA_{eq}	2.6 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	60.3 dB	60.3 dB	0.0 dB	
	LDEN	LDay	LEve	LNight
	60.3 dB	60.3 dB	--- dB	--- dB

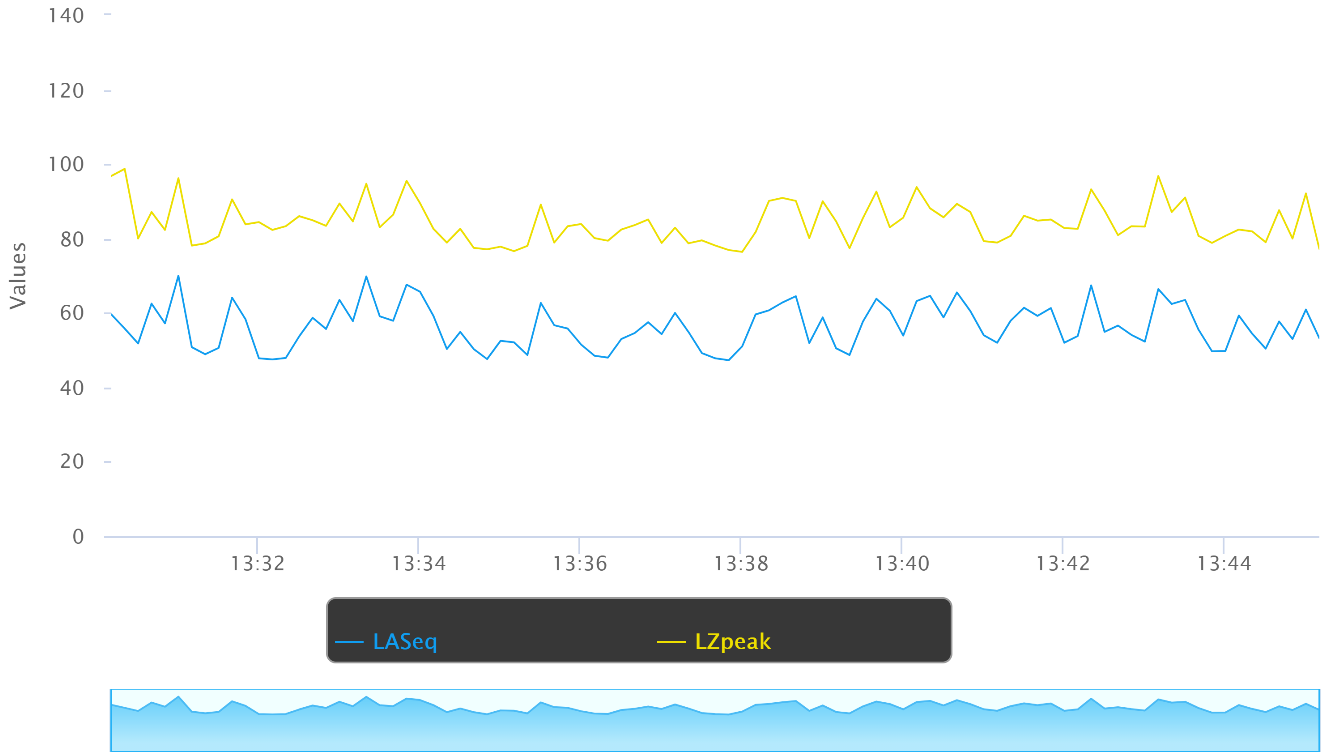
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.3 dB		--- dB		--- dB	
$Ls_{(max)}$	76.3 dB	2023-12-15 13:31:05	--- dB	None	--- dB	None
$LS_{(min)}$	45.0 dB	2023-12-15 13:39:22	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	98.7 dB	2023-12-15 13:30:23

Overloads	Count	Duration
	0	0:00:00.0

Statistics

LAS 5.0	66.7 dB
LAS 10.0	63.9 dB
LAS 33.3	57.3 dB
LAS 50.0	54.2 dB
LAS 66.6	51.5 dB
LAS 90.0	48.1 dB

Time History



Site Number: ST 10			
Recorded By: Lindsay Buck			
Job Number: 2023-160			
Date: 12/15/2023			
Time: 1:50 p.m. – 2:05 p.m.			
Location: On West Boulevard Between 54th Street and 57th Street			
Source of Peak Noise: Vehicles on West Boulevard			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
60.0	38.0	77.8	103.6

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0006133**	**05/25/2023**	
	Microphone	**Larson Davis**	**377B02**	**346688**	**05/23/2023**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**069947**	**05/25/2023**	
	Calibrator	**Larson Davis**	**CAL200**	**17325**	**05/12/2023**	

Weather Data			
Est.	**Duration:** 15 minutes		**Sky:** clear
	Note: dBA Offset = 0.08		**Sensor Height (ft):** 3.5
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Wind Ave Speed (mph)**
	3	70	3

Photo of Measurement Location

Measurement Report

Report Summary

Meter's File Name	LxT_Data.060.s	Computer's File Name	LxT_0006133-20231215 135034-LxT_Data.060.ldbin
Meter	LxT1 0006133	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2023-12-15 13:50:34	Duration	0:15:00.8		
End Time	2023-12-15 14:05:35	Run Time	0:15:00.8	Pause Time	0:00:00.0
Pre-Calibration	2023-12-15 10:09:21	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	60.0 dB		
LAE	89.5 dB	SEA	--- dB
EA	100.1 µPa²h		
EA8	3.2 mPa²h		
EA40	16.0 mPa²h		
LZS_{peak}	103.6 dB	2023-12-15 13:51:07	
LAS_{max}	77.8 dB	2023-12-15 13:51:07	
LAS_{min}	38.0 dB	2023-12-15 14:01:21	
LA_{eq}	60.0 dB		
LC_{eq}	72.1 dB	LC_{eq} - LA_{eq}	12.1 dB
LAI_{eq}	62.7 dB	LAI_{eq} - LA_{eq}	2.7 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZSpeak > 135.0 dB	0	0:00:00.0
LZSpeak > 137.0 dB	0	0:00:00.0
LZSpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight	
	60.0 dB	60.0 dB	0.0 dB	
	LDEN	LDay	LEve	LNight
	60.0 dB	60.0 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.0 dB		--- dB		--- dB	
$Ls_{(max)}$	77.8 dB	2023-12-15 13:51:07	--- dB	None	--- dB	None
$LS_{(min)}$	38.0 dB	2023-12-15 14:01:21	--- dB	None	--- dB	None
$L_{Peak(max)}$	--- dB	None	--- dB	None	103.6 dB	2023-12-15 13:51:07

Overloads	Count	Duration
	0	0:00:00.0

Statistics

LAS 5.0	65.4 dB
LAS 10.0	63.2 dB
LAS 33.3	58.2 dB
LAS 50.0	54.2 dB
LAS 66.6	49.8 dB
LAS 90.0	43.9 dB

Time History