

# **Appendix J: Noise Analysis for the Mission Valley Community Plan Update**

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**Noise Analysis for the Mission Valley  
Community Plan Update  
San Diego, California**

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## Acronyms and Abbreviations

ADT	average daily traffic
CALGreen	California Green Building Standards
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
CPU	community plan update
CREATE	Rail Efficiency and Transportation Efficiency
dB	decibel
dB(A)	A-weighted Decibel
EB	eastbound
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
Hz	hertz
I-15	Interstate 15
I-5	Interstate 5
I-8	Interstate 8
I-805	Interstate 805
inch/sec	inch per second
L <sub>eq</sub>	one-hour equivalent noise level
LLG	Linscott, Law & Greenspan, Engineers
LOSSAN	Los Angeles–San Diego–San Luis Obispo
L <sub>MAX</sub>	Maximum sound level
L <sub>pw</sub>	sound power level
mph	miles per hour
MTS	Metropolitan Transit System
PPV	peak particle velocity
SDMC	San Diego Municipal Code
SEL	sound exposure level
SR-163	State Route 163
VdB	vibration decibel
WB	westbound

## Executive Summary

This report evaluates potential local and regional noise impacts associated with the proposed Mission Valley Community Plan Update (CPU). The CPU would update the adopted 1984 Mission Valley Community Plan. The CPU provides goals and supporting policies for future development within the planning area, consistent with the City of San Diego General Plan (General Plan), as well as a long-range, comprehensive policy framework for growth and development in the community through 2050.

The CPU encompasses a broad range of the land use designations defined in the General Plan and contains a more detailed description and distribution of land uses than the citywide General Plan. As related to the issue of noise, the CPU would allow for an increase to the existing number of multi-family dwelling units, which are a noise-sensitive land use. New policies within the CPU are intended to reflect and implement the general noise-reduction recommendations of the General Plan and strategies of other local plans. The CPU policies refine existing General Plan policies with site-specific recommendations applicable to the specific areas within the CPU.

The dominant source of noise in the CPU area is existing vehicle traffic noise from freeways and local roadways. Other sources of noise include trolleys, stationary noise (such mechanical equipment, emergency electrical generators; parking lot activities; and other activities associated with a given land use), and construction activities.

## Increase in Ambient Noise

- A significant impact would occur if implementation of the CPU would result in or create a significant increase in the existing ambient noise levels. The CPU area is dominated by freeway noise. There are some roadway segments that experience calculated noise level increases that are 3 decibels (dB) or greater; however, due to the proximity to a freeway and its associated freeway noise, the actual increase in ambient noise levels attributable to the specified roadway would be less than 3 dB. Additionally, there are areas where there are no noise-sensitive land uses. A significant and unavoidable noise impact was identified for existing land uses adjacent to the following three roadway segments. Phyllis Place from Abbots Hill Road to Interstate 805 (I-805) southbound ramps
- Bachman Place from Hotel Circle South to Lewis Street
- Rancho Mission Road from San Diego Mission Road to Camino del Rio North

The increase in ambient noise levels adjacent to these three roadway segments would result in the exposure of existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant. Because the significant noise impacts are to existing homes and other noise-sensitive uses in an already urbanized area, there is no feasible mitigation. Thus, impacts to sensitive land uses would remain significant and unavoidable.

An existing regulatory framework and review process exists for new development in areas exposed to high levels of ambient noise. Policies in the proposed CPU and General Plan related to decibel levels, procedures in the San Diego Municipal Code (SDMC), and regulations including Title 24 would reduce traffic noise exposure, because they set standards for the siting of sensitive land uses. Site-specific noise analyses demonstrating that future development implemented under the proposed CPU would not subject sensitive receptors to existing or future noise levels exceeding the Land Use – Noise Compatibility Guidelines of the General Plan would be required as part of the review process for discretionary projects. With the implementation of these regulations and procedures, noise impacts applicable to new discretionary projects would be less than significant as exterior noise would be attenuated. However, in the case of ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts attributed to ministerial projects located in areas that exceed the applicable land use and noise compatibility level would be significant. As there is no procedure to ensure that exterior noise is adequately attenuated for ministerial projects, no feasible mitigation measures are available, and the impact would remain significant and unavoidable. Interior noise impacts for all projects, including ministerial projects, would be less than significant because building permit applicants must demonstrate compliance with the relevant interior noise standards through submission and approval of a Title 24 Compliance Report. The proposed CPU includes a policy encouraging retrofitting of older structures with noise sensitive land uses with acoustically rated windows and doors featuring higher Sound Transmission Class ratings, which is a measure of exterior noise reduction performance. However, because not all existing noise sensitive land uses would be retrofitted, impacts to existing sensitive land uses would be significant and unavoidable.

For all other street segments in the CPU area, the increase in ambient noise would be less than significant.

## **Land Use Compatibility**

A significant impact would occur if implementation of the CPU would result in an exposure of people to current or future transportation noise levels that exceed guidelines established in the Noise Element of the General Plan.

In the CPU areas, noise levels for all land uses would be incompatible (i.e., greater than 75 CNEL) closest to the freeways. These areas are currently developed and the CPU would change the land use designations in some of these areas. While land uses in these areas would be exposed to noise levels that exceed General Plan standards, Section B of the General Plan Noise Element requires future residential uses in areas above 70 CNEL to include noise attenuation measures to ensure interior levels of 45 CNEL and that they be located in an area where a community plan allows multi-family and mixed-use residential uses.

The proposed CPU includes policies that would support site design strategies and noise reduction measures for new development within 500 feet of freeways. Additionally, policies in the General Plan Noise Element require the reduction of traffic noise exposure because



they set standards for the siting of sensitive land uses, while Title 24 requires that projects demonstrate that interior noise levels would be reduced to acceptable levels (45 CNEL or less). General Plan Noise Element policy NE-A.4 requires an acoustical study consistent with the Acoustical Study Guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the “compatible” noise level thresholds as indicated on the Land Use – Noise Compatibility Guidelines. Future discretionary proposals within the CPU area would, therefore, be required to conduct site-specific exterior noise analyses to demonstrate that the proposed project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the Land Use – Noise Compatibility Guidelines. Additionally, for all future discretionary and ministerial projects located in areas where exterior noise levels exceed the Land Use – Noise Compatibility Guidelines, site-specific interior noise analyses demonstrating compliance with the interior noise standards of the General Plan would be required. These requirements for site-specific noise analyses would be implemented through submission of a Title 24 Compliance Report to demonstrate interior noise levels of 45 CNEL. Through implementation of this regulatory framework, exterior traffic noise impacts associated with new discretionary development and interior traffic noise impacts for both ministerial and discretionary projects would be less than significant.

However, in the case of exterior noise impacts associated with ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts for ministerial projects located in areas where the noise level exceeds the applicable land use and noise compatibility level would be significant. As there is no procedure to ensure that exterior noise is adequately attenuated for ministerial projects, no feasible mitigation measures are available and impacts would remain significant and unavoidable. Regarding trolley noise, vehicle traffic noise would exceed the contribution of noise from trolley operations. Although vehicle traffic would be the dominant noise source, trolley noise levels in close proximity to the tracks would contribute to the overall exterior noise level, and the combined vehicle traffic and trolley exterior noise levels could exceed the Land Use – Noise Compatibility Guidelines. Future discretionary proposals within the CPU area would be required to conduct site-specific exterior noise analyses to demonstrate that the proposed project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the Land Use – Noise Compatibility Guidelines. However, in the case of exterior noise impacts associated with ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts for ministerial projects located in areas where the noise level exceeds the applicable land use and noise compatibility level would be significant.

Interior noise impacts for both discretionary and ministerial projects would be less than significant because building permit applicants must demonstrate compliance with the relevant interior noise standards through submission and approval of a Title 24 Compliance Report.

The future Mid-Coast Trolley extension (Blue Line Trolley) is currently under construction along the western CPU boundary. The closest station to the CPU area would be located at West Morena Boulevard and Tecolote Road. It is anticipated that rail traffic would generate

a noise level of 60 CNEL at approximately 270 feet from the railway centerline. However, no sensitive land uses exist or are proposed in the CPU area adjacent to the Blue Line Trolley extension and, thus, there would be no noise impacts due to future Blue Line Trolley operations. The Mid-Coast Corridor Transit Project noise analysis also found noise impacts in this area to be less than significant (SANDAG 2014).

The Regional Plan's planned Purple Line Trolley would provide a new north-south transit connection through the Stadium Specific Plan area and would generally parallel to Interstate 15 (I-15). It is anticipated that noise levels due to future Purple Line Trolley operation would be similar to noise levels from the Blue and Green Line Trolleys. Vehicle traffic noise levels along I-15 would exceed 70 and 75 CNEL in the vicinity of the future Purple Line Trolley alignment. As with the Blue and Green Line Trolleys, vehicle traffic noise would exceed the contribution of noise from trolley operations. However, the exact alignment of the Purple Line Trolley is not known at this time, and it could be located in close proximity to noise sensitive land uses. As with the Green Line Trolley, although vehicle traffic would be the dominant noise source, trolley noise levels in close proximity to the tracks would contribute to the overall exterior noise level, and the combined vehicle traffic and trolley exterior noise levels could exceed the Land Use – Noise Compatibility Guidelines, resulting in a significant and unavoidable impact.

## Stationary Noise

A significant impact could occur if implementation of the CPU resulted in the exposure of people to noise levels that exceed property line limits established in the Noise Abatement and Control Ordinance of the San Diego Municipal Code (SDMC). Implementation of the CPU would promote pedestrian-oriented mixed-use area. Mixed-use and areas where residential uses are located in proximity to commercial sites could result in exposure of sensitive receptors to additional noise. Although noise-sensitive residential land uses would be exposed to noise associated with the operation of commercial uses, future projects would be required to show compliance with the Noise Abatement and Control Ordinance to ensure noise compatibility between various land uses. Through enforcement of the Noise Abatement and Control Ordinance of the SDMC, impacts would be less than significant.

## Construction Noise

Although no specific construction or development is proposed at this time, construction noise impacts could occur as future development within the CPU area occurs. Due to the developed nature of the CPU area, there is a high likelihood that construction activities would take place adjacent to existing structures and that sensitive receptors would be located in proximity to construction activities. The City regulates noise associated with construction equipment and activities through its Noise Abatement and Control Ordinance, which puts limits on the days of the week and hours of operation allowed for construction. Hourly average noise levels would be approximately 83 dB(A) one-hour equivalent noise level ( $L_{eq}$ ) at 50 feet from the center of construction activity when assessing three pieces of common construction equipment working simultaneously. Construction noise levels of

would attenuate to 75 dB(A)  $L_{eq}$  at 120 feet. Therefore, significant impacts would occur if sensitive land uses are located closer than 120 feet from construction activities. Implementation of the mitigation measures specified in Section 8.4 of this analysis would reduce construction-related noise impacts. However, even with implementation of this mitigation, at the program level it cannot be known whether the noise reduction measures would be adequate to reduce noise levels to below a level of significance. Construction noise impacts would therefore be significant and unavoidable.

## Vibration

Potential sources of ground-borne vibration could occur as a result of railway operations. The Mid-Coast Corridor Transit Project noise and vibration analysis found vibration impacts to be less than significant (SANDAG 2014). The east-west Green Line Trolley bisects the CPU area. The Federal Transit Administration (FTA) methodology and equations provided in their Transit Noise and Vibration Impact Assessment Manual (FTA 2018) were used to calculate potential site-specific vibration levels within the CPU area. Portions of the Green Line Trolley tracks are on elevated structures and do not cause significant vibration impacts to adjacent development. Areas where noise- and vibration-sensitive uses are located the closest to the tracks (as close as 25 feet) are at the existing trolley stations. Because all trolleys stop at each station, trolley speeds approaching and departing from the stations would be very low and would not cause significant vibration levels over existing levels. These screening distances are therefore conservative. Impacts related to trolley vibration associated with the Green Line trolley would be less than significant. The future Purple Line Trolley would run through the Stadium Specific Plan area. The exact alignment is not known at this time; however, vibration impacts and screening distances for the Purple Line Trolley are anticipated to be the same as those for the Green Line Trolley. Impacts would be less than significant.

## 1.0 Introduction

The Mission Valley Community Plan Update (CPU) provides goals and supporting policies for future development within the planning area consistent with the 2008 General Plan and provides a long-range, comprehensive policy framework for growth and development in the community through 2050. The purpose of this study is to assess the potential for significant adverse noise impacts resulting from development that could occur with the CPU area.

## 2.0 Project Description

### 2.1 Project Location

Mission Valley is located at nearly the geographic center of the city of San Diego. The CPU area encompasses the valley formed by the San Diego River, a significant natural and recreational asset for the city. The CPU area sits at the crossroads of the regional freeway system, with access from Interstate 5 (I-5), Interstate 8 (I-8), Interstate 15 (I-15), Interstate 805 (I-805) and State Route 163 (SR-163). The CPU area is a regional center of offices, hotels, and retail sales. The CPU area is also a major regional visitor center, hosting a large number of hotels in close proximity to nearby tourist attractions such as Mission Bay, Sea World, and Balboa Park.

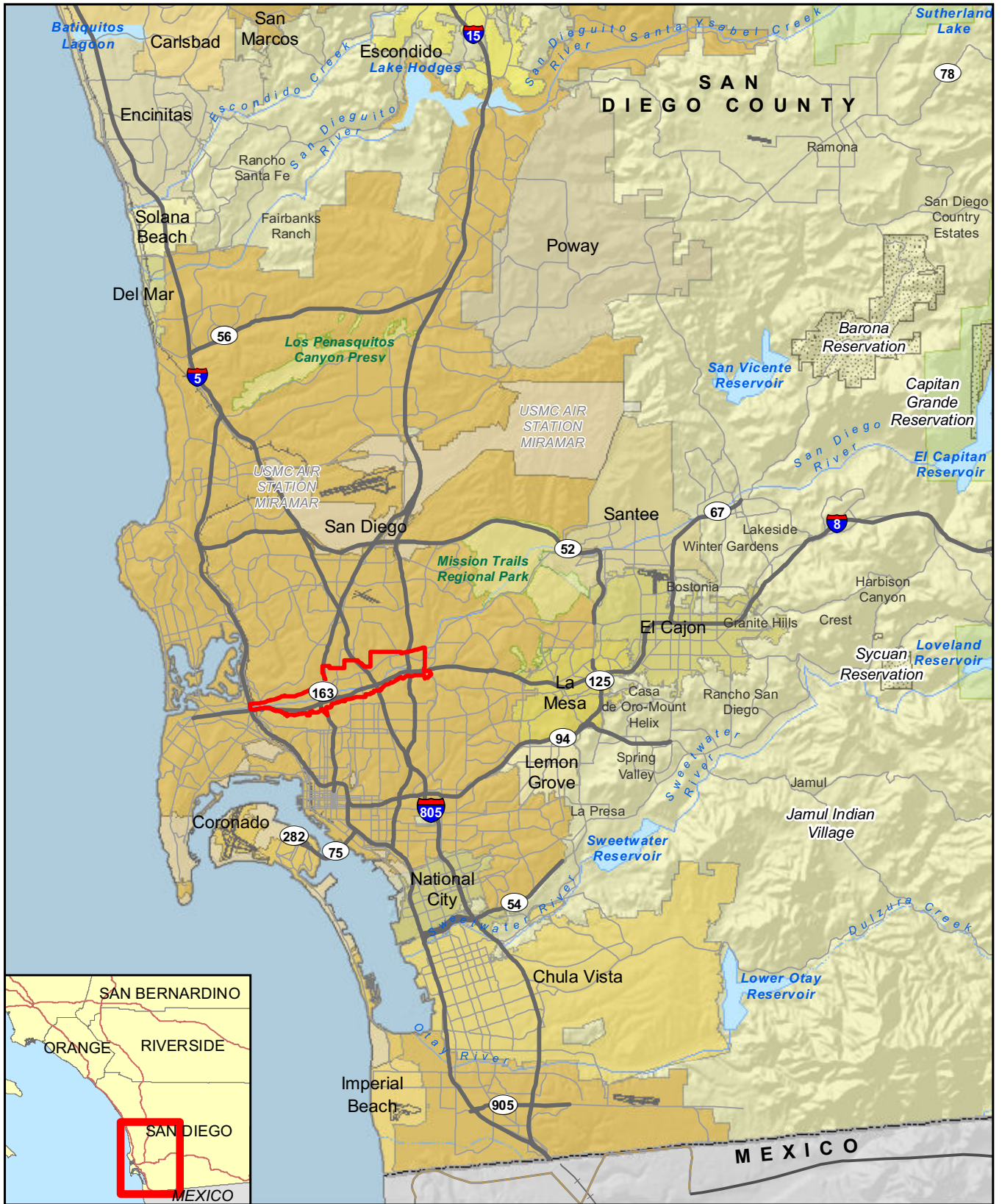
The CPU area encompasses 3,216 acres, or 2,428 acres not including rights-of-way, and is generally bounded by Friars Road and the northern slopes of the valley on the north, the eastern banks of the San Diego River on the east, the southern slopes of the valley on the south, and I-5 on the west. The CPU area is surrounded by several other community planning areas: Old Town San Diego, Uptown, Greater North Park, Normal Heights, Kensington–Talmadge, College Area, Navajo, Tierrasanta, Kearny Mesa, Serra Mesa, Linda Vista, and Mission Bay Park.

Figure 1 shows the regional location of the CPU area and Figure 2 shows an aerial photograph.

### 2.2 Project Overview

The CPU would update the adopted 1984 Mission Valley Community Plan. The CPU provides goals and supporting policies for future development within the CPU area, consistent with the General Plan, and a long-range, comprehensive policy framework for growth and development in the community through 2050.

The CPU addresses a range of topics, including land use; mobility; urban design; economic prosperity; public facilities, services, and safety; recreation; conservation; noise; historic preservation; and arts and culture.



Mission Valley Community Plan Boundary

**FIGURE 1**  
Regional Location

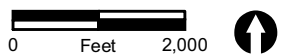
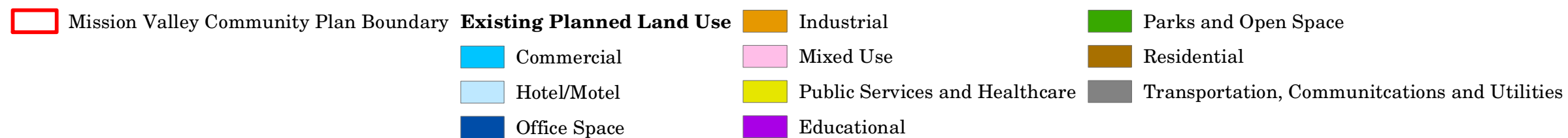
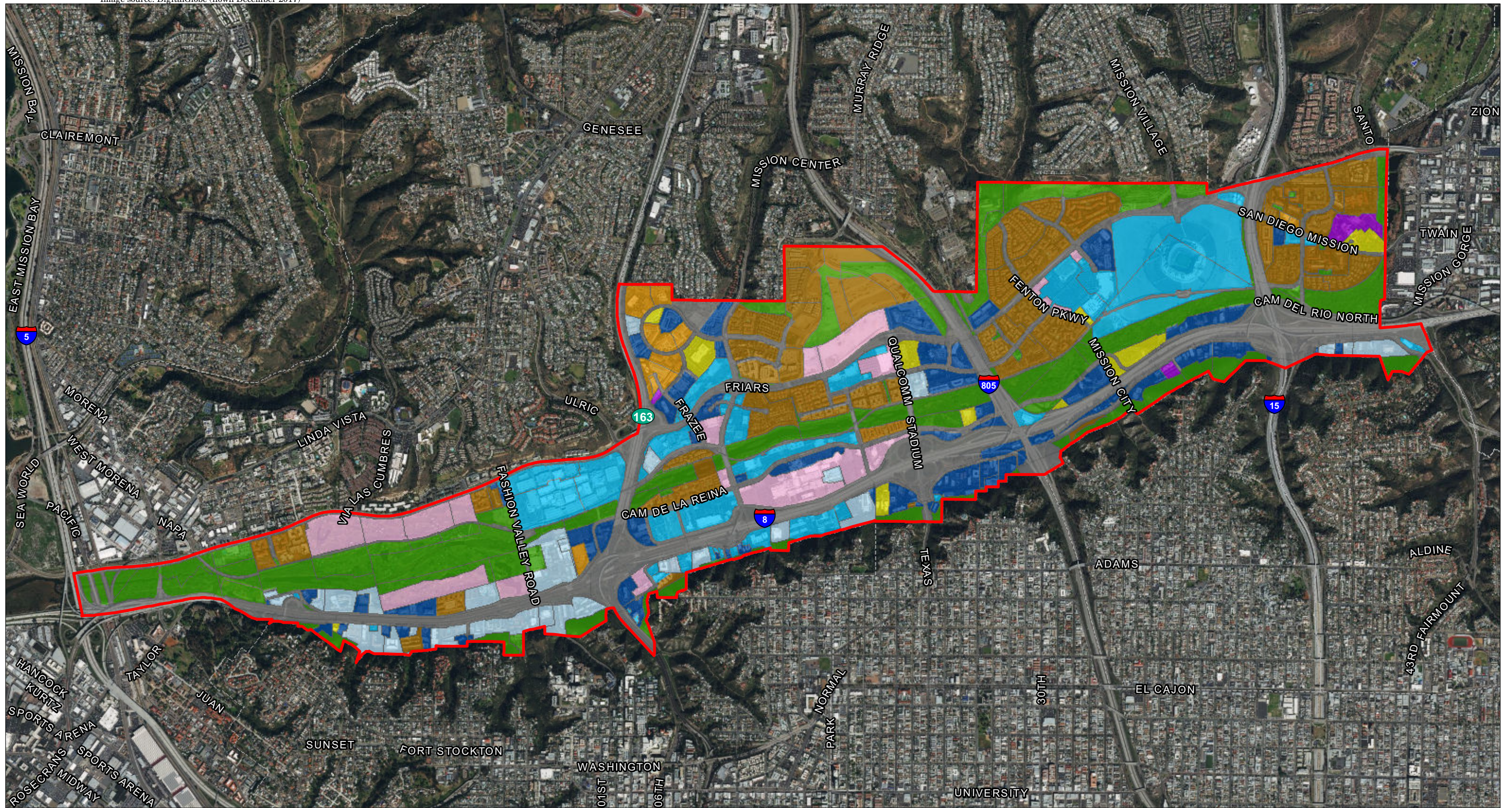


FIGURE 2  
Existing Community Plan Land Use

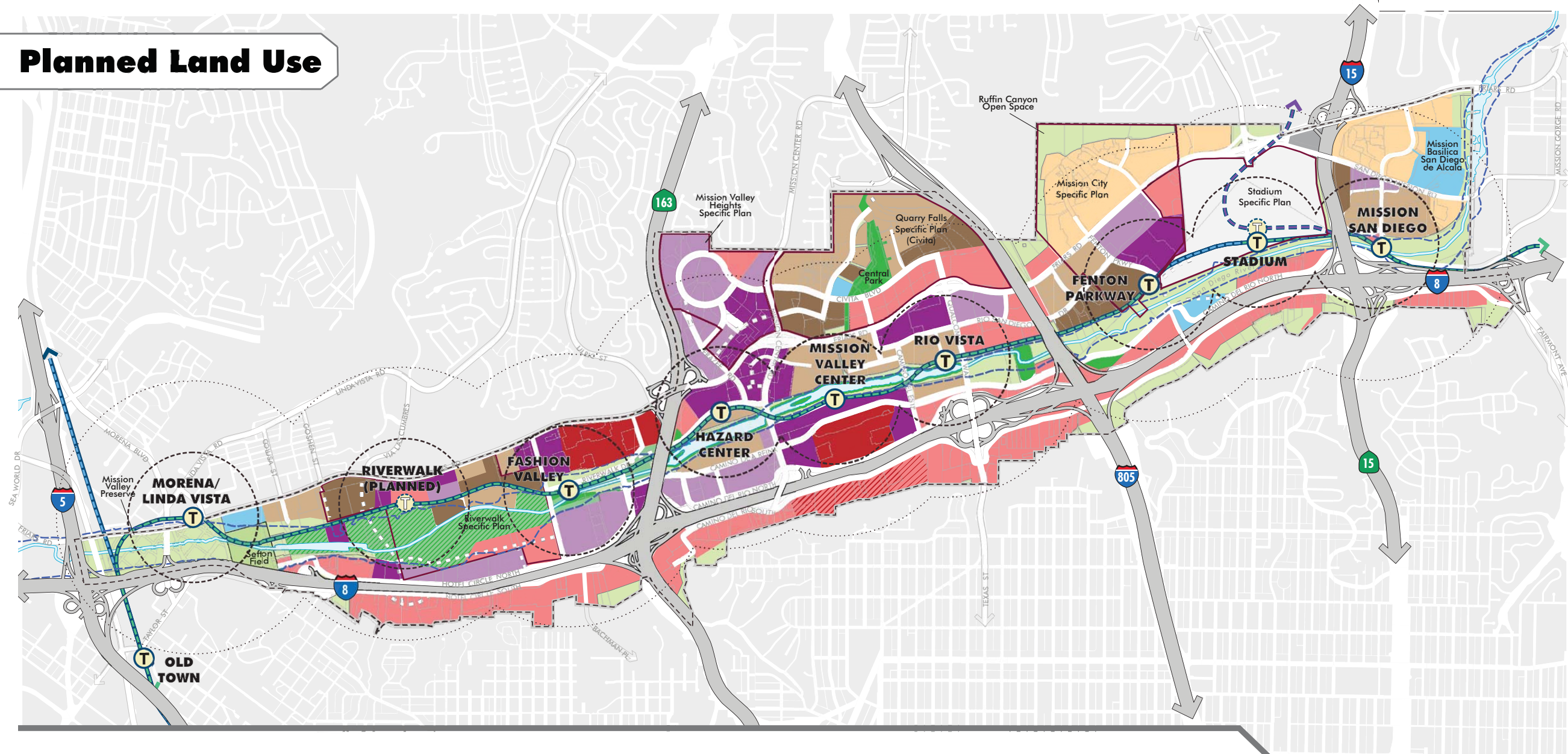
The CPU evaluates existing conditions on a community-wide level and develops the long-term vision for Mission Valley. In addition to augmenting the General Plan and providing detailed land use guidance for the Mission Valley community, the CPU would also play a role in helping to achieve statewide regulatory objectives including reducing greenhouse gas emissions; promoting public health; improving air and water quality; reducing automobile use and fuel consumption; encouraging efficient development patterns; protecting natural and agricultural resources; encouraging infill and compact development; revitalizing urban and community centers; increasing availability of affordable housing; promoting water conservation; improving the infrastructure system; and promoting energy efficiency and conservation measures.

### 2.3 Development Summary

The CPU encompasses a broad range of the land use designations defined in the General Plan and contains a more detailed description and distribution of land uses than the citywide General Plan. Land uses for the base year (2012), the adopted Community Plan, and the proposed CPU build-out are summarized in Table 1. Figure 3 shows the proposed CPU land uses.

<b>Table 1 Existing, Adopted, and Proposed Land Uses</b>			
<b>Land Use</b>	<b>Base Year (2012)</b>	<b>Adopted Community Plan (2050)</b>	<b>Proposed CPU (2050)</b>
<b>Residential Development (dwelling units)</b>			
Single Family	1	1	1
Multi-Family	11,243	23,199	39,156
<b>Total Housing</b>	<b>11,244</b>	<b>23,200</b>	<b>39,157</b>
<b>Non-Residential Development (square feet)</b>			
Commercial/Retail	5,231,350	6,215,920	7,244,347
Office	7,418,523	11,788,498	12,087,208
Motel/Hotel	3,648,880	6,293,266	4,406,391
Industrial	603,210	529,348	120,711
Institutional/Community Facilities	158,839	175,129	195,358
Hospital/Clinic	67,223	67,223	42,803
University and Other College	247,577	223,098	189,163
Schools K to 12	96,200	96,200	105,650
Recreational	195,181	180,956	646,278
<b>Total Non-Residential Development</b>	<b>17,666,983</b>	<b>25,569,638</b>	<b>25,037,909</b>

# Planned Land Use



### General Information

- Mission Valley Community Plan Area
- 100 Year Floodway
- Specific Plan
- Parcels
- Planned Roadway

### Transit

- Existing Trolley (Blue Line)
- Existing Trolley (Green Line)
- Planned Trolley (Purple Line)
- Planned Trolley Stop (Riverwalk)

### Land Use

- Mixed Use (HD)
- Mixed Use (MD)
- Residential (HD)
- Residential (MD)
- Residential (LD)

- Commercial/Office/Hotel
- Regional Retail
- Office/Hotel/Regional Retail
- Public/Institutional

### Park and Open Space

- Existing Park
- Existing Open Space
- Potential Park
- Potential Open Space
- Potential Park/Open Space

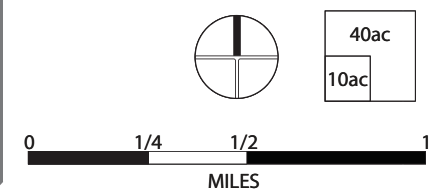


FIGURE 3  
Proposed CPU Land Uses



## 2.4 Policies and Implementing Actions

The CPU contains policies and implementing actions to guide future development within the CPU area. The following policies are related to noise:

### Residential Development

- RES-5 Any residential development built within 500 feet of a freeway needs to be designed to minimize the exposure of freeway noise, including siting buildings and balconies perpendicular to the freeway, and using parking structures to shield units from noise.

### Commercial Development

- COM-7 Any new commercial development sited adjacent to residential development should provide for the privacy and noise attenuation of adjacent homes.

### Noise

- NOI-1 Beyond site planning strategies, new development within 500 feet of the freeway should include building design techniques that address noise exposure and the insulation of buildings to reduce interior noise levels to acceptable limits. Methods may include, but are not limited to, forced-air ventilation systems, double-paned or sound rated windows, sound insulating exterior walls and roofs, and attic vents.
- NOI-2 New development should include site planning techniques and landscaping to help minimize exposure of noise sensitive uses to rail corridor and trolley line noise.

### Area Specific: Freeway Adjacent

- FAD-1 Buildings adjacent to a freeway should be buffered from the freeway by off-street parking or ample landscaping.
- FAD-2 Freeway-adjacent buildings should be oriented such that courtyards and residential units with operable windows and balconies face away from the freeway.
- FAD-3 All residential units should be located above the freeway elevation.
- FAD-4 All freeway-adjacent development should incorporate noise attenuation measures.

### Implementing Actions: Public Facilities, Services, and Safety

- IA-91 Coordination. Work with the California Department of Transportation (Caltrans) to landscape freeway-highway rights-of-way buffers and install low noise pavement surfaces, berms, and noise barriers to mitigate state freeway and highway traffic noise.

- IA-92 Seek to reduce exposure, when parks are in noisier areas, through site planning, including locating the most noise sensitive uses, such as children's play areas and picnic tables, in the quieter areas of the site.
- IA-93 Exposure Mitigation. Limit future residential and other noise-sensitive land uses in areas exposed to high levels of noise.

## 3.0 Fundamentals of Noise and Vibration

### 3.1 Fundamentals of Noise

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Additionally, in technical terms, sound levels are described as either a “sound power level” or a “sound pressure level,” which while commonly confused are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as  $L_{pw}$ , is the energy converted into sound by the source. The  $L_{pw}$  is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an ear drum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level ( $L_{eq}$ ), the community noise equivalent level (CNEL), and the sound exposure level (SEL). The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies a 5 dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and a 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added

sensitivity of humans to noise during the evening and night. The SEL is a noise level over a stated period of time or event and normalized to one second.

Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation [Caltrans] 2013).

## **3.2 Fundamentals of Vibration**

Vibration consists of energy waves transmitted through solid material (Federal Transit Administration [FTA] 2006). Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz (FTA 2018).

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Groundborne vibration is measured by its peak particle velocity (PPV). The PPV is normally described in inches per second (inch/sec). PPV is appropriate for determining potential structure damage but does not evaluate human response to vibration. The ground motion caused by vibration may also be described in decibel notation (vibration decibels), referenced as VdB, which serves to compress the range of numbers required to describe vibration relative to human response. The general human response to different levels of groundborne vibration velocity levels is described in Table 2.

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
SOURCE: FTA 2018. VdB = vibration decibel	

Groundborne vibration can be a concern for nearby residents along a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to groundborne noise, described below, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains; buses on rough roads; and construction activities such as blasting, pile-driving, and operating heavy earth-moving equipment.

The rumbling sound caused by the vibration of building structures is referred to as groundborne noise. Like broadband noise, groundborne noise is usually characterized with the A-weighted sound level, which is intended to represent the normal frequency response of the human ear. However, there are potential problems when characterizing low-frequency noise using A-weighting, because human hearing causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. This is accounted for by setting the limits for groundborne noise lower than would be the case for broadband noise. The sound level accompanying vibration is generally 25 to 40 dB(A) lower than the vibration velocity level in VdB. Groundborne vibration levels of 65 VdB can result in groundborne noise levels up to 40 dB(A), which can disturb sleep. Groundborne vibration levels of 85 VdB can result in groundborne noise levels up to 60 dB(A), which can be annoying to daytime noise-sensitive land uses such as schools (FTA 2018).

## 4.0 Applicable Standards and Guidelines

The CPU area is exposed to noise from vehicle traffic on area roadways, trolley operations, construction, and from other local noise sources. Federal noise standards include transportation-related noise sources related to interstate commerce (i.e., aircraft, trains, and trucks) for which there are not more stringent state standards. State noise standards are set for automobiles, light trucks, and motorcycles. Local noise standards and guidelines are set for industrial, commercial, and construction activities subject to local noise ordinances and General Plan policies. The following is a detailed discussion of the applicable local regulations.

## 4.1 City of San Diego CEQA Thresholds

The noise section of the City of San Diego’s Significance Determination Thresholds for the California Environmental Quality Act (CEQA) identifies thresholds for traffic noise (City of San Diego 2016). These noise levels are summarized in Table 3 below.

<b>Table 3 Traffic Noise Significance Thresholds (dB[A] CNEL)</b>			
Structure or Proposed Use that would be Impacted by Traffic Noise	Interior Space	Exterior Useable Space*	General Indication of Potential Significance
Single-family detached	45 dB	65 dB	Structure or outdoor useable area is <50 feet from the center of the closest (outside) lane on a street with existing or future ADTs >7,500
Multi-family, school, library, hospital, day care center, hotel, motel, park, convalescent home	Development Services Department ensures 45 dB pursuant to Title 24	65 dB	
Office, church, business, professional uses	n/a	70 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >20,000
Commercial, retail, industrial, outdoor spectator sports uses	n/a	75 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >40,000
SOURCE: City of San Diego 2016. ADT = average daily traffic; dB = decibel *If a project is currently at or exceeds the significance thresholds for traffic noise described above and noise levels would result in less than a 3 dB increase, then the impact is not considered significant.			

## 4.2 California Code of Regulations

### 4.2.1 Noise Insulation Standards

Interior noise levels for habitable rooms are regulated by Title 24 of the California Code of Regulations (CCR; 2016), California Noise Insulation Standards. Title 24, Chapter 12, Section 1207 of the California Building Code requires that interior noise levels, attributable to exterior sources, not exceed 45 CNEL in any habitable room within a residential structure. A habitable room in a building is used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation (24 CCR 1207 2016).

## 4.2.2 California Green Building Standards Code – Environmental Comfort

For nonresidential structures, Title 24, Chapter 12, Section 1207.5 refers to 2016 California Green Building Standards (CALGreen), Chapter 5 – Nonresidential Mandatory Measures, Division 5.5 – Environmental Quality, Section 5.507 – Environmental Comfort, Subsection 5.507.4 – Acoustical Control. Pursuant to these standards, all nonresidential building construction shall employ building assemblies and components that achieve a composite sound transmission class rating of at least 50 or shall otherwise demonstrate that exterior noise shall not result in interior noise environment where noise levels exceed 50 A-weighted equivalent decibels [dB(A)  $L_{eq}$ ] in occupied areas during any hour of operation (24 CCR 1207.5 2016).

## 4.3 City of San Diego General Plan

The Noise Element of the General Plan specifies compatibility guidelines for different categories of land use. The land use compatibility guidelines are summarized in Table 4. As shown in Table 4, for a particular land use category, noise levels are either considered compatible, conditionally compatible, or incompatible. A “compatible” land use indicates that standard construction methods will attenuate exterior noise to an acceptable indoor noise level and people can carry out outdoor activities with minimal noise interference. Evaluation of land use that falls into the “conditionally compatible” noise environment should have an acoustical study. For land uses indicated as conditionally compatible, structures must be capable of attenuating exterior noise to the indoor noise level shown in Table 4. For land uses indicated as incompatible, new construction should generally not be undertaken. Due to severe noise interference, outdoor activities are unacceptable and for structures, extensive mitigation techniques are required to make the indoor environment acceptable.

The City specifies that residential structures shall be designed to prevent the intrusion of exterior noises such that interior noise levels attributable to exterior sources do not exceed 45 CNEL in noise-sensitive interior rooms. This conforms to Title 24 of the CCR, which requires interior noise levels for habitable rooms due to exterior sources not to exceed 45 CNEL (see Section 4.2.1). The City also specifies that the interior noise level due to exterior sources is not to exceed 45 CNEL for institutional uses and is not to exceed 50 CNEL for office buildings and commercial uses.

<b>Table 4 City of San Diego – Land Use – Noise Compatibility Guidelines</b>						
Land Use Category			Exterior Noise Exposure [dB(A) CNEL]			
			60	65	70	75
<i>Parks and Recreational</i>						
Parks, Active and Passive Recreation						
Outdoor Spectator Sports, Golf Courses; Water Recreational Facilities; Indoor Recreation Facilities						
<i>Agricultural</i>						
Crop Raising & Farming; Community Gardens, Aquaculture, Dairies; Horticulture Nurseries & Greenhouses, Animal Raising, Maintain & Keeping; Commercial Stables						
<i>Residential</i>						
Single Dwelling Units; Mobile Homes						
Multiple Dwelling Units *For uses affected by aircraft noise, refer to Policies NE-D.2. & NE-D.3.						
<i>Institutional</i>						
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities						
Other Educational Facilities including Vocational/Trade Schools and Colleges and Universities)						
Cemeteries						
<i>Retail Sales</i>						
Building Supplies/Equipment; Food, Beverages & Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Wearing Apparel & Accessories						
<i>Commercial Services</i>						
Building Services; Business Support; Eating & Drinking; Financial Institutions; Maintenance & Repair; Personal Services; Assembly & Entertainment (includes public and religious assembly); Radio & Television Studios; Golf Course Support						
Visitor Accommodations						
<i>Offices</i>						
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters						
<i>Vehicle and Vehicular Equipment Sales and Services Use</i>						
Commercial or Personal Vehicle Repair & Maintenance; Commercial or Personal Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking						
<i>Wholesale, Distribution, Storage Use Category</i>						
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution						
<i>Industrial</i>						
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries						
Research & Development						
	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level. Refer to Section I.			
		Outdoor Uses	Activities associated with the land use may be carried out.			
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas. Refer to Section I.			
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. Refer to Section I.			
	Incompatible	Indoor Uses	New construction should not be undertaken.			
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.			
SOURCE: City of San Diego General Plan 2015.						
dB(A) = A-weighted decibels; CNEL = community noise equivalent level						

In addition to the compatibility guidelines shown in Table 4, Section B of the Noise Element provides additional guidance for multi-family and mixed-use residential developments that is applicable to the CPU area. Section B of the Noise Element states that although not generally considered compatible, the City conditionally allows multi-family and mixed-use residential uses up to 75 CNEL with a requirement to include attenuation measures to ensure an interior noise level of 45 CNEL where a community plan allows multi-family and mixed-use. In addition, the General Plan contains the following policies regarding the preparation of acoustical studies and interior noise guidelines:

- NE-A.4. Require an acoustical study consistent with Acoustical Study Guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the “compatible” noise level thresholds as indicated on the Land Use – Noise Compatibility Guidelines (Table NE-3), so that noise mitigation measures can be included in the project design to meet the noise guidelines.
- NE-I.1. Require noise attenuation measures to reduce the noise to an acceptable noise level for proposed developments to ensure an acceptable interior noise level, as appropriate, in accordance with California’s noise insulation standards (CCR Title 24) and Airport Land Use Compatibility Plans.
- NE-I.2. Apply CCR Title 24 noise attenuation measures requirements to reduce the noise to an acceptable noise level for proposed single-family, mobile homes, senior housing, and all other types of residential uses not addressed by CCR Title 24 to ensure an acceptable interior noise level, as appropriate.
- NE-E.5. Implement night and daytime on-site noise level limits to address noise generated by commercial uses where it affects abutting residential and other noise-sensitive uses.

## 4.4 City of San Diego Municipal Code

While the General Plan Noise Element addresses land use compatibility of a proposed use with the surrounding noise environment, the City’s Municipal Code addresses the noise generated on-site impacting adjacent properties. This includes both on-site stationary noise and temporary construction noise.

### 4.4.1 Stationary Noise

Impacts to sensitive receptors generated by activities at a given location are regulated by the City’s Municipal Code. Section 59.5.0401 of the Noise Ordinance specifies maximum one-hour average sound level limits at the boundary of a property. These maximum one-hour sound level limits are the maximum noise levels allowed at any point on or beyond the property boundaries due to activities occurring on the property. Where two or more zones adjoin, the sound level limit is the arithmetic mean of the respective limits for the two zones. Table 5 shows the exterior noise limits specified in the City’s Noise Control Ordinance.



<b>Table 5 City of San Diego Property Line Noise Limits</b>			
Receiving Land Use Category	Noise Level [dB(A)]		
	7:00 a.m. to 7:00 p.m.	7:00 p.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
Single-family Residential	50	45	40
Multi-family Residential (up to a maximum density of 1 dwelling unit/2,000 square feet)	55	50	45
All Other Residential	60	55	50
Commercial	65	60	60
Industrial or Agricultural	75	75	75
SOURCE: City of San Diego, Municipal Code Section 59.5.0401.			

### 4.4.2 Construction Noise

Construction noise is regulated by the City’s Municipal Code. Section 59.5.0404 of the Municipal Code, the Noise Abatement and Control Ordinance, states that:

- A. It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise.
- B. . . . it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.

### 4.5 Vibration

Numerous public and private organizations and governing bodies have provided guidelines to assist in the analysis of groundborne noise and vibration. While the City has not established specific groundborne noise and vibration standards, guidelines from the FTA and Caltrans serve as a useful tool to evaluate vibration impacts. Caltrans guidelines recommend that a standard of 0.2 inch/sec PPV not be exceeded for the protection of normal residential buildings and that 0.08 inch/sec PPV not be exceeded for the protection of old or historically significant structures (Caltrans 2004). With respect to human response within residential uses (i.e., annoyance, sleep disruption), FTA recommends a maximum acceptable vibration standard of 80 VdB (FTA 2018).

## 5.0 Existing Conditions

### 5.1 Noise Measurements

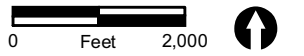
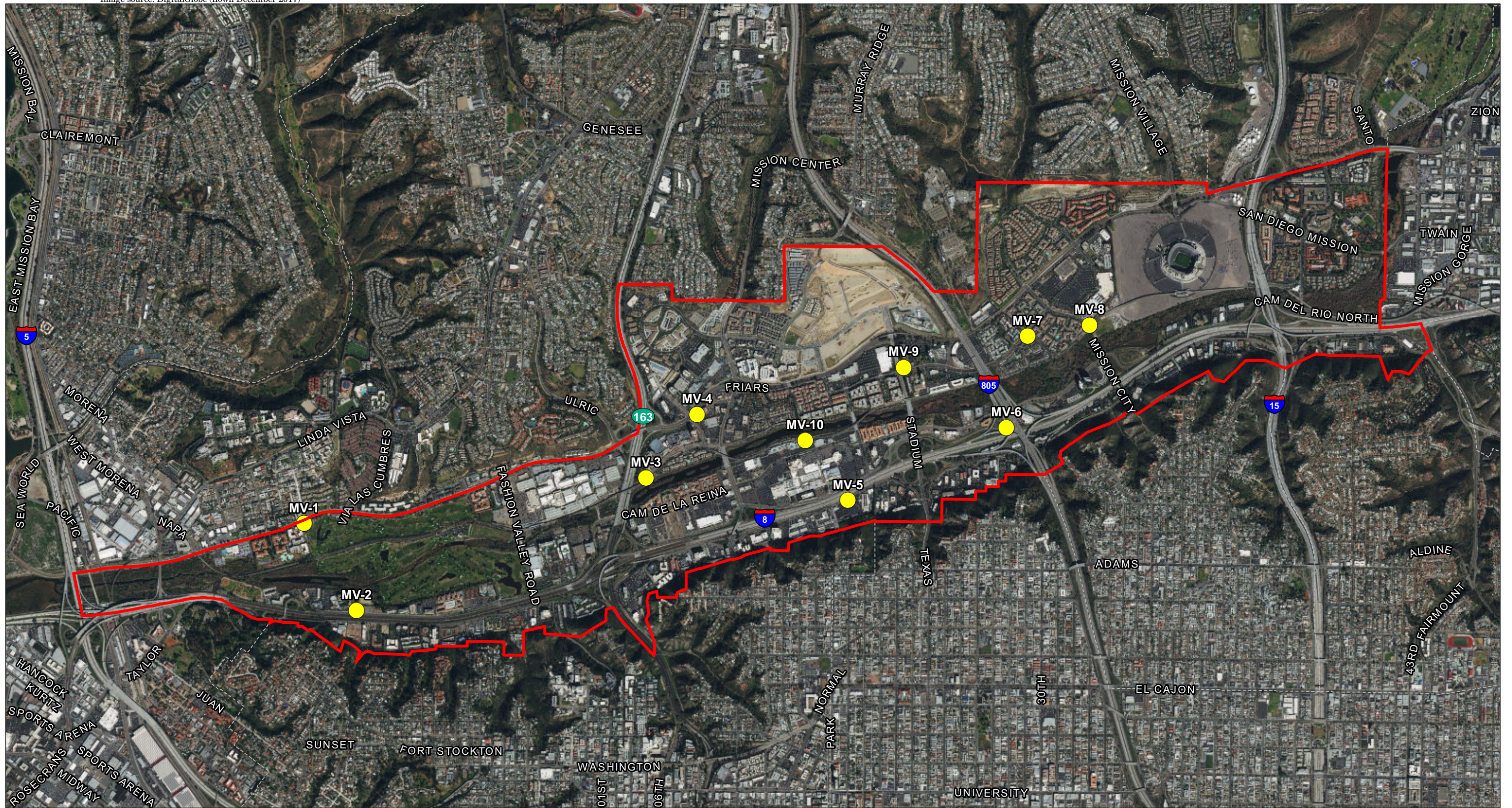
As part of this assessment, ambient noise levels were measured in the planning area to provide a characterization of the variability of noise and to assist in determining constraints and opportunities for future development. Ten 15-minute daytime noise level measurements were conducted throughout the study area. Noise measurements were taken with a Larson-Davis LxT Type 1 Integrating Sound Level Meters, serial numbers 3827. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds
Height of Instrument:	5 feet above ground level

Each measurement location is shown in Figure 4. A summary of the measurements is provided in Table 6, and traffic counts taken during measurements are summarized in Table 7. Noise measurement data are contained in Attachment 1. Based on the measurement data, daytime noise levels in the planning area are typical of an urban environment. Each measurement location and noise source observed during the measurements is discussed below.

ID <sup>1</sup>	Location	Date	Time	L <sub>eq</sub>
MV-1	Friars Road at Goshen Street	9/16/2015	1:07 p.m. – 1:22 p.m.	63.4
MV-2	Hotel Circle North east of the Crowne Plaza	9/16/2015	2:00 p.m. – 2:15 p.m.	65.1
MV-3	Hazard Center Drive west end	9/16/2015	2:41 p.m. – 2:56 p.m.	66.1
MV-4	Friars Road east of Frazee	9/16/2015	3:47 p.m. – 4:02 p.m.	65.2
MV-5	Camino del Rio South at the Scottish Right Event Center	9/16/2015	4:36 p.m. – 4:51 p.m.	73.0
MV-6	I-8 at I-805	9/16/2015	5:28 p.m. – 5:43 p.m.	76.4
MV-7	Rio San Diego Drive east of River Run Drive	9/17/2015	9:22 a.m. – 9:37 a.m.	56.2
MV-8	Fenton Parkway south end	9/17/2015	9:58 a.m. – 10:13 a.m.	59.9
MV-9	Qualcomm Way at Rio San Diego Drive	9/17/2015	11:03 a.m. – 11:18 a.m.	65.4
MV-10	San Diego Trolley east of Mission Valley Center Station	9/17/2015	12:12 p.m. – 12:27 p.m.	60.2

<sup>1</sup>Measurement locations are shown in Figure 4 and correspond to ID the provided above.  
L<sub>eq</sub> = one-hour equivalent noise level




-  Mission Valley Community Plan Boundary
-  Noise Measurement Locations

FIGURE 4  
Aerial Photograph of CPU Vicinity and Noise Measurement Locations

Measurement MV-1 was taken on Friars Road south of Goshen Street. The main source of noise at this measurement location was vehicle traffic on Friars Road. Traffic volumes on Friars Road during Measurement MV-1 were counted and the results are shown in Table 7. Other sources of noise included vehicle traffic on Goshen Street and vehicles entering and exiting the Courtyards condominium complex. The average measured noise level was 63.4 dB(A)  $L_{eq}$ .

Measurement MV-2 was taken on Hotel Circle North east of the Crowne Plaza and west of the parking lot of Budget Truck Rental. The main source of noise at this measurement location was vehicle traffic on I-8. Other sources of noise included vehicle traffic on Hotel Circle North. Traffic volumes on Hotel Circle North during Measurement MV-2 were counted and the results are shown in Table 7. The average measured noise level was 65.1 dB(A)  $L_{eq}$ .

Measurement MV-3 was taken 100 feet west of the end of Hazard Center Drive and 50 feet north of the San Diego Trolley Line. The main source of noise at this measurement location was vehicle traffic on SR-163. Additionally, during this measurement a trolley passed by generating noise levels up to 75.0 dB(A). The average measured noise level was 66.1 dB(A)  $L_{eq}$ .

Measurement MV-4 was taken on Friars Road east of Frazee Road in front of Robbins Brothers Engagement Ring Store. The main source of noise at this measurement location was vehicle traffic on Friars Road. Traffic volumes on Friars Road during Measurement MV-4 were counted and the results are shown in Table 7. This included vehicles queueing at red lights and vehicles accelerating when lights turned green. Other sources of noise included vehicle traffic on Frazee Road. The average measured noise level was 65.2 dB(A)  $L_{eq}$ .

Measurement MV-5 was taken in the parking lot of the Scottish Rite Event Center overlooking Camino del Rio South. The main source of noise at this measurement location was vehicle traffic on I-8. Other sources of noise included vehicle traffic on Camino del Rio South. Traffic volumes on Camino del Rio South during Measurement MV-5 were counted and the results are shown in Table 7. The average measured noise level was 73.0 dB(A)  $L_{eq}$ .

Measurement MV-6 was taken in the parking lot north of I-8 and east of I-805. At this location, I-805 and associated on- and off-ramps are elevated above the measurement location. The main sources of noise at this measurement location were vehicle traffic on I-8 and ramps connecting I-8 and I-805. Other sources of noise included parking lot activities and construction equipment approximately 700 feet away. The average measured noise level was 76.4 dB(A)  $L_{eq}$ .

Measurement MV-7 was taken on Rio San Diego Drive between River Run Drive and Fenton Parkway. The main source of noise at this measurement location was vehicle traffic on Rio San Diego Drive. Traffic volumes on Rio San Diego Drive during Measurement MV-7 were counted and the results are shown in Table 7. Other sources of noise included activities associated with the adjacent Club River Run Apartment Homes complex such as a leaf blower approximately 200 to 300 feet away, movers loading furniture from a residence

approximately 300 feet away, and vehicles entering and exiting the parking lot approximately 50 feet way. Additionally, a plane flyover occurred during the measurement. The average measured noise level was 56.2 dB(A)  $L_{eq}$ .

Measurement MV-8 was taken on the sidewalk east of the south end of Fenton Parkway and immediately adjacent to the San Diego Trolley Line at Fenton Parkway Station. The main source of noise at this measurement location was trolley activity. During the measurement one eastbound and one westbound trolley pass-by occurred. Pass-bys resulted in noise levels of up to 72.6 dB(A). Other sources of noise included vehicle traffic on I-8 and Fenton Parkway. The average measured noise level was 59.9 dB(A)  $L_{eq}$ .

Measurement MV-9 was taken on Qualcomm Way, north of Rio San Diego Drive, on the walkway connecting Qualcomm Way to the parking lot for the U.S. Department of Veterans Affairs building. The main source of noise at this measurement location was vehicle traffic on Qualcomm Way. Traffic volumes on Qualcomm Way during Measurement MV-9 were counted and the results are shown in Table 7. Other sources of noise included vehicle traffic on Rio San Diego Drive. The average measured noise level was 65.4 dB(A)  $L_{eq}$ .

Measurement MV-10 was taken in the parking lot north of Camino de la Reina, west of Camino del Este. The measurement was taken approximately 25 feet south of the San Diego Trolley Line. The main source of noise at this measurement location was trolleys. During the measurement one eastbound and one westbound trolley pass-by occurred. Pass-bys resulted in noise levels of up to 80.3 dB(A). Other sources of noise included parking lot activities and vehicle traffic on Camino de la Reina (approximately 250 feet way). The average measured noise level was 60.2 dB(A)  $L_{eq}$ .

Measurement	Roadway	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	Friars Road	Westbound	128	1	0	1	2
		Eastbound	142	4	1	0	0
2	Hotel Circle North	Westbound	28	0	0	1	0
		Eastbound	23	0	0	2	0
4	Friars Road	Westbound	420	2	0	0	1
		Eastbound	660	3	0	0	7
5	Camino del Rio South	Westbound	156	1	0	0	0
		Eastbound	69	0	0	0	0
7	Rio San Diego Drive	Westbound	53	1	0	0	0
		Eastbound	44	0	0	0	0
9	Qualcomm Way	Northbound	97	6	3	0	1
		Southbound	79	5	2	0	0

NOTE: Traffic counts were not conducted during Measurements 3, 6, 8, or 10. The main source of noise during Measurements 3 and 10 was vehicle traffic on freeways and freeway traffic volumes could not be manually counted. The main source of noise during Measurements 6 and 8 was trolley activity.

## 5.2 Existing Vehicle Traffic Noise Contours

The roads generating the greatest noise level in the CPU area are I-5, I-8, I-15, I-805, SR-163, and Friars Road. The noise contour distances represent the predicted noise level for each roadway without the attenuating effects of noise barriers, structures, topography, or dense vegetation. As intervening structures, topography, and dense vegetation would affect noise exposure at a particular location, the noise contours should not be considered site-specific but are rather guides to determine when detailed acoustic analysis should be undertaken.

Figure 5 shows the existing vehicle traffic noise contours for the CPU area. As shown, existing noise levels throughout the community exceed 60 CNEL. The local freeways are the dominant noise sources in the CPU area. Noise contours from the freeways in many cases overlap with and encompass the noise contours from local roadways. The distances to various traffic CNEL noise contours for these major roads are provided in Attachment 2.

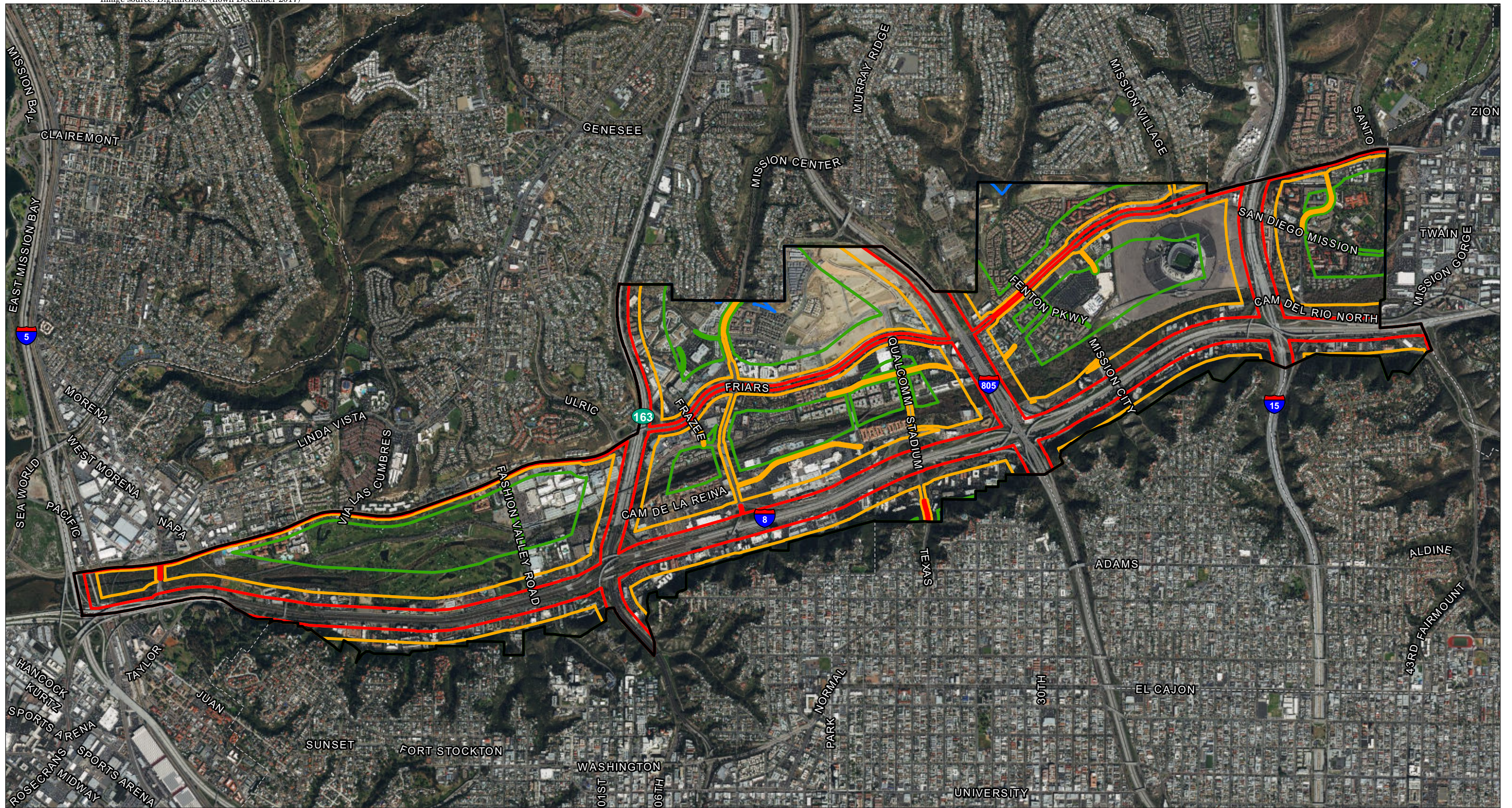
## 5.3 Existing Trolley Noise Contours

The San Diego Metropolitan Transit System (MTS) Green Line Trolley traverses an east-west railway alignment that includes nine trolley stops in the CPU area. On weekdays, 96 trolley passes occur during daytime hours (7 a.m. to 7 p.m.), 19 trolley passes occur during evening hours (7 p.m. to 10 p.m.), and 33 trolley passes occur during nighttime hours (10 p.m. to 7 a.m.). There are fewer trolley pass-bys on Saturdays and Sundays, therefore, the worst-case weekday scenario was modeled. Existing contour distances were calculated. Figure 6 shows the existing trolley noise contours for the CPU area. As shown, the 60 CNEL contour extends up to approximately 270 feet from the center of the trolley tracks between the Old Town and Grantville trolley stations, and the 65 CNEL contour extends up to approximately 85 feet of the trolley tracks. Trolley contours noise calculation data is provided in Attachment 3.

## 6.0 Noise Sources and Analysis Methodology

### 6.1 Vehicle Traffic Noise

Traffic noise occurs adjacent to every roadway and is directly related to the traffic volume, speed, and mix of vehicles. Traffic volumes and speeds for the local roadways were obtained from the traffic impact analysis prepared for the CPU (Chen Ryan Associates 2018). Existing freeway volumes were obtained from Caltrans traffic counts (Caltrans 2016a). Future freeway volumes were obtained from the San Diego Association of Governments' Transportation Forecast Information Center (SANDAG 2018).



□ Mission Valley Community Plan Boundary **Traffic Noise Contours**

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

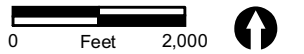
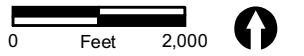
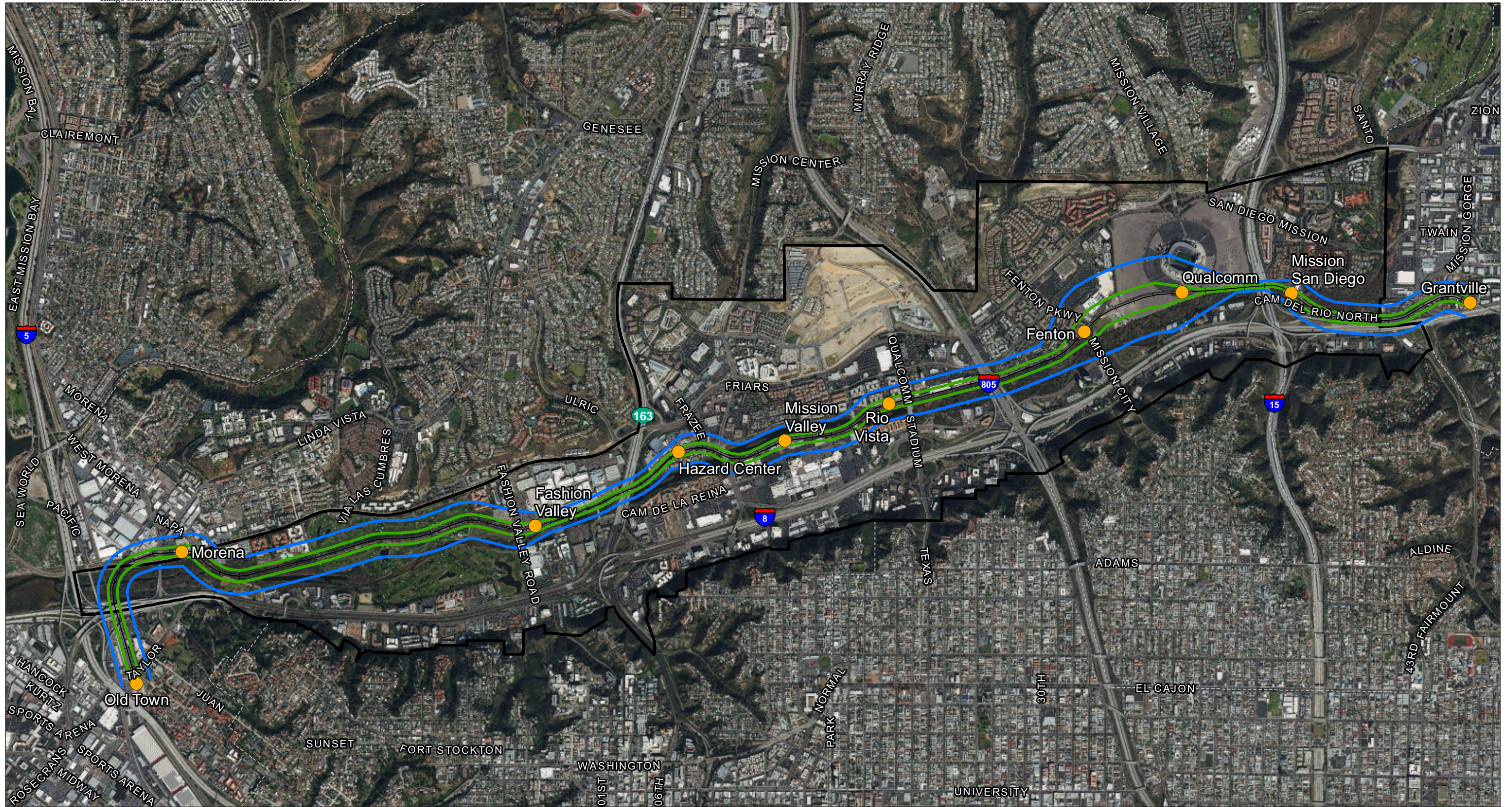


FIGURE 5  
Existing Vehicle Traffic Noise Contours



- Mission Valley Community Plan Boundary
- Trolley Line
- Trolley Stations
- Trolley Noise Contours
- 60 CNEL
- 65 CNEL

FIGURE 6  
Trolley Noise Contours



The traffic mix (i.e., autos, medium trucks, and heavy trucks) for I-5, I-8, I-15, I-805, and SR-163 were derived from Caltrans truck counts (Caltrans 2016b). The traffic mixes are summarized in Table 8 along with the vehicle traffic parameters used in this analysis for each roadway segment. For local roadways in the CPU area, a traffic mix of 96 percent cars, 3 percent medium trucks, and 1 percent heavy trucks was modeled. This is consistent with traffic counts taken during the existing noise measurements, and similar to Caltrans truck counts for most area freeways.

The Federal Highway Administration (FHWA) Traffic Noise Model algorithms were used to calculate distances to noise contours for each roadway. The FHWA model takes into account traffic mix, speed, and volume; roadway gradient; relative distances between sources, barriers, and sensitive receptors; and shielding provided by intervening terrain or structures.

The analysis of the noise environment considered that the topography was flat with no intervening terrain between sensitive land uses and roadways. Because modeled predicted noise levels do not account for obstructions, they are higher than those which would actually occur. In actuality, buildings and other obstructions along the roadways would shield distant receivers from the traffic noise. Existing and future vehicle traffic noise calculations are provided in Attachment 2.

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
I-5	Washington Street	Old Town Avenue	203,000	185,100	65	96.1	2.9	1.0
	Old Town Avenue	I-8	205,000	231,000	65			
	I-8	Sea World Drive	207,000	192,600	65			
	Sea World Drive	Clairemont Drive	222,000	243,600	65			
I-8	Midway Drive	I-5	102,000	107,900	65	96.8	2.5	0.7
	I-5	Morena Boulevard	134,000	150,100	65			
	Morena Boulevard	Hotel Circle/ Taylor Street	196,000	199,400	65			
	Hotel Circle/ Taylor Street	Hotel Circle	199,000	199,400	65			
	Hotel Circle	SR-163	215,000	211,300	65			
	SR-163	Mission Center Road	221,000	196,300	65			
	Mission Center Road	Texas Street	237,000	221,500	65			
	Texas Street	I-805	210,000	193,000	65			
	I-805	I-15	246,000	247,000	65			
	I-15	Fairmount Avenue	224,000	297,300	65			
I-15	Fairmount Avenue	Waring Road	247,000	242,200	65	96.0	2.8	1.2
	El Cajon Boulevard	Adams Avenue	169,000	209,000	65			
	Adams Avenue	I-8	177,000	219,600	65			
	I-8	Friars Road	217,000	276,100	65			
I-805	Friars Road	Aero Drive	224,000	255,100	65	93.6	4.1	2.3
	El Cajon Boulevard	Adams Avenue	192,000	223,600	65			
	Adams Avenue	I-8	213,000	250,700	65			
	I-8	Murray Ridge	203,000	254,800	65			
SR-163	Murray Ridge	Kearny Villa Road	199,000	260,900	65	96.5	2.7	0.8
	Washington Street	6th Avenue	130,000	134,700	65			
	6th Avenue	I-8	162,000	194,600	65			
	I-8	Friars Road	153,000	187,300	65			
	Friars Road	Genesee Avenue	179,000	214,900	65			
Phyllis Place	Genesee Avenue	Mesa College Drive	163,000	211,100	65	96.0	3.0	1.0
	Abbotshill Road	I-805 SB Ramps	2,270	32,600	25			
Sea World Drive	Mission Bay Parkway	Friars Road	34,200	41,200	50	96.0	3.0	1.0
	Friars Road	I-5 SB Ramps	29,490	34,800	40			
Tecolote Road	I-5 SB Ramps	I-5 NB Ramps	30,470	34,800	40	96.0	3.0	1.0
	I-5 NB Ramps	Morena Boulevard	22,410	31,900	35			

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
Mission Valley Road	Frazee Road	Metropolitan Drive	7,440	6,500	25	96.0	3.0	1.0
	Metropolitan Drive	Mission Center Road	7,440	16,400				
Civita Boulevard	Mission Center Road	Via Alta	2,480	5,000	25	96.0	3.0	1.0
	Via Alta	Qualcomm Way	2,480	4,200	25	96.0	3.0	1.0
	Qualcomm Way	Franklin Ridge Road	--	11,000	25	96.0	3.0	1.0
Westside Drive	Mission Center Road	Via Alta	4,070	5,100	25	96.0	3.0	1.0
Friars Road	Sea World Drive	Napa Street	13,650	15,400	55	96.0	3.0	1.0
	Napa Street	Colusa Street	19,170	19,400	45			
	Colusa Street	Via las Cumbres	19,200	25,200	45			
	Via las Cumbres	Fashion Valley Road	22,270	24,600	45			
	Fashion Valley Road	Via de la Moda	26,100	27,200	45			
	Via de la Moda	Fashion Valley Driveway	25,920	26,500	45			
	Fashion Valley Driveway	Avenida de las Tiendas	26,830	41,300	45			
	Avenida de las Tiendas	Ulric Street/ SR-163 SB Ramps	40,510	58,200	45			
	Ulric Street/ SR-163 SB Ramps	SR-163 NB Ramps	53,170	55,600	45			
	SR-163 NB Ramps	Frazee Road	54,150	45,400	45			
	Frazee Road	Mission Center Road	42,780	41,500	45			
	Mission Center Road	Qualcomm Way	37,050	35,500	45			
	Qualcomm Way	River Run Drive	33,250	38,900	45			
	River Run Drive	Fenton Parkway	22,080	40,200	45			
	Fenton Parkway	Northside Drive	28,430	34,300	45			
	Northside Drive	San Diego Mission Road	45,330	51,700	45			
	San Diego Mission Road	I-15 SB Ramps	57,740	85,200	45			
	I-15 SB Ramps	I-15 NB Ramps	46,570	74,100	45			
	I-15 NB Ramps	Rancho Mission Road	51,610	70,300	45			
	Rancho Mission Road	Santo Road	39,430	58,700	45			
Santo Road	Riverdale Street	43,380	62,000	45				

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
	Riverdale Street	Mission Gorge Road	31,300	42,600	45			
Mission Gorge Road	Friars Road	Zion Avenue	40,690	33,200	45	96.0	3.0	1.0
Hazard Center Drive	Avenida del Rio	Hazard Center W. Driveway	--	12,500	35	96.0	3.0	1.0
	Hazard Center W. Driveway	Mission Center Road	8,710	15,900	35	96.0	3.0	1.0
Rio San Diego Drive	Gill Village Way	Qualcomm Way	10,500	15,600	40	96.0	3.0	1.0
	Qualcomm Way	River Run Drive	11,280	14,700	40			
	River Run Drive	Fenton Parkway	9,090	13,900	40			
San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	7,590	12,400	40	96.0	3.0	1.0
	Rancho Mission Road	950 feet West of Fairmount Avenue	8,020	13,700	35			
	950 feet West of Fairmount Avenue	Fairmount Avenue	8,020	13,700	35			
Taylor Street	Pacific Highway	Morena Boulevard	19,060	18,800	35	96.0	3.0	1.0
	Morena Boulevard	I-8 EB Ramps	17,750	4,000	35			
	I-8 EB Ramps	Hotel Circle South	14,410	5,000	35			
Hotel Circle North (Existing Network)	Hotel Circle South	Hotel Circle Place	15,340	--	35	96.0	3.0	1.0
	Hotel Circle Place	I-8 WB Ramps	6,510	--	35			
	I-8 WB Ramps	Fashion Valley Road	15,510	--	40			
	Fashion Valley Road	Camino de la Reina	12,460	--	35			
Hotel Circle North (Proposed Network)	Hotel Circle South	Fashion Valley Road	--	8,200	35	96.0	3.0	1.0
	Fashion Valley Road	I-8 WB Off-ramp	--	14,200	35			
	I-8 WB Off-ramp	Street "J"	--	35,000	35			
	Street "J"	I-8 WB On-ramp	--	15,300	35			
	I-8 WB On-ramp	Hotel Circle South	--	3,300	35			

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
Camino de la Reina	Hotel Circle North	Avenida del Rio	8,480	9,900	25	96.0	3.0	1.0
	Avenida del Rio	Camino de la Siesta	13,360	17,100	30			
	Camino de la Siesta	Mission Center Road	10,730	10,800	30			
	Mission Center Road	Camino del Este	18,530	19,700	30			
	Camino del Este	Qualcomm Way	13,770	13,200	30			
Camino del Rio North	Camino de la Siesta	Mission Center Road	5,430	12,800	35	96.0	3.0	1.0
	Mission Center Road	I-8 WB Ramps	24,030	29,600	35			
	I-8 WB Ramps	Camino del Este	11,910	11,300	35			
	Camino del Este	Qualcomm Way	12,180	21,500	35			
	Qualcomm Way	Mission City Parkway	10,590	15,700	45			
	Mission City Parkway	800 feet East of Mission City Parkway	8,080	8,900	30			
	800 feet East of Mission City Parkway	1,800 feet West of Ward Road	8,060	8,900	45			
	1,800 feet West of Ward Road	Ward Road	8,920	9,700	45			
	Ward Road	1,000 feet West of Fairmount Avenue	11,830	9,700	45			
	1,000 feet West of Fairmount Avenue	Fairmount Avenue	13,470	20,400	45			
Hotel Circle South	Taylor Street	1,200 feet East of Hotel Circle North	12,010	3,100	35	96.0	3.0	1.0
	1,200 feet East of Hotel Circle North	I-8 Ramps	12,340	3,100	35			
	I-8 Ramps	Street "J"	17,200	15,500	35			
	Street "J"	I-8 EB Ramps	17,200	30,200	35			
	I-8 EB Ramps	Bachman Place	17,200	14,100	35			
	Bachman Place	Hotel Circle North	15,580	14,700	35			
Camino del Rio South	Western Terminus	1,800 feet west of Mission Center Road	7,330	7,500	25	96.0	3.0	1.0
	1,800 feet west of Mission Center Road	Mission Center Road	6,870	7,500	35			
	Mission Center Road	Texas Street	7,410	8,700	35			

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
	Texas Street	Mission City Parkway	8,140	11,200	35			
	Mission City Parkway	I-15 SB Off-ramp	11,750	14,100	45			
	I-15 SB Off-ramp	I-15 SB On-ramp	9,580	17,000	40			
	I-15 SB On-ramp	Fairmount Avenue	6,370	7,700	40			
West Morena Boulevard	Tecolote Road	Morena Boulevard	--	16,700	35	96.0	3.0	1.0
Morena Boulevard	Tecolote Road	West Morena Boulevard	16,180	--	35	96.0	3.0	1.0
	West Morena Boulevard	Linda Vista Road	17,740	16,100	40			
	Linda Vista Road	I-8 WB Off-ramp	41,930	28,900	40			
	I-8 WB Off-ramp	Taylor Street	11,570	15,600	35			
Napa Street	Morena Boulevard	Friars Road	13,430	15,700	25	96.0	3.0	1.0
Colusa Street	Linda Vista Road	Friars Road	2,720	2,700	25	96.0	3.0	1.0
Via Las Cumbres	Linda Vista Road	Friars Road	10,920	12,200	35	96.0	3.0	1.0
	Friars Road	South End (dead end before trolley tracks)	--	5,000	35	96.0	3.0	1.0
Street "J"	Friars Road	Riverwalk Drive	--	11,300	35	96.0	3.0	1.0
	Riverwalk Drive	Levi-Cushman Street "B"	--	17,200	35	96.0	3.0	1.0
	Levi-Cushman Street "B"	Hotel Circle North	--	17,900	35	96.0	3.0	1.0
Fashion Valley Road	Friars Road	Riverwalk Drive	9,980	8,200	35	96.0	3.0	1.0
	Riverwalk Drive	Levi-Cushman Street "B"	9,980	17,400	35			
	Levi-Cushman Street "B"	Hotel Circle North	9,980	24,600	35			
Bachman Place	Hotel Circle South	Lewis Street	9,140	20,800	40	96.0	3.0	1.0
Avenida del Rio	Fashion Valley Parking Lot	Camino de la Reina	8,740	19,100	35	96.0	3.0	1.0
Ulric Street	Fashion Hills Boulevard	600 feet South of Fashion Hills Boulevard	20,380	25,800	40	96.0	3.0	1.0
	600 feet South of Fashion Hills Boulevard	Friars Road	20,430	27,100	40			

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
Camino de la Siesta	Camino de la Reina	Camino del Rio North	5,150	9,400	25	96.0	3.0	1.0
Metropolitan Drive	Mission Valley Road	Murray Canyon Road	3,840	11,400	25	96.0	3.0	1.0
	Murray Canyon Road	Frazee Road	3,840	200				
Murray Canyon Road	Metropolitan Drive	Frazee Road	7,400	5,600	25	96.0	3.0	1.0
Frazee Road	Metropolitan Drive	Murray Canyon Road	--	6,200	25	96.0	3.0	1.0
	Murray Canyon Road	Friars Road	14,670	20,400	30			
	Friars Road	Hazard Center Drive	17,050	19,200	30			
Mission Center Road	Murray Ridge Road	1,200 feet West of Murray Ridge Road	10,970	14,700	45	96.0	3.0	1.0
	1,200 feet West of Murray Ridge Road	950 feet North of Mission Valley Road	10,720	14,700	45			
	950 feet North of Mission Valley Road	Mission Valley Road	10,940	14,700	40			
	Mission Valley Road	Westside Drive	14,170	20,100	40			
	Westside Drive	Friars Road WB Ramps	26,020	33,000	40			
	Friars Road WB Ramps	Friars Road EB Ramps	22,830	25,600	40			
	Friars Road EB Ramps	Mission Center Court	19,470	22,400	40			
	Mission Center Court	Hazard Center Drive	19,450	26,100	40			
	Hazard Center Drive	Camino de la Reina	27,060	32,100	40			
	Camino de la Reina	Camino del Rio North	23,280	31,700	40			
Auto Circle	Camino del Rio North	I-8 EB Ramps	34,100	41,100	40	96.0	3.0	1.0
	I-8 EB Ramps	Camino del Rio South	20,980	18,000	40			
Via Alta	Franklin Ridge Road	Civita Boulevard	1,340	10,900	25	96.0	3.0	1.0
	Civita Boulevard	Westside Drive	1,340	6,400	25			
Murray Ridge Road	Mission Center Road	I-805 NB Ramps	20,000	23,800	35	96.0	3.0	1.0
	I-805 NB Ramps	I-805 SB Ramps	11,700	24,300	35			
Russell Park Way	Friars Road	Civita Boulevard	1,020	7,400	30	96.0	3.0	1.0

Table 8 Vehicle Traffic Parameters								
Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
Camino del Este	Rio San Diego Drive	Camino de la Reina	8,450	13,900	35	96.0	3.0	1.0
	Camino de la Reina	Camino del Rio North	9,880	18,200	25			
Franklin Ridge Road	Phyllis Place	Via Alta	--	31,800	25	96.0	3.0	1.0
	Via Alta	Civita Boulevard	--	17,100	25			
Qualcomm Way	Civita Boulevard	Friars Road WB Ramps	--	19,700	30	96.0	3.0	1.0
	Friars Road WB Ramps	Friars Road EB Ramps	9,300	30,300	35			
	Friars Road EB Ramps	Rio San Diego Drive	10,200	26,300	35			
	Rio San Diego Drive	Camino del Rio North	24,330	42,700	35			
	Camino del Rio North	I-8 WB Ramps	23,560	49,400	35			
	I-8 WB Ramps	I-8 EB Ramps	36,410	53,500	35			
Texas Street	I-8 EB Ramps	Camino del Rio South	25,830	32,100	35	96.0	3.0	1.0
	Camino del Rio South	1,400 feet North of Madison Avenue	29,050	33,200	40			
	1400 Feet North of Madison Ave	Madison Avenue	29,240	33,200	40			
	Madison Avenue	Meade Avenue	17,090	20,400	25			
River Run Drive	Meade Avenue	El Cajon Boulevard	14,310	15,600	25	96.0	3.0	1.0
	Friars Road	Rio San Diego Drive	4,030	4,100	25			
Fenton Parkway	Portofino Driveway	Friars Road	4,120	4,900	25	96.0	3.0	1.0
	Friars Road	Rio San Diego Drive	12,610	15,700	30			
	Rio San Diego Drive	Del Rio Apartments Driveway	5,400	9,300	30			
	Del Rio Apartments Driveway	New Street I	--	9,300	30			
	New Street I	Camino del Rio North	--	13,900	30			
Mission City Parkway	Camino del Rio North	Camino del Rio South	6,430	11,000	35	96.0	3.0	1.0
Northside Drive	Portofino Driveway	Friars Road	6,590	5,100	25	96.0	3.0	1.0
	Friars Road	Fenton Marketplace Driveway	20,310	24,600	30			



Roadway	Segment		Existing ADT	Future ADT	Speed (mph)	Vehicle Mix (Percent)		
	From	To				Autos	Medium Trucks	Heavy Trucks
	Fenton Marketplace Driveway	Lowe's Frontage Road	15,890	19,600	30			
Mission Village Drive	Ronda Avenue	Friars Road WB Ramps	17,220	17,900	45	96.0	3.0	1.0
	Friars Road WB Ramps	Friars Road EB Ramps	13,660	30,600	45			
Rancho Mission Road	Friars Road	San Diego Mission Road	12,820	16,200	35	96.0	3.0	1.0
	San Diego Mission Road	Camino del Rio North	--	19,300	35			
Ward Road	San Diego Mission Road	Camino del Rio North	9,580	--	35	96.0	3.0	1.0
Santo Road	Northern Terminus	Friars Road	6,360	15,700	30	96.0	3.0	1.0
Riverdale Street	Zion Road	Friars Road	2,770	2,200	30	96.0	3.0	1.0
	Friars Road	Vandever Avenue	8,900	26,500	30			
Mission Gorge Road	Friars Road	Camino del Rio North	14,710	22,700	30	96.0	3.0	1.0
Fairmount Avenue	Camino del Rio North/I-8 WB Off-ramp	I-8 EB Off-ramp	40,210	53,300	35	96.0	3.0	1.0
	I-8 EB Off-ramp	Camino del Rio South	82,880	93,300	35			
Riverwalk Drive	West of Street "J"		--	6,000	25	96.0	3.0	1.0
	Street "J"	Fashion Valley Road	--	3,700	25			
	Fashion Valley Road	Avenida del Rio	--	15,200	25			
Levi-Cushman Street "B"	Street "J"	Fashion Valley Road	--	11,300	35	96.0	3.0	1.0
Goshen Street	Linda Vista Road	Gaines Street	--	4,300	25	96.0	3.0	1.0
	Gaines Street	Friars Road	--	3,400	25			
	Friars Road	South End	--	3,900	25			
New Street "I"	Mission City Parkway	Eastern End	--	11,900	25	96.0	3.0	1.0
Gill Village Way	Friars Road	Rio San Diego Drive	--	5,700	25	96.0	3.0	1.0
Rio Bonito Way	Friars Road	Rio San Diego Drive	--	4,100	25	96.0	3.0	1.0

SOURCE: Chen Ryan Associates 2018; Caltrans 2016a; Caltrans, 2016b.  
ADT = average daily traffic; EB = eastbound; WB = westbound

## 6.2 Trolley Noise

Noise associated with trolley operations was modeled using the FTA recommended Chicago Rail Efficiency and Transportation Efficiency (CREATE) railroad noise model (Harris Miller Miller & Hanson, Inc. 2006).

The San Diego MTS provides trolley service along a railway alignment designated the “Green Line.” The Green Line Trolley generally parallels I-8 throughout the planning area. The trolleys travel between 15 and 60 miles per hour (mph). This is based on the distances between trolley stations and the average timing between stations obtained from published trolley schedules. Noise contour distances were calculated assuming flat-site conditions and no intervening buildings that would provide noise attenuation.

## 6.3 Stationary Noise

Stationary sources of noise include activities associated with a given land use. The CPU area includes multiple land uses, including residential, commercial, and mixed-use land uses as well as recreational and institutional uses. Various land uses contain on-site stationary noise sources, including rooftop heating, ventilation, and air conditioning (HVAC) equipment; mechanical equipment; emergency electrical generators; parking lot activities; loading dock operations; and recreation activities. Stationary noise is considered a “point source” and attenuates over distance at a rate of 6 dB(A) for each doubling of distance. The exact location and nature of future stationary noise sources is not known at this time and can, therefore, not be calculated in this analysis. Impacts are assessed in this analysis by identifying potential types of stationary sources and locations of mixed-use land use interfaces and identifying applicable regulations and mitigation framework for addressing impacts.

## 6.4 Construction Noise

No specific construction or development is proposed under the CPU at this time but would occur when future development under the CPU is proposed. Future development as allowed under the proposed CPU could potentially result in temporary ambient noise increase due to construction activities.

Construction noise has the potential to result in temporary ambient noise increase due to construction activities. Construction noise is generated by diesel-powered construction equipment used for site preparation and grading, removal of existing structures and pavement, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also bring materials to the site and remove the spoils from excavation. Table 9 summarizes typical construction equipment noise levels.

Table 9 Typical Construction Equipment Noise Levels		
Equipment	Noise Level at 50 Feet [dB(A) $L_{eq}$ ]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt ampts or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%
SOURCE: FHWA 2006. dB(A) $L_{eq}$ = A-weighted decibels average noise level		

Construction equipment would generate maximum noise levels between 70 and 95 dB(A)  $L_{max}$  at 50 feet from the source when in operation. During excavation, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Average construction noise levels were calculated for the simultaneous operation of three common pieces of construction equipment: backhoe, excavator, and loader. The usage factors were applied to the maximum noise level at 50 feet for each piece of equipment, and then noise levels were added logarithmically. Hourly average noise levels would be approximately 83 dB(A)  $L_{eq}$  at 50 feet from the center of construction activity when assessing three pieces of common construction equipment working simultaneously. Noise levels would vary depending on the nature of the construction including the duration of specific activities, nature of the equipment involved, location of the particular receiver, and nature of intervening barriers.

Impacts are assessed in this analysis by identifying potential construction noise levels and buffer distances at which construction noise levels would be less than the noise levels identified in the City's Noise Abatement and Control Ordinance (75 dB).

## **6.5 Vibration**

Potential sources of ground-borne vibration could come from railway operations. For conventional commuter railroad traffic such as the train and freight traffic that occurs on the railway at the western CPU area boundary, the FTA provides generalized screening distances for land uses that may be subject to vibration impacts (FTA 2018). For Category 1 uses such as vibration sensitive equipment, the screening distance from the right-of-way is 600 feet. For Category 2 land uses such as residences and buildings where people would normally sleep, the screening distance is 200 feet. The screening distance for Category 3 land uses such as institutional land uses with primarily daytime uses, is 120 feet. These screening distances were used to assess vibration impacts due to the railway at the western CPU area boundary.

The east-west tracks that bisect the CPU area provide only trolley service (Green Line Trolley) and do not include larger commuter trains or freight trains. Trolleys do not generate the same vibration levels as larger trains. Additionally, portions of the Green Line Trolley are elevated above grade and would not cause significant vibration at adjacent uses. Thus, the screening distances discussed above would be overly conservative. Therefore, for portions of the railway that are at-grade, rather than using the generalized screening distances for conventional commuter railroad traffic, FTA methodology and equations provided in their Transit Noise and Vibration Impact Assessment Manual (FTA 2018) were used to calculate potential site-specific vibration levels within the CPU area.

## **7.0 Future Acoustical Environment and Impacts**

### **7.1 Increase in Ambient Noise**

As discussed in Section 5.1, Noise Measurements, existing noise levels were measured in the CPU area to identify existing ambient noise conditions (refer to Table 6).

Traffic noise generally dominates the noise environment around the CPU area. Future development implemented under the CPU would increase traffic along local roadways due to increased allowable density and intensity of uses throughout the CPU area. Traffic noise increases may affect various noise-sensitive land uses, including residences. Using the traffic parameters summarized in Section 6.1, a traffic noise analysis has been completed for the build-out of the CPU. Table 10 summarizes the existing and build-out traffic noise levels along various roadway segments in the CPU area. Roadway noise is measured in CNEL at 50 feet from the roadway centerline.

A significant impact would occur if build-out of the CPU would result in traffic noise levels that exceed the City’s significance thresholds for traffic noise (see Table 3). Per the City’s significance thresholds, if a land use is currently at or exceeds the significance thresholds for traffic noise, then an increase of more than 3 dB is considered significant.

**Table 10  
Increases in Ambient Vehicle Traffic Noise  
(CNEL at 50 feet from Centerline)**

Roadway	Segment		Base Year (2012)	CPU (2050)	Δ dB
	From	To			
I-5	Washington Street	Old Town Avenue	85.6	85.2	-0.4
	Old Town Avenue	I-8	85.7	86.2	0.5
	I-8	Sea World Drive	85.7	85.4	-0.3
	Sea World Drive	Clairemont Drive	86.0	86.4	0.4
I-8	Midway Drive	I-5	82.5	82.7	0.2
	I-5	Morena Boulevard	83.7	84.2	0.5
	Morena Boulevard	Hotel Circle/Taylor Street	85.3	85.4	0.1
	Hotel Circle/Taylor Street	Hotel Circle	85.4	85.4	0.0
	Hotel Circle	SR-163	85.7	85.6	-0.1
	SR-163	Mission Center Road	85.8	85.3	-0.5
	Mission Center Road	Texas Street	86.1	85.9	-0.2
	Texas Street	I-805	85.6	85.3	-0.3
	I-805	I-15	86.3	86.3	0.0
	I-15	Fairmount Avenue	85.9	87.1	1.2
I-15	Fairmount Avenue	Waring Road	86.3	86.2	-0.1
	El Cajon Boulevard	Adams Avenue	84.9	85.8	0.9
	Adams Avenue	I-8	85.1	86.0	0.9
	I-8	Friars Road	86.0	87.0	1.0
I-805	Friars Road	Aero Drive	86.1	86.7	0.6
	El Cajon Boulevard	Adams Avenue	85.9	86.5	0.6
	Adams Avenue	I-8	86.3	87.0	0.7
	I-8	Murray Ridge	86.1	87.1	1.0
SR-163	Murray Ridge	Kearny Villa Road	86.0	87.2	1.2
	Washington Street	6th Avenue	83.6	83.7	0.1
	6th Avenue	I-8	84.5	85.3	0.8
	I-8	Friars Road	84.3	85.2	0.9
	Friars Road	Genesee Avenue	85.0	85.8	0.8
<b>Phyllis Place</b>	<b>Abbotshill Road</b>	<b>I-805 SB Ramps</b>	<b>57.0</b>	<b>68.5</b>	<b>11.5</b>
Sea World Drive	Mission Bay Parkway	Friars Road	75.0	75.8	0.8
	Friars Road	I-5 SB Ramps	72.0	72.7	0.7
Tecolote Road	I-5 SB Ramps	I-5 NB Ramps	72.2	72.7	0.5
	I-5 NB Ramps	Morena Boulevard	69.5	71.0	1.5
Mission Valley Road	Frazer Road	Metropolitan Drive	62.1	61.5	-0.6
	Metropolitan Drive	Mission Center Road	62.1	65.5	3.4
Civita Boulevard	Mission Center Road	Via Alta	57.3	60.4	3.1
	Via Alta	Qualcomm Way	57.3	59.6	2.3
	Qualcomm Way	Franklin Ridge Road	--	63.8	--
Westside Drive	Mission Center Road	Via Alta	59.5	60.5	1.0

<b>Table 10</b> <b>Increases in Ambient Vehicle Traffic Noise</b> <b>(CNEL at 50 feet from Centerline)</b>					
Roadway	Segment		Base Year (2012)	CPU (2050)	Δ dB
	From	To			
Friars Road	Sea World Drive	Napa Street	72.0	72.6	0.6
	Napa Street	Colusa Street	71.4	71.4	0.0
	Colusa Street	Via Las Cumbres	71.4	72.6	1.2
	Via Las Cumbres	Fashion Valley Road	72.0	72.5	0.5
	Fashion Valley Road	Via de la Moda	72.7	72.9	0.2
	Via de la Moda	Fashion Valley Driveway	72.7	72.8	0.1
	Fashion Valley Driveway	Avenida de las Tiendas	72.8	74.7	1.9
	Avenida de las Tiendas	Ulric Street/SR-163 SB Ramps	74.6	76.2	1.6
	Ulric Street/SR-163 SB Ramps	SR-163 NB Ramps	75.8	76.0	0.2
	SR-163 NB Ramps	Frazee Road	75.9	75.1	-0.8
	Frazee Road	Mission Center Road	76.0	75.8	-0.2
	Mission Center Road	Qualcomm Way	75.4	75.2	-0.2
	Qualcomm Way	River Run Drive	74.9	75.6	0.7
	River Run Drive	Fenton Parkway	73.1	75.7	2.6
	Fenton Parkway	Northside Drive	74.2	75.0	0.8
	Northside Drive	San Diego Mission Road	76.2	76.8	0.6
	San Diego Mission Road	I-15 SB Ramps	77.3	79.0	1.7
	I-15 SB Ramps	I-15 NB Ramps	75.2	77.2	2.0
	I-15 NB Ramps	Rancho Mission Road	75.7	77.0	1.3
	Rancho Mission Road	Santo Road	74.5	76.2	1.7
Santo Road	Riverdale Street	74.9	76.5	1.6	
Riverdale Street	Mission Gorge Road	73.5	74.8	1.3	
Mission Gorge Road	Friars Road	Zion Avenue	74.6	73.8	-0.8
Hazard Center Drive	Avenida del Rio	Hazard Center W. Driveway	--	67.0	--
	Hazard Center W. Driveway	Mission Center Road	65.4	68.0	2.6
Rio San Diego Drive	Gill Village Way	Qualcomm Way	67.5	69.3	1.8
	Qualcomm Way	River Run Drive	67.9	69.0	1.1
	River Run Drive	Fenton Parkway	66.9	68.8	1.9
San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	66.1	68.3	2.2
	Rancho Mission Road	950 feet West of Fairmount Avenue	65.0	67.4	2.4
	950 feet West of Fairmount Avenue	Fairmount Avenue	65.0	67.4	2.4
Taylor Street	Pacific Highway	Morena Boulevard	68.8	68.7	-0.1
	Morena Boulevard	I-8 EB Ramps	68.5	62.0	-6.5
	I-8 EB Ramps	Hotel Circle South	67.6	63.0	-4.6
Hotel Circle North	Hotel Circle South	Fashion Valley Road	68.3	65.1	-3.2
	Fashion Valley Road	I-8 WB Off-ramp	69.2	67.5	-1.7
	I-8 WB Off-ramp	Street "J"	64.1	70.0	5.9
	Street "J"	I-8 WB On-ramp	64.1	67.8	3.7
	I-8 WB On-ramp	Hotel Circle South	67.9	61.2	-6.7
Camino de la Reina	Hotel Circle North	Avenida del Rio	62.7	63.4	0.7
	Avenida del Rio	Camino de la Siesta	66.2	67.3	1.1
	Camino de la Siesta	Mission Center Road	65.3	65.3	0.0
	Mission Center Road	Camino del Este	67.6	67.9	0.3
	Camino del Este	Qualcomm Way	66.3	66.2	-0.1

<b>Table 10</b>					
<b>Increases in Ambient Vehicle Traffic Noise</b>					
<b>(CNEL at 50 feet from Centerline)</b>					
Roadway	Segment		Base Year (2012)	CPU (2050)	Δ dB
	From	To			
Camino del Rio North	Camino de la Siesta	Mission Center Road	63.3	67.1	3.8
	Mission Center Road	I-8 WB Ramps	69.8	70.7	0.9
	I-8 WB Ramps	Camino del Este	66.8	66.5	-0.3
	Camino del Este	Qualcomm Way	66.9	69.3	2.4
	Qualcomm Way	Mission City Parkway	68.8	70.5	1.7
	Mission City Parkway	800 feet East of Mission City Parkway	64.0	64.4	0.4
	800 feet East of Mission City Parkway	1,800 feet West of Ward Road	67.6	68.0	0.4
	1,800 feet West of Ward Road	Ward Road	68.1	68.4	0.3
	Ward Road	1,000 feet West of Fairmount Avenue	69.3	68.4	-0.9
	1,000 feet West of Fairmount Avenue	Fairmount Avenue	69.8	71.6	1.8
Hotel Circle South	Taylor Street	I-8 EB Off-Ramp	66.8	60.9	-5.9
	I-8 EB Off-Ramp	Street "J"	66.9	67.9	1.0
	Street "J"	I-8 EB On-Ramp	66.9	70.8	3.9
	I-8 EB On-Ramp	Bachman Place	68.4	67.5	-0.9
	Bachman Place	Hotel Circle North	67.9	67.7	-0.2
Camino del Rio South	Western Terminus	1,800 feet west of Mission Center Road	62.0	62.1	0.1
	1,800 feet west of Mission Center Road	Mission Center Road	64.4	64.8	0.4
	Mission Center Road	Texas Street	64.7	65.4	0.7
	Texas Street	Mission City Parkway	65.1	66.5	1.4
	Mission City Parkway	I-15 SB Off-ramp	69.2	70.0	0.8
	I-15 SB Off-ramp	I-15 SB On-ramp	67.1	69.6	2.5
I-15 SB On-ramp	Fairmount Avenue	65.4	66.2	0.8	
West Morena Boulevard	Tecolote Road	Morena Boulevard	--	68.2	--
Morena Boulevard	Tecolote Road	West Morena Boulevard	68.1	--	--
	West Morena Boulevard	Linda Vista Road	69.8	69.4	-0.4
	Linda Vista Road	I-8 WB Off-ramp	73.6	71.9	-1.7
	I-8 WB Off-ramp	Taylor Street	66.6	67.9	1.3
Napa Street	Morena Boulevard	Friars Road	64.7	65.4	0.7
Colusa Street	Linda Vista Road	Friars Road	57.7	57.5	-0.2
Via Las Cumbres	Linda Vista Road	Friars Road	66.4	66.9	0.5
	Friars Road	South End	--	63.0	--
Street "J"	Friars Road	Riverwalk Drive	--	66.5	--
	Riverwalk Drive	Levi-Cushman Street "B"	--	68.4	--
	Levi-Cushman Street "B"	Hotel Circle North	--	68.5	--
Fashion Valley Road	Friars Road	Riverwalk Drive	66.0	65.1	-0.9
	Riverwalk Drive	Levi-Cushman Street "B"	66.0	68.4	2.4
	Levi-Cushman Street "B"	Hotel Circle North	66.0	69.9	3.9
<b>Bachman Place</b>	<b>Hotel Circle South</b>	<b>Lewis Street</b>	66.9	70.5	<b>3.6</b>
Avenida del Rio	Fashion Valley Parking Lot	Camino de la Reina	65.4	68.8	3.4
Ulric Street	Fashion Hills Boulevard	600 feet South of Fashion Hills Boulevard	70.4	71.4	1.0
	600 feet South of Fashion Hills Boulevard	Friars Road	70.4	71.7	1.3
Camino de la Siesta	Camino de la Reina	Camino del Rio North	60.5	63.1	2.6
Metropolitan Drive	Mission Valley Road	Murray Canyon Road	59.2	64.0	4.8

<b>Table 10</b> <b>Increases in Ambient Vehicle Traffic Noise</b> <b>(CNEL at 50 feet from Centerline)</b>					
Roadway	Segment		Base Year (2012)	CPU (2050)	Δ dB
	From	To			
	Murray Canyon Road	Frazee Road	59.2	46.4	-12.8
Murray Canyon Road	Metropolitan Drive	Frazee Road	63.6	62.4	-1.2
Frazee Road	Metropolitan Drive	Murray Canyon Road	--	61.3	--
	Murray Canyon Road	Friars Road	66.6	68.0	1.4
	Friars Road	Hazard Center Drive	67.3	67.8	0.5
Mission Center Road	Murray Ridge Road	1,200 feet West of Murray Ridge Road	69.0	70.2	1.2
	1,200 feet West of Murray Ridge Road	950 feet North of Mission Valley Road	68.9	70.2	1.3
	950 feet North of Mission Valley Road	Mission Valley Road	67.7	69.0	1.3
	Mission Valley Road	Westside Drive	68.8	70.4	1.6
	Westside Drive	Friars Road WB Ramps	71.5	72.5	1.0
	Friars Road WB Ramps	Friars Road EB Ramps	70.9	71.4	0.5
	Friars Road EB Ramps	Mission Center Court	70.2	70.8	0.6
	Mission Center Court	Hazard Center Drive	70.2	71.5	1.3
Auto Circle	Hazard Center Drive	Camino de la Reina	71.7	72.4	0.7
	Camino de la Reina	Camino del Rio North	71.0	72.3	1.3
	Camino del Rio North	I-8 EB Ramps	72.7	73.5	0.8
Via Alta	I-8 EB Ramps	Camino del Rio South	70.6	69.9	-0.7
	Franklin Ridge Road	Civita Boulevard	54.7	63.8	9.1
Murray Ridge Road	Civita Boulevard	Westside Drive	54.7	61.5	6.8
	Mission Center Road	I-805 NB Ramps	69.0	69.8	0.8
Russell Park Way	I-805 NB Ramps	I-805 SB Ramps	66.7	69.9	3.2
	Friars Road	Civita Boulevard	55.0	63.6	8.6
Camino del Este	Rio San Diego Drive	Camino de la Reina	65.3	67.4	2.1
	Camino de la Reina	Camino del Rio North	63.3	66.0	2.7
Franklin Ridge Road	Phyllis Place	Via Alta	--	68.4	--
	Via Alta	Civita Boulevard	--	65.7	--
Qualcomm Way	Civita Boulevard	Friars Road WB Ramps	--	67.9	--
	Friars Road WB Ramps	Friars Road EB Ramps	65.7	70.8	5.1
	Friars Road EB Ramps	Rio San Diego Drive	66.1	70.2	4.1
	Rio San Diego Drive	Camino del Rio North	69.9	72.3	2.4
	Camino del Rio North	I-8 WB Ramps	69.7	72.9	3.2
	I-8 WB Ramps	I-8 EB Ramps	71.6	73.3	1.7
Texas Street	I-8 EB Ramps	Camino del Rio South	70.1	71.1	1.0
	Camino del Rio South	1,400 feet North of Madison Avenue	72.0	72.5	0.5
	1,400 feet North of Madison Avenue	Madison Avenue	72.0	72.5	0.5
	Madison Avenue	Meade Avenue	65.7	66.5	0.8
River Run Drive	Meade Avenue	El Cajon Boulevard	65.0	65.3	0.3
	Friars Road	Rio San Diego Drive	59.4	59.5	0.1
Fenton Parkway	Portofino Driveway	Friars Road	59.5	60.3	0.8
	Friars Road	Rio San Diego Drive	66.0	66.9	0.9
	Rio San Diego Drive	Del Rio Apartments Driveway	62.3	64.6	2.3
	Del Rio Apartments Driveway	New Street I	--	64.6	--
	New Street I	Camino del Rio North	--	66.4	--
Mission City Parkway	Camino del Rio North	Camino del Rio South	64.1	66.4	2.3



Roadway	Segment		Base Year (2012)	CPU (2050)	Δ dB
	From	To			
Northside Drive	Portofino Driveway	Friars Road	61.6	60.5	-1.1
	Friars Road	Fenton Marketplace Driveway	68.0	68.9	0.9
	Fenton Marketplace Driveway	Lowe’s Frontage Road	67.0	67.9	0.9
Mission Village Drive	Ronda Avenue	Friars Road WB Ramps	70.9	71.1	0.2
	Friars Road WB Ramps	Friars Road EB Ramps	69.9	73.4	3.5
<b>Rancho Mission Road</b>	Friars Road	San Diego Mission Road	67.1	68.1	1.0
	<b>San Diego Mission Road</b>	<b>Camino del Rio North</b>	65.8	68.9	<b>3.1</b>
Santo Road	Northern Terminus	Friars Road	63.0	66.9	3.9
Riverdale Street	Zion Road	Friars Road	59.4	58.4	-1.0
	Friars Road	Vandever Avenue	64.4	69.2	4.8
Mission Gorge Road	Friars Road	Camino del Rio North	66.6	68.5	1.9
Fairmount Avenue	Camino del Rio North/ I-8 WB Off-ramp	I-8 EB Off-ramp	72.0	73.3	1.3
	I-8 EB Off-ramp	Camino del Rio South	75.2	75.7	0.5
Riverwalk Drive	West of Street “J”		--	61.2	--
	Street “J”	Fashion Valley Road	--	59.2	--
	Fashion Valley Road	Avenida del Rio	--	65.2	--
Levi-Cushman Street “B”	Street “J”	Fashion Valley Road	--	66.5	--
Goshen Street	Linda Vista Road	Gaines Street	--	59.7	--
	Gaines Street	Friars Road	--	58.7	--
	Friars Road	South End	--	59.3	--
New Street “I”	Mission City Parkway	Eastern End	--	64.1	--
Gill Village Way	Friars Road	Rio San Diego Drive	--	61.0	--
Rio Bonito Way	Friars Road	Rio San Diego Drive	--	59.5	--

**Bold** = 2035 noise level would exceed the established exterior compatibility level for the surrounding land use and noise levels would increase by 3 dB or more, or future noise levels would be below 65 dB(A) CNEL but ambient noise levels would increase by more than 5 dB over existing noise levels.

The CPU area is dominated by freeway noise. There are some roadway segments that experience noise level increases that are 3 dB or greater as shown in Table 10; however, due to the proximity to a freeway and its associated freeway noise, the actual increase in ambient noise levels attributable to the specified roadway would be less than 3 dB. Additionally, there are areas where there are no noise-sensitive land uses. In order to specifically identify where noise impacts would occur, the surrounding land uses as well as their proximity to freeways were more closely examined to determine if the noise level increase along identified roadway segments would be significant.

A less than significant impact would occur adjacent to the following roadway segments:

- **Mission Valley Road from Metropolitan Drive to Mission Center Road**

No noise-sensitive land uses are located adjacent to this segment. Commercial uses are located adjacent to this segment. Noise levels would not exceed the significance

threshold of 75 CNEL for commercial land uses; therefore, impacts would be less than significant.

- **Civita Boulevard from Mission Center Road to Via Alta**

Multi-family uses are located adjacent to this segment. However, noise levels would not exceed the significance threshold of 65 CNEL for multi-family residential land uses; therefore, impacts would be less than significant.

- **Hotel Circle North from I-8 Westbound Off-ramp to I-8 Westbound On-ramp**

Hotel and commercial land uses are located adjacent to this segment. However, existing noise levels due to vehicle traffic on I-8 exceed 75 CNEL. Although an increase of 3.7 to 5.9 dB is shown with a future noise level up to 70 CNEL, when combined with existing traffic from I-8, the actual noise increase due to Hotel Circle North would be less than 1 dB. Therefore, impacts would be less than significant.

- **Camino del Rio North from Camino de la Siesta to Mission Center Road**

Multi-family uses are located adjacent to this segment. However, existing noise levels due to vehicle traffic on I-8 exceed 75 CNEL. Although an increase of 3.8 dB is shown with a future noise level of 67 CNEL, when combined with existing traffic from I-8, the actual noise increase due to Camino del Rio North would be less than 1 dB. Therefore, impacts would be less than significant.

- **Hotel Circle South from Street “J” to I-8 Eastbound On-ramp**

Hotel and commercial uses are located adjacent to this segment. However, existing noise levels due to vehicle traffic on I-8 exceed 75 CNEL. Although an increase of 3.9 dB is shown with a future noise level of 71 CNEL, when combined with existing traffic from I-8, the actual noise increase due to Hotel Circle South would be less than 1 dB. Therefore, impacts would be less than significant.

- **Fashion Valley Road from Levi-Cushman Street “B” to Hotel Circle North**

Hotel uses and a golf course are located adjacent to this segment. However, existing noise levels due to vehicle traffic on I-8 range from 70 to 75 CNEL. Although an increase of 3.9 dB is shown with a future noise level of 70 CNEL, when combined with existing traffic from I-8, the actual noise increase due to Fashion Valley would be less than 3 dB. Therefore, impacts would be less than significant.

- **Avenida del Rio from Fashion Valley Parking Lot to Camino de la Reina**

Commercial uses are located adjacent to this segment. Noise levels would not exceed the commercial significance threshold of 75 CNEL. Additionally, existing noise levels due to vehicle traffic on SR-163 are 70 CNEL. Although an increase of 3.4 dB is shown with a future noise level of 69 CNEL, when combined with existing traffic from SR-163, the actual noise increase due to Avenida del Rio would be less than 3 dB. Therefore, impacts would be less than significant.

- **Metropolitan Drive from Mission Valley Road to Murray Canyon Road**

Commercial uses are located adjacent to this segment. Future noise levels would not exceed the commercial significance threshold of 75 CNEL for commercial land uses; therefore, impacts would be less than significant.

- **Via Alta from Franklin Ridge Road to Westside Drive**

Multi-family land uses are located adjacent to this segment. However, existing noise levels due to vehicle traffic on I-805, Friars Road, and Mission Center Road exceed 65 CNEL. Although an increase of 6.8 to 9.1 dB is shown with a future noise level up to 64 CNEL, when combined with existing traffic from I-805, the actual noise increase due to Via Alta would be less than 3 dB. Therefore, impacts would be less than significant.

- **Murray Ridge Road from I-805 Northbound Ramps to I-805 Southbound Ramps**

Single-family land uses are located adjacent to this segment. However, existing noise levels due to vehicle traffic on I-805 exceed 75 CNEL. Although an increase of 3.2 dB is shown with a future noise level of 70 CNEL, when combined with existing traffic from I-805, the actual noise increase due to Murray Ridge Road would be less than 3 dB. Therefore, impacts would be less than significant.

- **Russell Park Way from Friars Road to Civita Boulevard**

The lots adjacent to this segment are currently undeveloped. Existing noise levels due to vehicle traffic on Friars Road exceed 65 CNEL. Although an increase of 8.6 dB is shown with a future noise level of 64 CNEL, when combined with existing traffic from Friars Road, the actual noise increase due to Russell Park Way would be less than 3 dB. Therefore, impacts would be less than significant.

- **Qualcomm Way from Friars Road Westbound Ramps to Friars Road Eastbound Ramps**

This roadway segment is under the Friars Road overpass and there are no existing or planned immediately adjacent land uses. Therefore, impacts would be less than significant.

- **Qualcomm Way from Friars Road Eastbound Ramps to Rio San Diego Drive**

Commercial uses are located adjacent to this segment. Future noise levels would not exceed the commercial significance threshold of 75 CNEL for commercial land uses; therefore, impacts would be less than significant.

- **Qualcomm Way from Camino del Rio North to I-8 Westbound Ramps**

This segment is within the I-8 right-of-way and there are no existing or planned immediately adjacent land uses. Therefore, impacts would be less than significant.

- **Mission Village Drive from Friars Road Westbound Ramps to Friars Road Eastbound Ramps**

This segment is the Friars Road overpass accessing the stadium parking lot, and there are no existing or planned immediately adjacent land uses, as it is within the Friars Road right-of-way. Therefore, impacts would be less than significant.

- **Santo Road from the Northern Terminus to Friars Road**

Multi-family land uses are located adjacent to this segment; however, they are set back approximately 120 feet from the centerline of Santo Road. Noise levels at this distance would be less than 65 CNEL (59 CNEL in the existing condition and 63 CNEL at build-out). Therefore, impacts would be less than significant.

- **Riverdale Street from Friars Road to Vandever Avenue**

Commercial uses are located adjacent to this segment. Future noise levels would not exceed the commercial significance threshold of 75 CNEL for commercial land uses; therefore, impacts would be less than significant.

A significant noise impact would occur adjacent to the following three roadway segments.

- **Phyllis Place from Abbots Hill Road to I-805 Southbound Ramps**

Single- and multi-family residential uses are located towards the western terminus of Phyllis Place. Noise levels are dominated by vehicle traffic on I-805, with existing noise contours ranging from 65 to 75 CNEL. However, because noise levels due to vehicle traffic on Phyllis Place would increase from 57 to 69 CNEL and would result in a 3 dB increase in ambient noise levels even when taking existing traffic noise from I-805 into account, noise impacts would be significant.

- **Bachman Place from Hotel Circle South to Lewis Street**

Residential, hospital, and hotel land uses are located adjacent to this segment of Bachman Place. Noise levels currently exceed the significance threshold of 65 CNEL, and future vehicle traffic would increase ambient noise levels by more than 3 dB. Noise impacts would be significant.

- **Rancho Mission Road from San Diego Mission Road to Camino del Rio North**

Residential land uses are located adjacent to this segment of Rancho Mission Road. Existing noise levels due to I-15 would range from 65 to 75 CNEL. However, even when taking existing traffic from I-15 into account, future vehicle traffic noise along this roadway segment could increase by 3 dB. Noise impacts would be significant.

The increase in ambient noise levels adjacent to these three roadway segments would result in the exposure of existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant. Possible noise-reduction measures would include retrofitting older structures with acoustically rated windows and doors featuring

higher Sound Transmission Class ratings, which is a measure of exterior noise reduction performance. However, there is no mechanism in place for implementing such a retrofit program. Because the significant noise impacts are to existing homes and other noise-sensitive uses in an already urbanized area, there is no feasible mitigation. Thus, impacts to existing sensitive land uses would remain significant and unavoidable.

An existing regulatory framework and review process exists for new development in areas exposed to high levels of ambient noise. Policies in the proposed CPU and General Plan related to decibel levels, procedures in the SDMC, and regulations including Title 24 would reduce traffic noise exposure, because they set standards for the siting of sensitive land uses. Site-specific noise analyses demonstrating that future development implemented under the CPU would not subject sensitive receptors to existing or future noise levels exceeding the General Plan's Land Use – Noise Compatibility Guidelines would be required as part of the review process for discretionary projects. With the implementation of these regulations and procedures, noise impacts applicable to new discretionary projects would be less than significant as exterior noise would be attenuated. However, in the case of ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts attributed to ministerial projects located in areas that exceed the applicable land use and noise compatibility level would be significant and unavoidable. Interior noise impacts for all projects, including ministerial projects, would be less than significant because building permit applicants must demonstrate compliance with the relevant interior noise standards through submission and approval of a Title 24 Compliance Report.

While future discretionary projects have a framework in place that would ensure exterior noise levels are appropriately attenuated to meet the General Plan Compatibility Standards, there is no similar mechanism in place for ministerial projects, resulting in a significant impact. This impact and mitigation is discussed further under Section 7.2.

## 7.2 Land Use Compatibility

A significant impact could occur if implementation of the CPU resulted in an exposure of people to current or future motor vehicle traffic noise levels that exceed standards established in the Noise Element of the General Plan. The General Plan's Land Use – Noise Compatibility Guidelines are presented in Table 4. The CPU proposes multi-family residential, visitor accommodations, commercial, institutional, industrial, and park and open space land uses, which are compatible with the following noise levels.

- Multi-family residential and mixed uses are compatible up to 60 CNEL and conditionally compatible up to 70 CNEL.
- Additionally, as stated in Section B of the Noise Element, although not generally considered compatible, the City conditionally allows multi-family and mixed-use residential uses up to 75 CNEL in areas affected by motor vehicle traffic noise with existing residential uses. Any future residential use exposed to noise levels up to 75 CNEL must include attenuation measures to ensure an interior noise level of 45

CNEL and be located in an area where a community plan allows multi-family and mixed-use residential uses.

- Visitor accommodations are compatible up to 60 CNEL and conditionally compatible up to 75 CNEL.
- Sales, commercial services, and office uses are compatible up to 65 CNEL and conditionally compatible up to 75 CNEL.
- Institutional uses are compatible up to 60 CNEL and conditionally compatible up to 65 or 70 CNEL depending on the type of institutional use.
- Industrial uses are compatible up to 75 CNEL.
- Neighborhood parks are compatible up to 70 CNEL and conditionally compatible up to 75 CNEL.

### **7.2.1 Vehicle Traffic Noise**

Traffic noise generally dominates the noise environment around the CPU area. The freeways generating the greatest noise levels in the CPU area are I-5, I-8, I-15, I-805, and SR-163, and the roadway segments generating the greatest noise levels include Friars Road, Mission Center Road, Qualcomm Way, and Fairmount Avenue, among others. The distances to the 60, 65, and 70 CNEL noise contours in the build-out condition for freeways and major roadways in the CPU area are shown in Table 11. Distances to the roadway noise contours are based on a hard, flat site with no intervening barriers or obstructions (worst-case analysis). Future horizon year (2050) noise contours for the CPU area are shown in Figure 7.

**Table 11  
Future Vehicle Traffic Noise Contour Distances**

Roadway	Segment		Distance (feet) to Noise Contour			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
I-5	Washington Street	Old Town Avenue	239	516	1,111	2,393
	Old Town Avenue	I-8	279	601	1,295	2,790
	I-8	Sea World Drive	247	532	1,145	2,468
	Sea World Drive	Clairemont Drive	288	620	1,335	2,877
I-8	Midway Drive	I-5	163	351	757	1,630
	I-5	Morena Boulevard	205	442	953	2,053
	Morena Boulevard	Hotel Circle/Taylor Street	247	532	1,145	2,468
	Hotel Circle/Taylor Street	Hotel Circle	247	532	1,145	2,468
	Hotel Circle	SR-163	254	548	1,181	2,545
	SR-163	Mission Center Road	243	524	1,128	2,430
	Mission Center Road	Texas Street	266	574	1,237	2,665
	Texas Street	I-805	243	524	1,128	2,430
	I-805	I-15	283	610	1,315	2,833
	I-15	Fairmount Avenue	320	690	1,487	3,204
I-15	Fairmount Avenue	Waring Road	279	601	1,295	2,790
	El Cajon Boulevard	Adams Avenue	262	565	1,218	2,624
	Adams Avenue	I-8	271	583	1,256	2,706
	I-8	Friars Road	315	680	1,464	3,155
I-805	Friars Road	Aero Drive	301	649	1,398	3,013
	El Cajon Boulevard	Adams Avenue	292	629	1,356	2,922
	Adams Avenue	I-8	315	680	1,464	3,155
	I-8	Murray Ridge	320	690	1,487	3,204
SR-163	Murray Ridge	Kearny Villa Road	325	701	1,510	3,253
	Washington Street	6th Avenue	190	410	882	1,901
	6th Avenue	I-8	243	524	1,128	2,430
	I-8	Friars Road	239	516	1,111	2,393
	Friars Road	Genesee Avenue	262	565	1,218	2,624
Phyllis Place	Genesee Avenue	Mesa College Drive	258	557	1,199	2,584
	Abbotshill Road	I-805 SB Ramps	--	35	112	354
Sea World Drive	Mission Bay Parkway	Friars Road	60	190	601	1,901
	Friars Road	I-5 SB Ramps	29	93	294	931
Tecolote Road	I-5 SB Ramps	I-5 NB Ramps	29	93	294	931
	I-5 NB Ramps	Morena Boulevard	--	63	199	629
Mission Valley Road	Frazer Road	Metropolitan Drive	--	--	--	--
	Metropolitan Drive	Mission Center Road	--	--	56	177
Civita Boulevard	Mission Center Road	Via Alta	--	--	--	55
	Via Alta	Qualcomm Way	--	--	--	46
	Qualcomm Way	Franklin Ridge Road	--	--	38	120
Westside Drive	Mission Center Road	Via Alta	--	--	--	56

**Table 11  
Future Vehicle Traffic Noise Contour Distances**

Roadway	Segment		Distance (feet) to Noise Contour			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Friars Road	Sea World Drive	Napa Street	29	91	288	910
	Napa Street	Colusa Street	22	69	218	690
	Colusa Street	Via Las Cumbres	29	91	288	910
	Via Las Cumbres	Fashion Valley Road	28	89	281	889
	Fashion Valley Road	Via de la Moda	31	97	308	975
	Via de la Moda	Fashion Valley Driveway	30	95	301	953
	Fashion Valley Driveway	Avenida de las Tiendas	47	148	467	1,476
	Avenida de las Tiendas	Ulric Street/SR-163 SB Ramps	66	208	659	2,084
	Ulric Street/SR-163 SB Ramps	SR-163 NB Ramps	63	199	629	1,991
	SR-163 NB Ramps	Frazees Road	51	162	512	1,618
	Frazees Road	Mission Center Road	60	190	601	1,901
	Mission Center Road	Qualcomm Way	52	166	524	1,656
	Qualcomm Way	River Run Drive	57	182	574	1,815
	River Run Drive	Fenton Parkway	59	186	587	1,858
	Fenton Parkway	Northside Drive	50	158	500	1,581
	Northside Drive	San Diego Mission Road	76	239	757	2,393
	San Diego Mission Road	I-15 SB Ramps	126	397	1,256	3,972
	I-15 SB Ramps	I-15 NB Ramps	83	262	830	2,624
I-15 NB Ramps	Rancho Mission Road	79	251	792	2,506	
Rancho Mission Road	Santo Road	66	208	659	2,084	
Santo Road	Riverdale Street	71	223	706	2,233	
Riverdale Street	Mission Gorge Road	48	151	477	1,510	
Mission Gorge Road	Friars Road	Zion Avenue	38	120	379	1,199
Hazard Center Drive	Avenida del Rio	Hazard Center West Driveway	--	25	79	251
	Hazard Center West Driveway	Mission Center Road	--	32	100	315
Rio San Diego Drive	Gill Village Way	Qualcomm Way	--	43	135	426
	Qualcomm Way	River Run Drive	--	40	126	397
	River Run Drive	Fenton Parkway	--	38	120	379
San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	--	34	107	338
	Rancho Mission Road	950 feet West of Fairmount Avenue	--	27	87	275
	950 feet West of Fairmount Avenue	Fairmount Avenue	--	27	87	275
Taylor Street	Pacific Highway	Morena Boulevard	--	37	117	371
	Morena Boulevard	I-8 EB Ramps	--	--	25	79
	I-8 EB Ramps	Hotel Circle South	--	--	32	100
Hotel Circle North	Hotel Circle South	Fashion Valley Road	--	--	51	162
	Fashion Valley Road	I-8 WB Off-ramp	--	28	89	281
	I-8 WB Off-ramp	Street "J"	--	50	158	500
	Street "J"	I-8 WB On-ramp	--	30	95	301
	I-8 WB On-ramp	Hotel Circle South	--	--	--	66
Camino de la Reina	Hotel Circle North	Avenida del Rio	--	--	35	109
	Avenida del Rio	Camino de la Siesta	--	--	85	269
	Camino de la Siesta	Mission Center Road	--	--	54	169
	Mission Center Road	Camino del Este	--	31	97	308
	Camino del Este	Qualcomm Way	--	--	66	208



**Table 11  
Future Vehicle Traffic Noise Contour Distances**

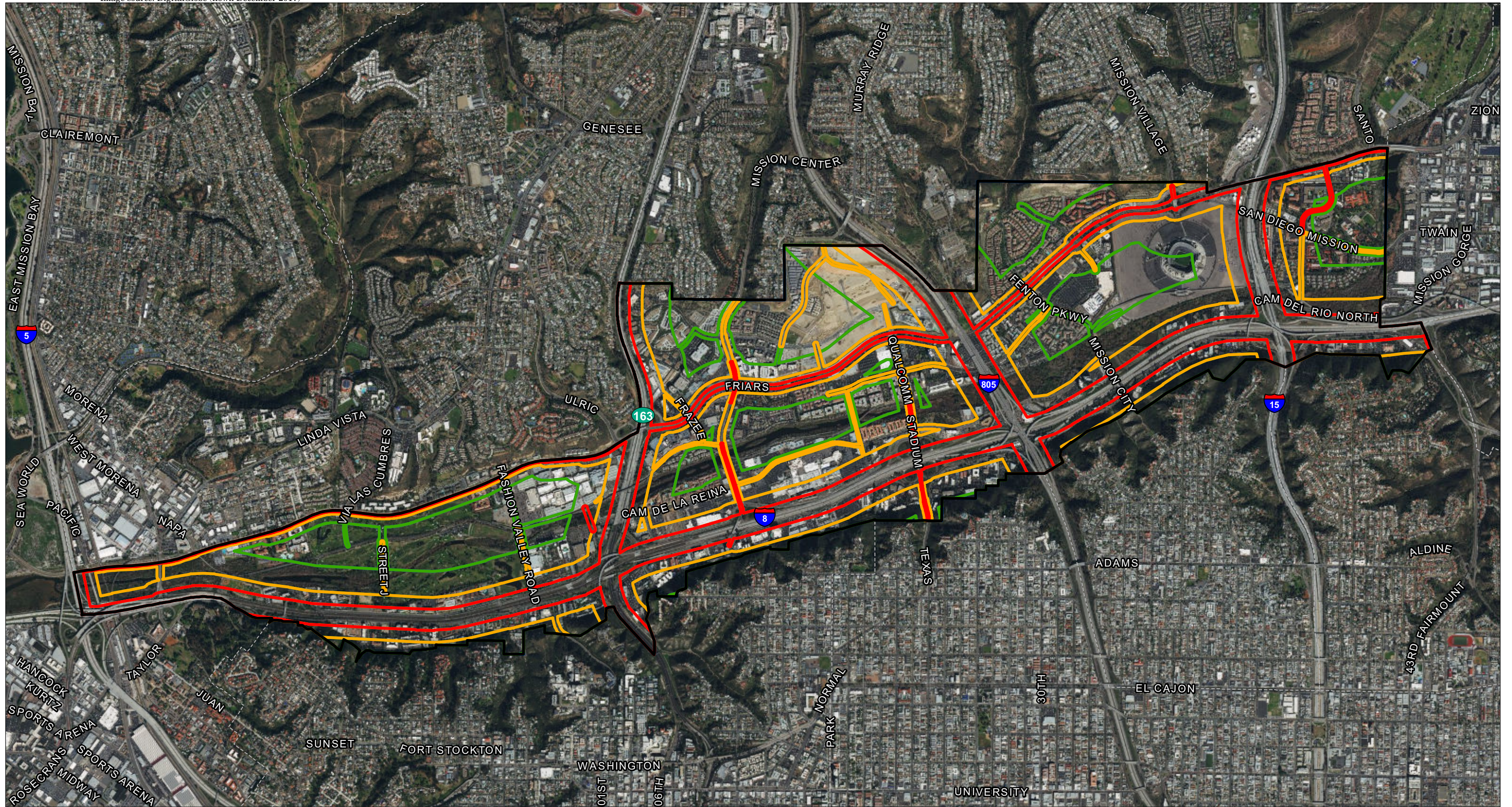
Roadway	Segment		Distance (feet) to Noise Contour			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Camino del Rio North	Camino de la Siesta	Mission Center Road	--	26	81	256
	Mission Center Road	I-8 WB Ramps	--	59	186	587
	I-8 WB Ramps	Camino del Este	--		71	223
	Camino del Este	Qualcomm Way		43	135	426
	Qualcomm Way	Mission City Parkway	--	56	177	561
	Mission City Parkway	800 feet East of Mission City Parkway	--	--	44	138
	800 feet East of Mission City Parkway	1,800 feet West of Ward Road	--	32	100	315
	1,800 feet West of Ward Road	Ward Road	--	35	109	346
	Ward Road	1,000 feet West of Fairmount Avenue	--	35	109	346
	1,000 feet West of Fairmount Avenue	Fairmount Avenue	--	72	229	723
Hotel Circle South	Taylor Street	I-8 EB Off-Ramp	--	--	--	62
	I-8 EB Off-Ramp	Street "J"	--	31	97	308
	Street "J"	I-8 EB On-Ramp	--	60	190	601
	I-8 EB On-Ramp	Bachman Place	--	28	89	281
	Bachman Place	Hotel Circle North	--	29	93	294
Camino del Rio South	Western Terminus	1,800 feet west of Mission Center Road	--	--	26	81
	1,800 feet west of Mission Center Road	Mission Center Road	--	--	48	151
	Mission Center Road	Texas Street	--	--	55	173
	Texas Street	Mission City Parkway	--	--	71	223
	Mission City Parkway	I-15 SB Off-ramp	--	50	158	500
	I-15 SB Off-ramp	I-15 SB On-ramp	--	46	144	456
I-15 SB On-ramp	Fairmount Avenue	--		66	208	
West Morena Boulevard	Tecolote Road	Morena Boulevard	--	33	104	330
Morena Boulevard	West Morena Boulevard	Linda Vista Road	--	44	138	435
	Linda Vista Road	I-8 WB Off-ramp	--	77	245	774
	I-8 WB Off-ramp	Taylor Street	--	31	97	308
Napa Street	Morena Boulevard	Friars Road	--	--	55	173
Colusa Street	Linda Vista Road	Friars Road	--	--	--	--
Via Las Cumbres	Linda Vista Road	Friars Road	--	--	77	245
	Friars Road	South End	--	--	32	100
Street "J"	Friars Road	Riverwalk Drive	--	--	71	223
	Riverwalk Drive	Levi-Cushman Street "B"	--	35	109	346
	Levi-Cushman Street "B"	Hotel Circle North	--	35	112	354
Fashion Valley Road	Friars Road	Riverwalk Drive	--	--	51	162
	Riverwalk Drive	Levi-Cushman Street "B"	--	35	109	346
	Levi-Cushman Street "B"	Hotel Circle North	--	49	155	489
Bachman Place	Hotel Circle South	Lewis Street	--	56	177	561
Avenida del Rio	Fashion Valley Parking Lot	Camino de la Reina	--	38	120	379

**Table 11  
Future Vehicle Traffic Noise Contour Distances**

Roadway	Segment		Distance (feet) to Noise Contour			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Ulric Street	Fashion Hills Boulevard	600 feet South of Fashion Hills Boulevard	--	69	218	690
	600 feet South of Fashion Hills Boulevard	Friars Road	--	74	234	740
Camino de la Siesta	Camino de la Reina	Camino del Rio North	--	--	32	102
Metropolitan Drive	Mission Valley Road	Murray Canyon Road	--	--	40	126
	Murray Canyon Road	Frazee Road	--	--	--	71
Murray Canyon Road	Metropolitan Drive	Frazee Road	--	--	27	87
Frazee Road	Metropolitan Drive	Murray Canyon Road	--	--	--	67
	Murray Canyon Road	Friars Road	--	32	100	315
	Friars Road	Hazard Center Drive	--	30	95	301
Mission Center Road	Murray Ridge Road	1,200 feet West of Murray Ridge Road	--	52	166	524
	1,200 feet West of Murray Ridge Road	950 feet North of Mission Valley Road	--	52	166	524
	950 feet North of Mission Valley Road	Mission Valley Road	--	40	126	397
	Mission Valley Road	Westside Drive	--	55	173	548
	Westside Drive	Friars Road WB Ramps	28	89	281	889
	Friars Road WB Ramps	Friars Road EB Ramps	22	69	218	690
	Friars Road EB Ramps	Mission Center Court	--	60	190	601
	Mission Center Court	Hazard Center Drive	--	71	223	706
Auto Circle	Hazard Center Drive	Camino de la Reina	27	87	275	869
	Camino de la Reina	Camino del Rio North	27	85	269	849
	Camino del Rio North	I-8 EB Ramps	35	112	354	1,119
Via Alta	I-8 EB Ramps	Camino del Rio South	--	49	155	489
	Franklin Ridge Road	Civita Boulevard	--	--	38	120
Murray Ridge Road	Civita Boulevard	Westside Drive	--	--	--	71
	Mission Center Road	I-805 NB Ramps	--	48	151	477
Russell Park Way	I-805 NB Ramps	I-805 SB Ramps	--	49	155	489
	Friars Road	Civita Boulevard	--	--	36	115
Camino del Este	Rio San Diego Drive	Camino de la Reina	--	27	87	275
	Camino de la Reina	Camino del Rio North	--	--	63	199
Franklin Ridge Road	Phyllis Place	Via Alta	--	35	109	346
	Via Alta	Civita Boulevard	--	--	59	186
Qualcomm Way	Civita Boulevard	Friars Road WB Ramps	--	31	97	308
	Friars Road WB Ramps	Friars Road EB Ramps	--	60	190	601
	Friars Road EB Ramps	Rio San Diego Drive	--	52	166	524
	Rio San Diego Drive	Camino del Rio North	27	85	269	849
	Camino del Rio North	I-8 WB Ramps	31	97	308	975
	I-8 WB Ramps	I-8 EB Ramps	34	107	338	1,069
Texas Street	I-8 EB Ramps	Camino del Rio South		64	204	644
	Camino del Rio South	1,400 feet North of Madison Ave	28	89	281	889
	1,400 feet North of Madison Ave	Madison Avenue	28	89	281	889
	Madison Avenue	Meade Ave	--	--	71	223
River Run Drive	Meade Ave	El Cajon Boulevard	--	--	54	169
	Friars Road	Rio San Diego Drive	--	--	--	45

**Table 11  
Future Vehicle Traffic Noise Contour Distances**

Roadway	Segment		Distance (feet) to Noise Contour			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Fenton Parkway	Portofino Driveway	Friars Road	--	--	--	54
	Friars Road	Rio San Diego Drive	--	--	77	245
	Rio San Diego Drive	Del Rio Apartments Driveway	--	--	46	144
	Del Rio Apartments Driveway	New Street I	--	--	46	144
	New Street I	Camino del Rio North	--	--	69	218
Mission City Parkway	Camino del Rio North	Camino del Rio South	--	--	69	218
Northside Drive	Portofino Driveway	Friars Road	--	--	--	56
	Friars Road	Fenton Marketplace Driveway	--	39	123	388
	Fenton Marketplace Driveway	Lowe's Frontage Road	--	31	97	308
Mission Village Drive	Ronda Avenue	Friars Road WB Ramps		64	204	644
	Friars Road WB Ramps	Friars Road EB Ramps	35	109	346	1,094
Rancho Mission Road	Friars Road	San Diego Mission Road	--	32	102	323
	San Diego Mission Road	Camino del Rio North	--	39	123	388
Santo Road	Northern Terminus	Friars Road	--	--	77	245
Riverdale Street	Zion Road	Friars Road	--	--	--	35
	Friars Road	Vandever Avenue	--	42	132	416
Mission Gorge Road	Friars Road	Camino del Rio North	--	35	112	354
Fairmount Avenue	Camino del Rio North/I-8 WB Off-ramp	I-8 EB Off-ramp	34	107	338	1,069
	I-8 EB Off-ramp	Camino del Rio South	59	186	587	1,858
Riverwalk Drive	West of Street "J"		--	--	--	66
	Street "J"	Fashion Valley Road	--	--	41	32
	Fashion Valley Road	Avenida del Rio	--	--	52	166
Levi-Cushman Street "B"	Via Las Cumbres	Fashion Valley Road	--	--	71	223
Goshen Street	Linda Vista Road	Gaines Street	--	--	--	47
	Gaines Street	Friars Road	--	--	--	37
	Friars Road	South End	--	--	--	43
New Street "I"	Mission City Parkway	Eastern End	--	--	41	129
Gill Village Way	Friars Road	Rio San Diego Drive	--	--	--	63
Rio Bonito Way	Friars Road	Rio San Diego Drive	--	--	--	45



□ Mission Valley Community Plan Boundary **Traffic Noise Contours**

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

0 Feet 2,000 ↑

FIGURE 7  
Future Vehicle Traffic Noise Contours

At any specific location the actual existing noise depends on the source noise level and the nature of the path from the source to the sensitive receptor. Buildings, walls, dense vegetation, and other barriers would block the direct line of sight and reduce noise levels at the receptor. As an example, a first row of buildings would reduce traffic noise levels at receptors by 3 to 5 dB(A) behind those structures depending on the building-to-gap ratio. Large continuous structures can provide substantially greater attenuation of traffic noise.

While the General Plan Noise Element has a compatibility level of 60 CNEL or less for residential uses, noise levels up to 65 CNEL for single-family residential and up to 70 CNEL for multi-family residential are considered conditionally compatible, since interior noise levels can be reduced to 45 CNEL through simple means, such as closing/sealing windows and providing mechanical ventilation. Additionally, as stated in Section B of the General Plan Noise Element, although not generally considered compatible, the General Plan conditionally allows multi-family and mixed-use residential uses up to 75 CNEL in areas affected by motor vehicle traffic noise with existing residential uses. Any future residential use exposed to noise levels up to 75 CNEL must include attenuation measures to ensure an interior noise level of 45 CNEL and be located in an area where a community plan allows multi-family and mixed-use residential uses. Project design features such as noise walls adjacent to freeways and roadways can usually reduce exterior noise levels to comply with General Plan Noise Element guidelines. Some residential land uses planned for the CPU area would be located between the 70 and 75 CNEL contours. Multi-family and mixed-use residential uses that meet the requirements of Section B of the General Plan Noise Element would be conditionally compatible up to 75 CNEL and would also be required to provide structural attenuation to reduce noise levels at interior locations.

As shown in Figure 7, noise levels would exceed 60 CNEL in the entire CPU area at build-out (2050), and noise levels would exceed 65 CNEL in a majority of the CPU area. Noise levels greater than 75 CNEL are generally considered incompatible for all land use types. Land uses located within 239 to 288 feet of I-5, 163 to 320 feet of I-8, 262 to 315 feet of I-15, 292 to 325 feet of I-805, and 190 to 262 feet of SR-163 would potentially be exposed to noise levels greater than 75 CNEL and would be considered incompatible.

The CPU area is generally developed; however, implementation of the CPU would result in changes to the land uses, which would introduce new noise-sensitive land uses in areas exceeding the Land Use – Noise Compatibility Guidelines. Therefore, impacts associated with future development within these areas would be significant.

The CPU includes policies that would require site design strategies and noise reduction measures for new development within 500 feet of freeways (see Section 2.0). Additionally, as detailed in Section 4.0, policies in the General Plan Noise Element and CCR Title 24 require the reduction of traffic noise exposure because they set standards for the siting of sensitive land uses. General Plan Noise Element policy NE-A.4 requires an acoustical study consistent with Acoustical Study Guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the “compatible” noise level thresholds as indicated on the Land Use – Noise Compatibility Guidelines. Future discretionary proposals within the CPU area would, therefore, be required to

conduct site-specific exterior noise analyses to demonstrate that the proposed project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the Land Use – Noise Compatibility Guidelines of the General Plan Noise Element. Additionally, for all future discretionary and ministerial projects located in areas where exterior noise levels exceed the Land Use – Noise Compatibility Guidelines as defined in the General Plan Noise Element, Table N-3, site-specific interior noise analyses demonstrating compliance with the interior standards of the General Plan would be required. These requirements for site-specific noise analyses would be implemented through submission of a Title 24 Compliance Report to demonstrate interior noise levels of 45 CNEL. Through implementation of this regulatory framework, exterior traffic noise impacts associated with new discretionary development and interior traffic noise impacts for both ministerial and discretionary projects would be less than significant.

However, in the case of exterior noise impacts associated with ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts for ministerial projects located in areas where the noise level exceeds the applicable land use and noise compatibility level would be significant and unavoidable.

### 7.2.2 Trolley Noise

Figure 6 shows the existing noise contours for the Green Line Trolley operations. Future Green Line Trolley operations are anticipated to continue similar to the existing schedule. The 60, 65, and 70 CNEL contour distances for the Green Line Trolley are summarized in Table 12. As shown, the 60 CNEL contour extends up to approximately 272 feet from the center of the trolley tracks between the Stadium and Fenton Parkway trolley stations, and the 65 CNEL contour extends up to approximately 86 feet from the trolley tracks.

Stations	Noise Level at 50 feet (CNEL)	Distance to Noise Contour (feet)		
		70 CNEL	65 CNEL	60 CNEL
Grantville to Mission San Diego	63	10	33	105
Mission San Diego to Stadium	58	3	10	32
Stadium to Fenton Parkway	67	27	86	272
Fenton Parkway to Rio Vista	64	12	37	117
Rio Vista to Mission Valley Center	63	10	33	105
Mission Valley Center to Hazard Center	63	10	33	105
Hazard Center to Fashion Valley	61	7	22	68
Fashion Valley to Morena/Linda Vista	64	13	41	130
Morena/Linda Vista to Old Town	63	10	33	105

NOTE: Calculation data provided in Attachment 3.  
CNEL = community noise equivalent level

The nearest noise-sensitive land uses would be located on both sides of the trolley alignment, with some uses abutting the right-of-way at distances as close as 25 feet from the centerline. Although noise-sensitive land uses would be in close proximity to the trolley

tracks, as shown in Figure 7, vehicle traffic noise along the freeways would exceed 60 CNEL in the entire CPU area. The vehicle traffic noise would exceed the contribution of noise from trolley operations. However, although vehicle traffic would be the dominant noise source, trolley noise levels in close proximity to the tracks would contribute to the overall exterior noise level, and the combined vehicle traffic and trolley exterior noise levels could exceed the Land Use – Noise Compatibility Guidelines. As discussed above, future discretionary proposals within the CPU area would be required to conduct site-specific exterior noise analyses to demonstrate that the proposed project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the Land Use – Noise Compatibility Guidelines. However, in the case of exterior noise impacts associated with ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts for ministerial projects located in areas where the noise level exceeds the applicable land use and noise compatibility level would be significant. As discussed above, interior noise impacts for both discretionary and ministerial projects would be less than significant because building permit applicants must demonstrate compliance with the relevant interior noise standards through submission and approval of a Title 24 Compliance Report. Therefore, interior noise impacts resulting from trolley operations would be less than significant.

The future Mid-Coast Trolley extension (Blue Line Trolley) is currently under construction along the western CPU boundary. Once constructed, this trolley extension would provide trolley service from the Old Town Transit Center to the University of California, San Diego and University Town Center along the rail corridor parallel to I-5. The closest station to the CPU area would be located at West Morena Boulevard and Tecolote Road. Sound level distances from future San Diego MTS Trolley service were derived from SANDAG's Noise and Vibration Impacts Technical Report for the Mid-Coast Corridor Transit Project (SANDAG 2014). Freight and passenger train noise levels were based on Amtrak, Coaster, and freight train assumptions provided by the Los Angeles–San Diego–San Luis Obispo (LOSSAN) Rail Corridor Agency (LOSSAN 2012). Based on these studies, it is anticipated that rail traffic would generate a noise level of 60 CNEL at approximately 270 feet from the railway centerline. However, no sensitive land uses exist or are proposed in the CPU area adjacent to the Blue Line Trolley extension. The area adjacent to the tracks is designated Open Space (San Diego River). Additionally, noise levels in the vicinity of the western CPU boundary are dominated by vehicle traffic noise from I-5 and I-8. There would be no noise impacts due to future Blue Line Trolley operations. The Mid-Coast Corridor Transit Project noise analysis also found noise impacts in this area to be less than significant (SANDAG 2014).

The planned Purple Line Trolley would provide a new north-south transit connection through the Stadium Specific Plan area and would generally parallel to I-15. It is anticipated that noise levels due to future Purple Line Trolley operation would be similar to noise levels from the Blue and Green Line Trolleys. Noise levels along I-15 would exceed 70 and 75 CNEL along the future Purple Line Trolley. As with the Blue and Green Line Trolley, vehicle traffic noise would exceed the contribution of noise from trolley operations. However, the exact alignment of the Purple Line Trolley is not known at this time, and it could be located in close proximity to noise sensitive land uses. As with the Green Line

Trolley, although vehicle traffic would be the dominant noise source, trolley noise levels in close proximity to the tracks would contribute to the overall exterior noise level, and the combined vehicle traffic and trolley exterior noise levels could exceed the Land Use – Noise Compatibility Guidelines, resulting in a significant impact.

### 7.3 Stationary Noise

A significant impact could occur if implementation of the CPU resulted in the exposure of people to noise levels that exceed property line limits established in the Noise Abatement and Control Ordinance of the SDMC. Stationary sources of noise include activities associated with a given land use. For example, noise sources from commercial land uses would include car washes, fast food restaurants, auto repair facilities, parking lots, and a variety of other uses.

Implementation of the CPU could result in pedestrian-oriented mixed-use areas and areas where residential uses could be located in proximity to commercial sites that could expose sensitive receptors to additional noise. The noise associated with these types of land uses is generally produced by pedestrian traffic, parking lot activity, and public gatherings, but could also include loading docks, mechanical equipment (such as HVAC equipment and generators), deliveries, trash-hauling activities, and customer and employee use of commercial facilities. Noise generated by residential or commercial uses is generally short-lived and intermittent, while noise generated by auto-oriented commercial and industrial uses is usually sporadic, highly variable, and spatially distributed.

The land uses proposed by the CPU would be similar to the land uses that currently exist in the CPU area, although with greater density. Because noise levels in the CPU area are dominated by vehicle traffic on freeways and heavily traveled area roadways, noise levels from stationary sources throughout the CPU area would not be expected to increase the hourly or daily average sound level with respect to current conditions. While noise-sensitive residential land uses would be exposed to noise associated with the operation of commercial uses, future projects would be required to show compliance with the Noise Abatement and Control Ordinance to ensure noise compatibility between various land uses. As detailed in Section 4.4, the City regulates specific noise level limits allowable between land uses including the requirement for noise studies, limits on hours of operation for various noise-generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. Through enforcement of the Noise Abatement and Control Ordinance of the SDMC, impacts would be less than significant.

### 7.4 Construction Noise

A significant impact could occur if implementation of the CPU resulted in the exposure of people to significant temporary construction noise. Future development implemented under the CPU could result in a temporary ambient noise increase due to construction activities.

Although no specific construction or development is proposed at this time, construction noise impacts could occur as future development within the CPU area occurs. Due to the



developed nature of the CPU area, there is a high likelihood that construction activities would take place adjacent to existing structures and that sensitive receptors would be located in proximity to construction activities.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., demolition; land clearing, grading, and excavation; erection). Construction noise would be short term and would include noise from activities such as site preparation, truck hauling of material, pouring of concrete, and the use of power tools. Noise would also be generated by construction equipment use, including earthmovers, material handlers, and portable generators, and could reach high noise levels for brief periods.

As discussed in Section 6.4, hourly average noise levels would be approximately 83 dB(A)  $L_{eq}$  at 50 feet from the center of construction activity when assessing three pieces of common construction equipment working simultaneously. Noise levels would vary depending on the nature of the construction activities including the duration of specific activities, the equipment involved, the location of the sensitive receivers, and the presence of intervening barriers. Construction noise levels of 83 dB(A)  $L_{eq}$  at 50 feet would attenuate to 75 dB(A)  $L_{eq}$  at 120 feet. Therefore, significant impacts could occur if sensitive land uses are located closer than 120 feet of construction activities.

The City regulates construction noise through its Noise Abatement and Control Ordinance, which puts limits on the days of the week and hours of operation allowed for construction. The City also imposes requirements for building and grading permits related to construction noise. However, there is also a procedure in place that allows for a permit to deviate from the noise ordinance. Due to the highly developed nature of the CPU area with sensitive receivers potentially located in proximity to construction sites, there is a potential for the construction of future projects to expose existing sensitive receptors to significant noise levels. This would result in a potentially significant impact.

**NOISE-1:** Future discretionary projects within the CPU area shall implement the following measures to minimize short-term noise levels caused by construction activities. Measures to reduce construction noise shall be included in the contractor specifications and shall include, but not be limited to, the following:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment (e.g., compressors) as far as possible from adjacent residential receivers.
- Acoustically shield stationary equipment located near residential receivers with temporary noise barriers.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" that shall be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

However, even with implementation of this mitigation, at the program level it cannot be known whether the noise reduction measures would be adequate to reduce noise levels to below a level of significance. Construction noise impacts would, therefore, be significant and unavoidable.

## 7.5 Vibration

As discussed, potential sources of ground-borne vibration could occur as a result of railway operations. For frequent events such as trolley operations, a vibration level of 65 VdB or less at buildings where vibration would interfere with interior operations (Category 1), a vibration level of 72 VdB or less at residential uses and places where people normally sleep (Category 2), and a vibration level 75 VdB or less at institutional uses with primarily daytime use (Category 3) would be considered acceptable (FTA 2018).

There are no Category 1, 2, or 3 land uses located within 600 feet of the right-of-way of the railway located at the western CPU boundary. Additionally, the Mid-Coast Corridor Transit Project noise and vibration analysis also found vibration impacts in this area to be less than significant (SANDAG 2014).

The east-west Green Line Trolley bisects the CPU area; however, no freight trains or larger commuter trains utilize this railway. Vibration levels were calculated using FTA methodology. Vibration levels are a function of trolley speed and distance to the nearest structure, among other factors. Table 13 summarizes the trolley vibration screening distances, and calculations are provided in Attachment 3. As discussed, portions of the Green Line Trolley tracks are on elevated structures and do not cause significant vibration impacts to adjacent development. Areas where noise- and vibration-sensitive uses are located the closest to the tracks (as close as 25 feet) are at the existing trolley stations. Because all trolleys stop at each station, trolley speeds approaching and departing from the stations would be very low and would not cause significant vibration levels over existing levels. These screening distances are therefore conservative.

**Table 13**  
**Trolley Vibration Screening Distances**

Trolley Speed (mph)	Vibration Level at 25 Feet (VdB)	Distance to (feet)		
		75 VdB (Category 3)	72 VdB (Category 2)	65 VdB (Category 1)
15	67	1	9	33
20	70	6	14	48
25	72	11	21	63
30	73	16	28	77
35	74	21	35	90
40	76	26	42	102
45	77	31	49	114
50	78	36	55	125
55	78	41	62	136
60	79	45	68	147

Source: Attachment 3.

As discussed, the future Purple Line Trolley would run through the Stadium Specific Plan area. The exact alignment is not known at this time, however, vibration impacts and screening distances for the Purple Line Trolley are anticipated to be the same as those for the Green Line Trolley. Impacts would be less than significant; therefore, no mitigation measures are required.

## 8.0 Summary of Impacts and Mitigation

### 8.1 Increase in Ambient Noise

The CPU area is dominated by freeway noise. There are some roadway segments that experience noise level increases that are 3 dB or greater as shown in Table 10; however, due to the proximity to a freeway and its associated freeway noise, the actual increase in ambient noise levels attributable to the specified roadway would be less than 3 dB. Additionally, there are areas where there are no noise-sensitive land uses. A significant noise impact was identified adjacent to the following three roadway segments.

- Phyllis Place from Abbots Hill Road to I-805 Southbound Ramps

Single- and multi-family residential uses are located towards the western terminus of Phyllis Place. Noise levels are dominated by vehicle traffic on I-805, with existing noise contours ranging from 65 to 75 CNEL. However, because noise levels due to vehicle traffic on Phyllis Place would increase from 57 to 69 CNEL and would result in a 3 dB increase in ambient noise levels even when taking existing traffic noise from I-805 into account, noise impacts would be significant.

- Bachman Place from Hotel Circle South to Lewis Street

Residential, hospital, and hotel land uses are located adjacent to this segment of Bachman Place. Noise levels currently exceed the significance threshold of 65 CNEL, and future vehicle traffic would increase ambient noise levels by more than 3 dB. Noise impacts would be significant.

- Rancho Mission Road from San Diego Mission Road to Camino del Rio North

Residential land uses are located adjacent to this segment of Rancho Mission Road. Existing noise levels due to I-15 would range from 65 to 75 CNEL. However, even when taking existing traffic from I-15 into account, future vehicle traffic noise along this roadway segment could increase by 3 dB. Noise impacts would be significant.

The increase in ambient noise levels adjacent to these three roadway segments would result in the exposure of existing noise-sensitive receptors to a significant increase in ambient noise levels, and impacts would be significant. Because the significant noise impacts are to existing homes and other noise-sensitive uses in an already urbanized area, there is no feasible mitigation. Thus, impacts to existing sensitive land uses would remain significant and unavoidable.

An existing regulatory framework and review process exists for new development in areas exposed to high levels of ambient noise. Site-specific noise analyses demonstrating that future development implemented under the CPU would not subject sensitive receptors to existing or future noise levels exceeding the General Plan's Land Use – Noise Compatibility Guidelines would be required as part of the review process for discretionary projects. With the implementation of these regulations and procedures, noise impacts applicable to new discretionary projects would be less than significant as exterior noise would be attenuated. However, in the case of ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts attributed to ministerial projects located in areas that exceed the applicable land use and noise compatibility level would be significant and unavoidable. Interior noise impacts for all projects, including ministerial projects, would be less than significant because building permit applicants must demonstrate compliance with the relevant interior noise standards through submission and approval of a Title 24 Compliance Report.

The proposed CPU includes a policy encouraging retrofitting of older structures with noise sensitive land uses with acoustically rated windows and doors featuring higher Sound Transmission Class ratings, which is a measure of exterior noise reduction performance. However, because not all existing noise sensitive land uses would be retrofitted, impacts to existing sensitive land uses would be significant and unavoidable. No feasible mitigation has been identified at the program level to reduce this impact to less than significant.

For future noise sensitive land uses, while some projects may adequately attenuate exterior noise, there could still be new noise sensitive land uses located in areas that would experience a significant increase in ambient noise levels exceeding the applicable Land Use

– Noise Compatibility Guidelines, and therefore impacts would be significant and unavoidable.

## 8.2 Land Use Compatibility

### 8.2.1 Vehicle Traffic Noise

Noise levels greater than 75 CNEL are generally considered incompatible for all land use types. Land uses located within 239 to 288 feet of I-5, 163 to 320 feet of I-8, 262 to 315 feet of I-15, 292 to 325 feet of I-805, and 190 to 262 feet of SR-163 would potentially be exposed to noise levels greater than 75 CNEL and would be considered incompatible. Implementation of the CPU would result in changes to the land uses, which would introduce new noise-sensitive land uses in areas exceeding the Land Use – Noise Compatibility Guidelines. Therefore, impacts associated with future development within these areas would be significant.

Future discretionary proposals within the CPU area would be required to conduct site-specific exterior noise analyses to demonstrate that the proposed project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the Land Use – Noise Compatibility Guidelines of the General Plan Noise Element. Additionally, for all future projects located in areas where exterior noise levels exceed the Land Use – Noise Compatibility Guidelines as defined in the General Plan Noise Element, Table N-3, site-specific interior noise analyses demonstrating compliance with the interior standards of the General Plan would be required. These requirements for site-specific noise analyses would be implemented through submission of a Title 24 Compliance Report to demonstrate interior noise levels of 45 CNEL. Through implementation of this regulatory framework, exterior traffic noise impacts associated with new development requiring discretionary approvals and interior traffic noise impacts for both ministerial and discretionary projects would be less than significant.

However, in the case of exterior noise impacts associated with ministerial projects, there is no procedure to ensure that exterior noise is adequately attenuated. Therefore, exterior noise impacts for ministerial projects located in areas that exceed the applicable land use and noise compatibility level would be significant and unavoidable.

### 8.2.2 Trolley Noise

It is anticipated that noise levels due to future Purple Line Trolley operation would be similar to noise levels from the Blue and Green Line Trolleys. Noise levels along I-15 would exceed 70 and 75 CNEL along the future Purple Line Trolley. As with the Blue and Green Line Trolley, vehicle traffic noise would exceed the contribution of noise from trolley operations. However, the exact alignment of the Purple Line Trolley is not known at this time, and it could be located in close proximity to noise sensitive land uses. As with the Green Line Trolley, although vehicle traffic would be the dominant noise source, trolley noise levels in close proximity to the tracks would contribute to the overall exterior noise

level, and the combined vehicle traffic and trolley exterior noise levels could exceed the Land Use – Noise Compatibility Guidelines, resulting in a significant impact.

### 8.3 Stationary Noise

The land uses proposed by the CPU would be similar to the land uses that currently exist in the CPU area, although with greater density. Because noise levels in the CPU area are dominated by vehicle traffic on freeways and heavily traveled area roadways, noise levels from stationary sources throughout the CPU area would not be expected to increase the hourly or daily average sound level with respect to current conditions. While noise-sensitive residential land uses would be exposed to noise associated with the operation of commercial uses, future projects would be required to show compliance with the Noise Abatement and Control Ordinance to ensure noise compatibility between various land uses. As detailed in Section 4.4, the City regulates specific noise level limits allowable between land uses including the requirement for noise studies, limits on hours of operation for various noise-generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. Through enforcement of the Noise Abatement and Control Ordinance of the SDMC, impacts would be less than significant.

### 8.4 Construction Noise

Although no specific construction or development is proposed at this time, construction noise impacts could occur as future development within the CPU area occurs. Due to the developed nature of CPU area, there is a high likelihood that construction activities would take place adjacent to existing structures and that sensitive receptors would be located in proximity to construction activities. The City regulates noise associated with construction equipment and activities through its Noise Abatement and Control Ordinance, which puts limits on the days of the week and hours of operation allowed for construction. The construction noise levels of 83 dB(A)  $L_{eq}$  at 50 feet would attenuate to 75 dB(A)  $L_{eq}$  at 120 feet. Therefore, significant impacts would occur if sensitive land uses are located closer than 120 feet of construction activities. The following mitigation measure would be implemented to address potential construction noise impacts:

**NOISE-1:** Future discretionary projects within the CPU area shall implement the following measures to minimize short-term noise levels caused by construction activities. Measures to reduce construction noise shall be included in the contractor specifications and shall include, but not be limited to, the following:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment (e.g., compressors) as far as possible from adjacent residential receivers.
- Acoustically shield stationary equipment located near residential receivers with temporary noise barriers.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" that shall be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem.

Implementation of this mitigation measure would reduce construction-related noise impacts for future discretionary projects implemented under the proposed CPU. However, in the case of ministerial projects, there is no procedure to ensure that construction-related noise impacts are mitigated. Even with implementation of NOISE-1, significant construction noise impacts may still occur, therefore this impact would be significant and unavoidable.

## 8.5 Vibration

Potential sources of ground-borne vibration could occur as a result of trolley operations. Portions of the Green Line Trolley tracks are on elevated structures and do not cause significant vibration impacts to adjacent development. It should be noted that the areas where noise- and vibration-sensitive uses are located the closest to the tracks (as close as 25 feet) are at the existing trolley stations. Impacts related to trolley vibration associated with the Green Line trolley would be less than significant.

The future Purple Line Trolley would run through the Stadium Specific Plan area. The exact alignment is not known at this time, however, vibration impacts and screening distances for the Purple Line Trolley are anticipated to be the same as those for the Green Line Trolley. Impacts would be less than significant; therefore, no mitigation measures are required.

## 9.0 References Cited

California Code of Regulations (CCR)

2016 2016 *California Building Code, California Code of Regulations, Title 24, Chapter 12 Interior Environment, Section 1207, Sound Transmission*. Accessed at <http://www.bsc.ca.gov/codes.aspx>.

California Department of Transportation (Caltrans)

2004 Transportation- and Construction-Induced Vibration Guidance Manual. June. Accessed at <http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf>.

2013 Technical Noise Supplement. November.

2016a 2016 Traffic Volumes on the California State Highway System. Department of Transportation, Division of Traffic Operations.

2016b 2016 Annual Average Daily Truck Traffic on the California State Highway System. Compiled by Department of Transportation, Division of Traffic Operations, Traffic Data Branch.

Chen Ryan Associates

2019 Mission Valley Community Plan Update Transportation Impact Study. January 24.

Federal Highway Administration (FHWA)

2006 FHWA Highway Construction Noise Handbook. Prepared by U.S. Department of Transportation Research and Innovative Technology Administration. Prepared for FHWA Office of Natural and Human Environment. FHWA-HEP-06-015. Final Report August 2006.

Federal Transit Administration (FTA)

2018 Transit Noise and Vibration Impact Assessment Manual. September.

Harris Miller Miller & Hanson, Inc.

2006 Chicago Rail Efficiency and Transportation Efficiency (CREATE) Railroad Noise Model. Noise Model based on Federal Transit Administration General Transit Noise Assessment. Developed for CREATE Project. 2006.

Los Angeles–San Diego–San Luis Obispo (LOSSAN) Rail Corridor Agency

2012 LOSSAN Corridorwide Strategic Implementation Plan. April 2012.

San Diego Association of Governments (SANDAG)

2014 Noise and Vibration Impacts Technical Report for the Mid-Coast Corridor.

2018 Transportation Forecast Information Center. Series 13 Traffic Volume Forecast. Accessed at <http://tfic.sandag.org/> on October 30, 2018.

San Diego, City of

2015 City of San Diego General Plan Amendments. Resolution Number R- 309817 Final Environmental Impact Report No. 104495 Addendum R-309818. Adopted by City Council on June 29.

2016 Significance Determination Thresholds for the California Environmental Quality Act (CEQA). July.

Svinkin, Mark R.

1992 Pile Driving Induced Vibrations as a Source of Industrial Seismology. Proceedings of the 4th International Conference on the Application of Stress-Wave Theory to Piles, The Hague, The Netherlands, pp. 167-174.



# **ATTACHMENTS**

**ATTACHMENT 1**  
**Noise Measurement Data**















Measurement 4 Leq = 65.5

Record #	Date	Time	LAeq		LApeak	LASmax	LASmin
3	2015/09/16	15:47:39	75.8	38416489	87.1	73.7	72.0
4	2015/09/16	15:47:40	73.0	20141280	86.7	74.9	70.4
5	2015/09/16	15:47:45	67.6	5692802	85.6	70.4	67.6
6	2015/09/16	15:47:50	65.3	3386260	80.7	67.6	64.3
7	2015/09/16	15:47:55	66.3	4245143	81.5	66.6	64.5
8	2015/09/16	15:48:00	65.7	3694730	78.7	66.6	64.8
9	2015/09/16	15:48:05	69.1	8149334	82.7	69.9	64.9
10	2015/09/16	15:48:10	66.6	4572607	93.7	69.8	64.0
11	2015/09/16	15:48:15	64.3	2663218	83.3	65.0	63.3
12	2015/09/16	15:48:20	65.6	3605216	78.3	66.1	64.4
13	2015/09/16	15:48:25	64.7	2952649	78.5	65.9	63.7
14	2015/09/16	15:48:30	61.2	1330788	79.1	63.6	60.3
15	2015/09/16	15:48:35	59.9	984795.4	77.4	61.0	59.7
16	2015/09/16	15:48:40	63.9	2482900	77.7	65.5	60.2
17	2015/09/16	15:48:45	60.9	1238230	77.5	64.7	60.2
18	2015/09/16	15:48:50	59.7	935670.9	75.0	61.6	58.9
19	2015/09/16	15:48:55	58.7	740420.1	71.2	59.2	58.4
20	2015/09/16	15:49:00	58.9	784784.1	72.9	59.2	58.6
21	2015/09/16	15:49:05	60.0	1011009	73.0	60.5	58.7
22	2015/09/16	15:49:10	59.4	867686.6	72.0	60.5	59.0
23	2015/09/16	15:49:15	58.4	696596.6	71.5	59.4	58.1
24	2015/09/16	15:49:20	58.2	663768.3	71.4	58.8	57.8
25	2015/09/16	15:49:25	59.1	810225.6	72.6	59.7	58.5
26	2015/09/16	15:49:30	61.7	1479753	74.8	62.5	59.8
27	2015/09/16	15:49:35	62.5	1794799	77.0	63.2	62.1
28	2015/09/16	15:49:40	59.3	846594.9	71.8	62.3	58.7
29	2015/09/16	15:49:45	58.4	694362	71.2	58.7	58.1
30	2015/09/16	15:49:50	61.4	1372709	76.5	62.4	58.6
31	2015/09/16	15:49:55	60.6	1157184	74.9	61.6	59.7
32	2015/09/16	15:50:00	58.9	771995.6	72.5	62.0	57.9
33	2015/09/16	15:50:05	58.4	684050.2	72.3	58.7	58.0
34	2015/09/16	15:50:10	59.7	927322.9	73.8	60.6	58.6
35	2015/09/16	15:50:15	60.2	1050682	79.9	61.2	59.2
36	2015/09/16	15:50:20	57.2	526306.9	70.6	59.6	56.8
37	2015/09/16	15:50:25	56.7	471972.4	72.3	57.0	56.5
38	2015/09/16	15:50:30	60.6	1159191	77.2	62.8	57.1
39	2015/09/16	15:50:35	65.8	3843492	79.3	67.0	62.7
40	2015/09/16	15:50:40	72.8	18867854	87.9	74.1	67.0
41	2015/09/16	15:50:45	67.9	6213677	81.8	72.2	67.3
42	2015/09/16	15:50:50	72.3	16806660	87.1	74.1	67.2
43	2015/09/16	15:50:55	73.5	22279945	86.0	75.2	70.9
44	2015/09/16	15:51:00	66.3	4254363	79.2	70.8	65.9
45	2015/09/16	15:51:05	67.3	5325724	80.3	67.4	66.5
46	2015/09/16	15:51:10	65.3	3370420	79.5	67.0	64.7
47	2015/09/16	15:51:15	65.4	3466115	78.5	65.8	64.8
48	2015/09/16	15:51:20	64.0	2498069	77.4	65.3	63.6
49	2015/09/16	15:51:25	68.1	6429613	82.7	70.5	64.0
50	2015/09/16	15:51:30	67.9	6232875	81.9	69.9	66.3
51	2015/09/16	15:51:35	68.0	6262377	84.1	69.2	66.9
52	2015/09/16	15:51:40	66.3	4294491	82.0	67.0	65.9
53	2015/09/16	15:51:45	66.7	4727010	79.8	67.0	65.9
54	2015/09/16	15:51:50	65.2	3338475	79.7	67.2	62.6
55	2015/09/16	15:51:55	60.0	990138.3	75.0	62.6	59.2
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59	2015/09/16	15:52:15	58.7	738796.7	71.6	59.4	58.6
60	2015/09/16	15:52:20	57.7	594134.8	70.6	58.7	57.5
61	2015/09/16	15:52:25	57.4	553621.9	69.8	57.7	57.3
62	2015/09/16	15:52:30	58.8	755713.1	72.7	59.7	57.5
63	2015/09/16	15:52:35	60.5	1131661	74.5	61.5	59.7
64	2015/09/16	15:52:40	61.6	1429223	75.3	62.5	60.4
65	2015/09/16	15:52:45	58.6	728844.1	71.9	60.4	58.1
66	2015/09/16	15:52:50	57.7	588711.9	71.7	58.1	57.4
67	2015/09/16	15:52:55	57.8	606940.7	71.5	58.3	57.5
68	2015/09/16	15:53:00	58.2	667936.6	70.9	58.7	57.6
69	2015/09/16	15:53:05	58.3	676000.9	73.0	59.3	57.8
70	2015/09/16	15:53:10	57.7	592654.5	69.6	58.3	57.5
71	2015/09/16	15:53:15	59.7	938795.1	76.6	60.3	57.5
72	2015/09/16	15:53:20	59.1	811680.8	72.0	59.7	58.9
73	2015/09/16	15:53:25	59.5	886454.1	73.3	60.5	58.6
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76	2015/09/16	15:53:40	69.1	8199206	86.7	74.1	59.4
77	2015/09/16	15:53:45	75.7	37208625	90.2	78.0	74.1
78	2015/09/16	15:53:50	70.0	9933868	86.3	74.8	69.2
79	2015/09/16	15:53:55	67.4	5445678	81.7	69.4	66.3
80	2015/09/16	15:54:00	66.9	4944421	81.6	67.7	66.2
81	2015/09/16	15:54:05	67.0	5011890	79.6	67.7	66.7
82	2015/09/16	15:54:10	67.1	5132993	80.2	67.8	66.3
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85	2015/09/16	15:54:25	65.3	3393376	78.1	65.8	64.6
86	2015/09/16	15:54:30	67.9	6151271	80.7	68.0	65.8
87	2015/09/16	15:54:35	66.7	4671288	79.5	67.7	66.3
88	2015/09/16	15:54:40	66.0	3964092	78.5	66.3	65.6
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92	2015/09/16	15:55:00	62.9	1968242	77.6	65.6	61.4

7899 Mission Valley CPU  
Noise Measurement Data

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100	2015/09/16	15:55:40	57.1	517579	70.4	57.6	56.6
101	2015/09/16	15:55:45	58.4	685175.9	71.2	59.1	57.4
102	2015/09/16	15:55:50	59.8	965385.5	73.9	60.7	59.1
103	2015/09/16	15:55:55	59.1	822154.8	71.9	59.6	58.5
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120	2015/09/16	15:57:20	68.6	7268424	81.1	72.4	68.5
121	2015/09/16	15:57:25	68.6	7187567	81.6	68.8	68.3
122	2015/09/16	15:57:30	70.3	10742247	84.8	71.5	68.1
123	2015/09/16	15:57:35	69.2	8341190	86.1	71.5	67.9
124	2015/09/16	15:57:40	70.5	11183464	86.7	71.9	68.7
125	2015/09/16	15:57:45	67.2	5282433	80.3	68.7	67.0
126	2015/09/16	15:57:50	66.8	4779322	79.9	67.3	66.5
127	2015/09/16	15:57:55	66.8	4837658	79.1	67.5	66.5
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133	2015/09/16	15:58:25	62.7	1871631	75.0	63.2	61.3
134	2015/09/16	15:58:30	62.7	1879311	76.0	63.3	61.9
135	2015/09/16	15:58:35	58.7	738958.3	72.0	61.8	57.5
136	2015/09/16	15:58:40	57.6	581453.9	72.4	58.2	57.0
137	2015/09/16	15:58:45	58.1	647326.9	72.4	58.7	57.5
138	2015/09/16	15:58:50	58.6	730783.3	71.9	59.9	57.7
139	2015/09/16	15:58:55	57.2	527620.1	70.9	58.0	57.0
140	2015/09/16	15:59:00	57.3	540287.8	70.0	57.6	56.9
141	2015/09/16	15:59:05	58.3	678302.7	71.4	58.6	57.3
142	2015/09/16	15:59:10	58.5	710125.6	71.1	58.7	58.1
143	2015/09/16	15:59:15	60.4	1095536	73.9	61.3	58.6
144	2015/09/16	15:59:20	62.4	1738175	75.3	62.7	61.2
145	2015/09/16	15:59:25	60.2	1039496	73.4	62.4	58.7
146	2015/09/16	15:59:30	57.3	532106.7	71.1	58.7	56.9
147	2015/09/16	15:59:35	57.1	516280.4	71.4	57.5	56.7
148	2015/09/16	15:59:40	58.2	661171.3	71.8	59.5	56.7
149	2015/09/16	15:59:45	61.4	1380607	74.7	61.9	59.5
150	2015/09/16	15:59:50	59.4	875345.5	73.1	61.2	59.0
151	2015/09/16	15:59:55	59.8	945852.1	72.9	60.5	59.0
152	2015/09/16	16:00:00	60.2	1044371	73.6	60.6	59.7
153	2015/09/16	16:00:05	63.3	2154582	77.5	64.6	60.4
154	2015/09/16	16:00:10	59.3	856162.4	75.6	63.9	58.3
155	2015/09/16	16:00:15	59.9	971324.2	75.3	61.6	58.0
156	2015/09/16	16:00:20	71.9	15466855	90.6	74.1	61.7
157	2015/09/16	16:00:25	65.8	3802838	79.2	69.5	64.9
158	2015/09/16	16:00:30	66.1	4077123	78.2	66.4	65.3
159	2015/09/16	16:00:35	67.0	4999948	82.9	67.8	66.1
160	2015/09/16	16:00:40	67.5	5637756	80.9	68.8	66.5
161	2015/09/16	16:00:45	67.4	5440304	81.2	68.4	66.7
162	2015/09/16	16:00:50	72.1	16281583	87.1	73.7	66.8
163	2015/09/16	16:00:55	65.6	3617861	78.9	70.9	64.3
164	2015/09/16	16:01:00	66.0	3977353	79.4	67.0	64.2
165	2015/09/16	16:01:05	66.0	3940299	79.9	66.7	65.7
166	2015/09/16	16:01:10	65.9	3909382	86.7	66.3	65.5
167	2015/09/16	16:01:15	68.1	6422049	81.5	68.5	65.9
168	2015/09/16	16:01:20	69.4	8782389	83.0	70.1	68.1
169	2015/09/16	16:01:25	67.1	5117911	80.4	68.8	66.3
170	2015/09/16	16:01:30	65.2	3339695	78.0	66.3	64.9
171	2015/09/16	16:01:35	62.9	1949737	77.7	65.3	61.3
172	2015/09/16	16:01:40	59.3	860143.8	74.2	61.3	58.6
173	2015/09/16	16:01:45	59.4	870542.5	71.9	59.6	58.8
174	2015/09/16	16:01:50	62.9	1947126	78.0	66.0	59.1
175	2015/09/16	16:01:55	66.5	4471382	80.5	68.0	64.7
176	2015/09/16	16:02:00	63.2	2108981	79.3	66.8	60.3
177	2015/09/16	16:02:05	58.8	765262.5	72.2	60.3	58.2
178	2015/09/16	16:02:10	60.3	1064655	73.5	61.2	58.6
179	2015/09/16	16:02:15	59.1	813205.1	72.5	60.0	58.8
180	2015/09/16	16:02:20	58.3	676826.2	70.6	59.4	58.2
181	2015/09/16	16:02:25	61.3	1345930	86.1	62.1	58.3
182	2015/09/16	16:02:30	60.8	1211264	76.8	62.2	60.2
183	2015/09/16	16:02:35	62.6	1833321	80.3	65.0	60.6
184	2015/09/16	16:02:40	67.2	5194970	78.60943	65.48159	65.03259

7899 Mission Valley CPU  
Noise Measurement Data

Measurement 5      Leq =      73.0

Record #	Date	Time	LAeq		LApeak	LASmax	LASmin
2	2015/09/16	16:36:30	69.8	9642923	84.9	73.4	68.7
3	2015/09/16	16:36:35	68.7	7397746	84.3	69.1	68.4
4	2015/09/16	16:36:40	70.3	10655583	83.0	71.2	69.0
5	2015/09/16	16:36:45	67.9	6138770	82.2	69.1	67.3
6	2015/09/16	16:36:50	69.7	9285341	84.8	70.8	67.1
7	2015/09/16	16:36:55	69.5	8859326	82.4	70.4	68.9
8	2015/09/16	16:37:00	70.8	12037954	91.8	71.2	70.0
9	2015/09/16	16:37:05	71.2	13151539	84.6	71.5	70.6
10	2015/09/16	16:37:10	70.9	12337256	84.2	71.7	70.2
11	2015/09/16	16:37:15	70.8	12009945	84.7	71.3	70.4
12	2015/09/16	16:37:20	69.5	8904309	84.2	71.0	68.8
13	2015/09/16	16:37:25	69.1	8047529	81.4	69.4	68.4
14	2015/09/16	16:37:30	70.7	11697563	87.0	71.7	69.1
15	2015/09/16	16:37:35	71.9	15578303	84.6	72.7	71.1
16	2015/09/16	16:37:40	70.9	12278337	83.5	71.5	70.4
17	2015/09/16	16:37:45	70.5	11301728	88.3	71.1	70.0
18	2015/09/16	16:37:50	71.2	13042895	83.5	71.7	70.8
19	2015/09/16	16:37:55	70.8	11988275	83.9	71.3	70.3
20	2015/09/16	16:38:00	70.4	10990164	83.8	71.5	69.8
21	2015/09/16	16:38:05	70.6	11518240	84.7	71.5	69.5
22	2015/09/16	16:38:10	71.1	13020368	83.8	72.1	70.3
23	2015/09/16	16:38:15	70.6	11510796	84.3	71.0	70.2
24	2015/09/16	16:38:20	72.5	17579625	85.6	73.3	70.6
25	2015/09/16	16:38:25	72.6	18213249	86.0	73.3	72.1
26	2015/09/16	16:38:30	81.1	1.29E+08	107.6	84.5	73.3
27	2015/09/16	16:38:35	74.2	26017688	87.5	77.7	73.9
28	2015/09/16	16:38:40	72.3	16987969	86.7	75.4	71.5
29	2015/09/16	16:38:45	71.4	13838787	86.1	71.8	71.1
30	2015/09/16	16:38:50	72.3	16821577	84.9	72.8	71.0
31	2015/09/16	16:38:55	72.2	16417119	85.6	72.6	71.9
32	2015/09/16	16:39:00	70.9	12350136	85.0	72.2	70.7
33	2015/09/16	16:39:05	72.1	16117720	85.2	72.4	70.8
34	2015/09/16	16:39:10	71.6	14587167	84.2	72.0	71.3
35	2015/09/16	16:39:15	70.9	12288566	84.0	71.3	70.8
36	2015/09/16	16:39:20	70.4	10993988	83.8	70.9	70.1
37	2015/09/16	16:39:25	71.6	14468543	94.7	72.2	70.6
38	2015/09/16	16:39:30	72.8	19021009	86.4	73.4	72.1
39	2015/09/16	16:39:35	75.2	33346885	92.6	77.8	72.8
40	2015/09/16	16:39:40	75.4	34406655	92.0	78.7	74.0
41	2015/09/16	16:39:45	74.6	28609845	90.1	75.8	73.4
42	2015/09/16	16:39:50	72.5	17895770	87.0	73.7	71.2
43	2015/09/16	16:39:55	71.1	12740768	83.9	71.7	70.2
44	2015/09/16	16:40:00	72.8	18978886	90.5	73.0	71.6
45	2015/09/16	16:40:05	72.1	16083355	84.7	72.9	71.6
46	2015/09/16	16:40:10	72.2	16614147	86.6	72.6	71.5
47	2015/09/16	16:40:15	72.4	17181462	85.6	73.0	71.3
48	2015/09/16	16:40:20	71.2	13159004	85.0	72.9	70.9
49	2015/09/16	16:40:25	71.3	13402783	84.8	71.8	70.7
50	2015/09/16	16:40:30	71.6	14301933	83.9	71.7	70.9
51	2015/09/16	16:40:35	70.9	12411863	84.2	71.6	70.8
52	2015/09/16	16:40:40	71.3	13398616	84.5	71.7	70.7
53	2015/09/16	16:40:45	71.6	14430442	84.7	71.8	71.2
54	2015/09/16	16:40:50	72.1	16270861	86.7	73.1	71.3
55	2015/09/16	16:40:55	75.3	33513495	90.0	77.0	73.0
56	2015/09/16	16:41:00	75.5	35280021	92.0	77.7	73.6
57	2015/09/16	16:41:05	74.3	26831664	88.5	75.1	72.4
58	2015/09/16	16:41:10	72.1	16035169	87.2	75.2	71.4
59	2015/09/16	16:41:15	71.5	14257632	84.3	71.9	71.1
60	2015/09/16	16:41:20	72.7	18511368	85.5	73.5	71.7
61	2015/09/16	16:41:25	71.4	13931919	84.5	73.0	71.1
62	2015/09/16	16:41:30	72.5	17925472	85.6	73.1	71.2
63	2015/09/16	16:41:35	71.2	13174710	83.4	72.7	71.0
64	2015/09/16	16:41:40	71.4	13958965	83.5	71.6	71.0
65	2015/09/16	16:41:45	72.9	19604274	86.2	73.8	71.3
66	2015/09/16	16:41:50	73.7	23454300	86.9	74.4	73.2
67	2015/09/16	16:41:55	73.3	21225044	86.5	73.4	73.1
68	2015/09/16	16:42:00	73.3	21442978	86.4	73.9	72.9
69	2015/09/16	16:42:05	73.4	21698342	86.8	73.7	72.9
70	2015/09/16	16:42:10	73.5	22577024	86.2	73.9	73.2
71	2015/09/16	16:42:15	73.4	21869170	86.4	74.1	72.5
72	2015/09/16	16:42:20	72.6	18144619	86.4	73.3	72.3
73	2015/09/16	16:42:25	72.0	15950014	85.5	72.7	71.6
74	2015/09/16	16:42:30	73.1	20396436	88.1	74.4	71.6
75	2015/09/16	16:42:35	73.2	20934573	86.4	74.5	72.9
76	2015/09/16	16:42:40	73.7	23658520	91.1	75.3	72.4
77	2015/09/16	16:42:45	72.4	17308032	85.5	73.1	71.7
78	2015/09/16	16:42:50	71.2	13299210	84.2	72.0	71.0
79	2015/09/16	16:42:55	71.7	14894852	86.2	72.0	71.3
80	2015/09/16	16:43:00	73.9	24604821	90.0	75.8	71.0
81	2015/09/16	16:43:05	77.5	56451094	95.9	79.0	75.1
82	2015/09/16	16:43:10	71.9	15657072	85.3	75.9	71.6
83	2015/09/16	16:43:15	72.8	18981754	86.5	73.4	72.0
84	2015/09/16	16:43:20	71.5	14166379	85.5	72.4	71.3
85	2015/09/16	16:43:25	71.9	15665023	84.5	72.4	71.5
86	2015/09/16	16:43:30	71.1	12860558	85.2	72.4	70.7
87	2015/09/16	16:43:35	70.1	10243178	83.9	71.0	69.6
88	2015/09/16	16:43:40	71.8	15019372	86.2	72.6	69.6
89	2015/09/16	16:43:45	70.2	10549102	83.0	71.7	69.8
90	2015/09/16	16:43:50	69.9	9675604	82.0	70.5	69.4
91	2015/09/16	16:43:55	69.9	9801122	82.5	70.3	69.4

7899 Mission Valley CPU  
Noise Measurement Data

92	2015/09/16	16:44:00	71.3	13395768	85.2	71.8	70.2
93	2015/09/16	16:44:05	72.9	19316055	85.6	73.4	71.5
94	2015/09/16	16:44:10	73.2	21089494	86.8	73.8	72.6
95	2015/09/16	16:44:15	74.5	28081428	87.7	75.1	73.6
96	2015/09/16	16:44:20	74.4	27242266	88.9	75.2	73.9
97	2015/09/16	16:44:25	74.2	26417226	87.5	75.3	73.1
98	2015/09/16	16:44:30	74.3	26612580	88.7	74.9	72.9
99	2015/09/16	16:44:35	73.4	21807098	86.4	74.4	73.1
100	2015/09/16	16:44:40	72.9	19421227	86.1	73.3	72.6
101	2015/09/16	16:44:45	71.7	14701519	88.1	73.1	71.1
102	2015/09/16	16:44:50	71.3	13515802	83.9	71.9	70.4
103	2015/09/16	16:44:55	72.1	16047061	85.9	72.5	71.7
104	2015/09/16	16:45:00	72.7	18793357	87.0	73.2	71.8
105	2015/09/16	16:45:05	72.3	16966346	86.2	73.2	71.8
106	2015/09/16	16:45:10	73.1	20525440	85.7	73.2	72.3
107	2015/09/16	16:45:15	71.9	15632913	85.7	72.9	71.8
108	2015/09/16	16:45:20	72.3	17135103	86.7	72.8	71.6
109	2015/09/16	16:45:25	72.3	16910018	85.1	73.2	71.5
110	2015/09/16	16:45:30	71.9	15448932	85.0	72.3	71.5
111	2015/09/16	16:45:35	72.5	17781576	85.8	73.6	71.2
112	2015/09/16	16:45:40	72.5	17644754	85.5	73.6	71.8
113	2015/09/16	16:45:45	73.6	22756889	86.9	74.1	71.7
114	2015/09/16	16:45:50	72.9	19638123	86.2	74.0	72.5
115	2015/09/16	16:45:55	72.4	17241450	85.5	72.8	71.9
116	2015/09/16	16:46:00	73.4	21664177	86.3	74.3	72.4
117	2015/09/16	16:46:05	72.5	17855261	85.4	72.9	72.1
118	2015/09/16	16:46:10	71.8	14990481	84.9	72.4	71.6
119	2015/09/16	16:46:15	72.7	18595883	85.5	73.4	71.9
120	2015/09/16	16:46:20	73.8	23952974	89.3	74.4	72.9
121	2015/09/16	16:46:25	72.6	18267210	86.3	73.1	72.4
122	2015/09/16	16:46:30	72.9	19601003	86.9	74.0	71.8
123	2015/09/16	16:46:35	72.3	16986476	85.3	73.2	71.3
124	2015/09/16	16:46:40	72.5	17938577	85.5	73.3	71.9
125	2015/09/16	16:46:45	73.1	20408551	86.3	73.9	71.8
126	2015/09/16	16:46:50	74.7	29255524	87.7	75.0	73.9
127	2015/09/16	16:46:55	74.8	30359543	87.5	75.1	74.7
128	2015/09/16	16:47:00	74.4	27476717	86.8	74.8	73.9
129	2015/09/16	16:47:05	74.4	27468899	88.1	74.8	74.1
130	2015/09/16	16:47:10	74.6	28831136	89.6	75.2	73.9
131	2015/09/16	16:47:15	74.6	28841470	87.0	75.1	73.7
132	2015/09/16	16:47:20	74.6	28863823	87.6	75.0	74.2
133	2015/09/16	16:47:25	73.6	23104525	86.8	74.8	72.8
134	2015/09/16	16:47:30	74.9	31128319	89.0	75.6	72.8
135	2015/09/16	16:47:35	73.8	23894723	87.6	74.5	72.9
136	2015/09/16	16:47:40	73.5	22502108	86.1	74.4	73.2
137	2015/09/16	16:47:45	73.1	20623245	86.4	73.9	72.5
138	2015/09/16	16:47:50	73.1	20579960	89.8	73.9	72.1
139	2015/09/16	16:47:55	73.6	23063405	86.3	74.0	73.4
140	2015/09/16	16:48:00	73.1	20433340	87.3	73.5	72.9
141	2015/09/16	16:48:05	73.4	21947723	86.3	73.7	72.7
142	2015/09/16	16:48:10	72.8	18877668	86.1	73.8	72.2
143	2015/09/16	16:48:15	73.8	23868250	87.2	74.2	73.1
144	2015/09/16	16:48:20	73.4	22048392	87.4	74.2	73.0
145	2015/09/16	16:48:25	75.1	32522231	89.1	75.8	73.6
146	2015/09/16	16:48:30	74.5	28468863	88.8	75.1	74.3
147	2015/09/16	16:48:35	74.1	25518358	88.5	74.5	74.0
148	2015/09/16	16:48:40	74.4	27655361	88.2	75.3	73.3
149	2015/09/16	16:48:45	74.1	25499895	86.6	74.6	73.6
150	2015/09/16	16:48:50	73.2	21020918	86.4	73.8	72.6
151	2015/09/16	16:48:55	73.8	23728280	87.8	74.5	72.4
152	2015/09/16	16:49:00	73.4	21839416	87.6	74.2	72.8
153	2015/09/16	16:49:05	74.2	26541333	87.4	74.8	73.7
154	2015/09/16	16:49:10	74.9	31063913	89.0	75.6	73.9
155	2015/09/16	16:49:15	74.0	25009403	87.9	74.7	73.7
156	2015/09/16	16:49:20	74.5	27869612	88.0	74.7	73.7
157	2015/09/16	16:49:25	74.3	26935706	87.9	74.9	73.7
158	2015/09/16	16:49:30	73.7	23186456	87.3	74.3	73.2
159	2015/09/16	16:49:35	73.0	20099713	87.3	73.5	72.7
160	2015/09/16	16:49:40	73.8	24063559	86.4	74.4	73.0
161	2015/09/16	16:49:45	74.1	25546481	87.2	74.5	73.8
162	2015/09/16	16:49:50	73.1	20402636	85.6	74.0	72.5
163	2015/09/16	16:49:55	73.6	22772685	86.5	73.9	72.6
164	2015/09/16	16:50:00	73.0	20106105	89.9	73.9	72.9
165	2015/09/16	16:50:05	74.0	24940827	86.5	74.5	73.0
166	2015/09/16	16:50:10	73.2	20676680	86.3	73.4	73.0
167	2015/09/16	16:50:15	72.8	18973019	85.4	73.2	72.5
168	2015/09/16	16:50:20	73.1	20443213	85.7	73.5	72.6
169	2015/09/16	16:50:25	73.5	22497049	87.7	74.1	73.0
170	2015/09/16	16:50:30	73.3	21485134	85.8	73.7	73.0
171	2015/09/16	16:50:35	74.1	25468109	91.6	74.4	73.2
172	2015/09/16	16:50:40	74.6	28980988	87.9	75.3	73.9
173	2015/09/16	16:50:45	73.2	20949546	86.6	74.2	72.5
174	2015/09/16	16:50:50	73.3	21252990	85.9	74.0	72.6
175	2015/09/16	16:50:55	73.2	20763894	89.1	73.7	72.7
176	2015/09/16	16:51:00	73.1	20435924	90.9	73.3	72.7
177	2015/09/16	16:51:05	73.0	20115891	86.4	73.4	72.8
178	2015/09/16	16:51:10	73.3	21271816	92.7	73.9	72.6
179	2015/09/16	16:51:15	72.6	18302736	85.9	73.9	72.5
180	2015/09/16	16:51:20	74.4	27385255	88.2	75.7	72.6
181	2015/09/16	16:51:25	73.8	23823804	88.2	75.8	73.0
182	2015/09/16	16:51:30	73.8	23782908	85.7	73.5	73.3

7899 Mission Valley CPU  
Noise Measurement Data

Measurement 6           Leq =     76.4

Record #	Date	Time	LAeq		LApeak	LASmax	LASmin
2	2015/09/16	17:27:58	76.6	45291562	88.8	77.0	76.5
3	2015/09/16	17:28:00	77.3	53504336	91.1	78.2	75.9
4	2015/09/16	17:28:05	78.5	70667962	91.4	78.9	78.1
5	2015/09/16	17:28:10	77.4	54866037	89.7	78.4	77.2
6	2015/09/16	17:28:15	77.3	53748898	90.9	78.0	76.5
7	2015/09/16	17:28:20	78.5	70499079	92.9	78.9	77.9
8	2015/09/16	17:28:25	77.7	58945077	90.7	78.1	77.4
9	2015/09/16	17:28:30	77.6	57753914	90.2	78.0	77.2
10	2015/09/16	17:28:35	76.3	42177726	89.4	77.2	75.8
11	2015/09/16	17:28:40	76.6	46118543	90.0	77.0	76.3
12	2015/09/16	17:28:45	75.7	37495372	88.5	76.4	75.2
13	2015/09/16	17:28:50	76.8	47951664	91.0	77.5	76.0
14	2015/09/16	17:28:55	77.8	60252931	90.9	78.5	77.2
15	2015/09/16	17:29:00	75.2	33272335	89.3	77.4	74.5
16	2015/09/16	17:29:05	76.4	44018687	89.4	76.8	75.6
17	2015/09/16	17:29:10	77.2	52309875	90.6	77.2	76.2
18	2015/09/16	17:29:15	76.7	47032451	91.5	77.3	76.2
19	2015/09/16	17:29:20	77.0	50663226	90.9	77.6	76.2
20	2015/09/16	17:29:25	76.7	47230005	89.7	77.6	76.5
21	2015/09/16	17:29:30	76.8	47466396	91.4	77.1	76.3
22	2015/09/16	17:29:35	76.6	45451851	90.1	77.2	76.0
23	2015/09/16	17:29:40	76.7	47013204	90.0	77.3	76.4
24	2015/09/16	17:29:45	77.0	50471258	88.9	77.4	76.4
25	2015/09/16	17:29:50	75.9	39265274	90.3	77.2	75.1
26	2015/09/16	17:29:55	74.9	30942132	87.2	75.4	74.1
27	2015/09/16	17:30:00	75.3	33515556	90.7	75.8	74.8
28	2015/09/16	17:30:05	75.9	38529223	89.6	76.3	75.2
29	2015/09/16	17:30:10	78.0	62685296	91.6	78.6	76.3
30	2015/09/16	17:30:15	76.9	48901984	89.9	78.3	76.3
31	2015/09/16	17:30:20	75.6	35902309	89.6	76.3	75.4
32	2015/09/16	17:30:25	76.4	43525406	89.3	76.7	75.6
33	2015/09/16	17:30:30	76.1	40403252	88.6	76.7	75.6
34	2015/09/16	17:30:35	76.7	46802742	90.4	77.0	76.3
35	2015/09/16	17:30:40	77.5	55726199	90.1	78.0	76.6
36	2015/09/16	17:30:45	77.1	51840847	90.6	77.8	76.7
37	2015/09/16	17:30:50	75.9	38645818	88.6	76.8	75.4
38	2015/09/16	17:30:55	76.1	40505874	90.0	76.5	75.8
39	2015/09/16	17:31:00	74.0	25230444	88.2	76.1	73.1
40	2015/09/16	17:31:05	74.3	26743524	86.8	74.7	73.1
41	2015/09/16	17:31:10	75.6	36444225	89.0	76.0	74.6
42	2015/09/16	17:31:15	75.6	35924958	89.4	76.4	74.6
43	2015/09/16	17:31:20	76.8	48213091	89.9	77.3	76.1
44	2015/09/16	17:31:25	75.2	33169621	88.7	76.7	74.6
45	2015/09/16	17:31:30	75.7	36984575	89.2	76.3	74.5
46	2015/09/16	17:31:35	77.2	52721704	89.7	77.5	76.3
47	2015/09/16	17:31:40	77.2	52743937	89.6	77.7	76.6
48	2015/09/16	17:31:45	75.6	36571725	88.4	76.6	75.4
49	2015/09/16	17:31:50	75.7	37419304	88.5	75.9	75.3
50	2015/09/16	17:31:55	76.9	48735863	89.5	77.2	75.8
51	2015/09/16	17:32:00	75.4	34614723	89.5	76.8	75.1
52	2015/09/16	17:32:05	75.5	35148688	89.9	75.9	74.8
53	2015/09/16	17:32:10	76.4	43956250	90.1	77.2	75.1
54	2015/09/16	17:32:15	76.8	48176431	90.2	77.4	76.4
55	2015/09/16	17:32:20	75.4	34808331	88.3	76.5	75.2
56	2015/09/16	17:32:25	76.2	41553327	89.8	76.5	75.2
57	2015/09/16	17:32:30	76.4	43575977	91.7	77.0	75.8
58	2015/09/16	17:32:35	76.2	41221786	88.7	76.5	75.7
59	2015/09/16	17:32:40	75.9	38774753	88.9	76.8	75.2
60	2015/09/16	17:32:45	76.2	41324962	89.9	76.6	75.4
61	2015/09/16	17:32:50	76.8	48124748	90.6	77.0	76.6
62	2015/09/16	17:32:55	77.1	50746065	90.2	77.8	76.3
63	2015/09/16	17:33:00	75.9	38805145	89.6	76.4	75.3
64	2015/09/16	17:33:05	76.5	44389175	89.3	76.9	75.9
65	2015/09/16	17:33:10	75.6	36347679	88.9	76.4	75.4
66	2015/09/16	17:33:15	77.0	50525195	90.0	77.5	75.6
67	2015/09/16	17:33:20	77.1	50726100	90.4	77.6	76.8
68	2015/09/16	17:33:25	77.2	52300410	90.9	77.7	76.5
69	2015/09/16	17:33:30	76.4	44027503	88.8	77.2	76.1
70	2015/09/16	17:33:35	76.3	42322608	91.2	76.6	75.7
71	2015/09/16	17:33:40	76.6	45622484	90.9	77.1	76.4
72	2015/09/16	17:33:45	76.0	40169844	88.7	76.4	75.8
73	2015/09/16	17:33:50	76.2	41217731	90.6	76.8	75.7
74	2015/09/16	17:33:55	76.3	43093788	89.1	77.3	75.7
75	2015/09/16	17:34:00	74.5	28303206	89.5	75.9	74.1
76	2015/09/16	17:34:05	74.4	27310932	87.6	74.6	73.9
77	2015/09/16	17:34:10	75.6	36591711	90.2	76.2	74.3
78	2015/09/16	17:34:15	76.0	39368810	89.0	76.5	75.3
79	2015/09/16	17:34:20	76.6	45540647	89.9	77.0	76.2
80	2015/09/16	17:34:25	77.0	49656692	90.9	77.4	76.5
81	2015/09/16	17:34:30	76.4	43893052	90.7	77.0	76.1
82	2015/09/16	17:34:35	76.5	45078195	88.9	77.0	76.2
83	2015/09/16	17:34:40	76.5	44280526	89.5	77.2	75.7
84	2015/09/16	17:34:45	75.8	37611745	89.7	76.0	75.4
85	2015/09/16	17:34:50	75.7	36973401	88.8	76.3	75.2
86	2015/09/16	17:34:55	75.4	34756271	87.8	75.8	75.2
87	2015/09/16	17:35:00	76.3	42903134	88.8	77.0	75.5
88	2015/09/16	17:35:05	77.9	61293949	90.6	78.0	77.0
89	2015/09/16	17:35:10	77.5	56183280	89.6	78.1	77.0
90	2015/09/16	17:35:15	77.3	53782240	90.3	78.1	76.4
91	2015/09/16	17:35:20	76.6	45204364	90.6	77.6	76.1

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92	2015/09/16	17:35:25	76.3	42734488	89.8	76.8	75.7
93	2015/09/16	17:35:30	76.1	40598128	91.0	76.5	75.5
94	2015/09/16	17:35:35	77.0	50280989	89.7	77.3	76.5
95	2015/09/16	17:35:40	77.2	51912478	89.8	77.4	76.8
96	2015/09/16	17:35:45	76.6	46153556	89.5	77.4	76.2
97	2015/09/16	17:35:50	75.7	36872862	88.1	76.4	75.2
98	2015/09/16	17:35:55	75.9	38799965	89.6	76.7	75.3
99	2015/09/16	17:36:00	75.3	33561453	88.8	75.8	75.0
100	2015/09/16	17:36:05	75.1	32563564	88.7	76.4	74.1
101	2015/09/16	17:36:10	78.4	68410126	91.5	79.2	76.4
102	2015/09/16	17:36:15	77.6	57902436	92.3	79.8	76.3
103	2015/09/16	17:36:20	77.2	52556917	91.0	77.9	76.0
104	2015/09/16	17:36:25	78.4	69164772	91.5	78.7	77.9
105	2015/09/16	17:36:30	77.2	52610403	90.4	78.4	76.1
106	2015/09/16	17:36:35	76.8	47887433	91.0	77.1	76.2
107	2015/09/16	17:36:40	76.3	42416690	89.0	76.7	76.1
108	2015/09/16	17:36:45	76.2	42031863	89.4	76.4	75.9
109	2015/09/16	17:36:50	76.3	42665027	90.4	76.9	75.5
110	2015/09/16	17:36:55	76.2	41895778	89.5	77.2	75.5
111	2015/09/16	17:37:00	74.9	31018598	87.3	75.7	74.5
112	2015/09/16	17:37:05	73.6	23128851	86.3	74.6	73.1
113	2015/09/16	17:37:10	75.7	36731211	88.4	76.0	74.1
114	2015/09/16	17:37:15	75.4	34811755	88.3	75.9	75.1
115	2015/09/16	17:37:20	76.8	48016824	90.1	77.3	75.3
116	2015/09/16	17:37:25	77.3	53143684	91.1	77.5	76.9
117	2015/09/16	17:37:30	77.0	50403829	90.3	77.5	76.7
118	2015/09/16	17:37:35	77.4	54723957	90.4	77.7	77.0
119	2015/09/16	17:37:40	75.6	36498685	89.3	77.3	75.0
120	2015/09/16	17:37:45	76.3	42243870	88.7	76.7	75.0
121	2015/09/16	17:37:50	76.1	40963639	90.4	76.6	75.9
122	2015/09/16	17:37:55	76.7	47273584	90.3	77.2	75.9
123	2015/09/16	17:38:00	76.9	48820354	90.0	77.2	76.4
124	2015/09/16	17:38:05	75.9	39284938	90.6	77.1	75.3
125	2015/09/16	17:38:10	76.1	41008712	89.9	77.3	74.7
126	2015/09/16	17:38:15	76.1	41112438	89.6	77.2	75.6
127	2015/09/16	17:38:20	76.3	42587523	91.0	77.0	75.4
128	2015/09/16	17:38:25	76.6	45193724	89.7	77.6	75.4
129	2015/09/16	17:38:30	74.9	30894932	88.5	75.5	74.7
130	2015/09/16	17:38:35	75.1	32325037	88.1	75.7	74.5
131	2015/09/16	17:38:40	75.2	32948700	88.0	75.8	74.7
132	2015/09/16	17:38:45	76.9	49246046	89.8	77.2	75.3
133	2015/09/16	17:38:50	77.2	52594970	89.4	77.6	76.8
134	2015/09/16	17:38:55	76.4	43855825	89.8	76.8	76.2
135	2015/09/16	17:39:00	75.2	33040571	88.9	76.2	74.7
136	2015/09/16	17:39:05	75.8	38401105	88.6	76.1	75.3
137	2015/09/16	17:39:10	75.6	36506188	89.1	76.1	75.1
138	2015/09/16	17:39:15	75.0	31871403	89.8	75.6	74.5
139	2015/09/16	17:39:20	75.2	32921738	90.2	75.6	75.0
140	2015/09/16	17:39:25	76.8	47382251	89.3	77.3	74.9
141	2015/09/16	17:39:30	77.2	53040622	90.3	77.6	77.0
142	2015/09/16	17:39:35	76.8	47689727	90.1	77.3	76.5
143	2015/09/16	17:39:40	76.2	41727426	90.0	76.7	75.9
144	2015/09/16	17:39:45	75.5	35296139	88.9	76.1	75.0
145	2015/09/16	17:39:50	76.5	44387849	93.0	77.3	75.5
146	2015/09/16	17:39:55	77.1	51513485	90.7	77.4	76.8
147	2015/09/16	17:40:00	76.3	42255597	89.2	77.4	75.7
148	2015/09/16	17:40:05	75.5	35155975	88.9	76.1	74.7
149	2015/09/16	17:40:10	75.5	35329018	90.0	75.8	74.9
150	2015/09/16	17:40:15	76.4	43438555	89.6	76.6	75.6
151	2015/09/16	17:40:20	75.9	39256722	88.7	76.6	75.4
152	2015/09/16	17:40:25	76.0	39602502	88.5	76.2	75.6
153	2015/09/16	17:40:30	75.4	35047261	88.0	76.0	75.1
154	2015/09/16	17:40:35	74.7	29193609	88.0	75.5	73.9
155	2015/09/16	17:40:40	75.2	33068153	88.3	75.9	74.1
156	2015/09/16	17:40:45	75.7	36846314	88.6	76.0	75.1
157	2015/09/16	17:40:50	76.8	48123987	89.9	77.3	76.0
158	2015/09/16	17:40:55	76.3	42649140	90.4	77.4	75.5
159	2015/09/16	17:41:00	75.9	38637537	89.7	76.3	75.3
160	2015/09/16	17:41:05	75.6	36600133	88.7	76.1	75.1
161	2015/09/16	17:41:10	76.4	43762548	89.4	76.8	75.9
162	2015/09/16	17:41:15	78.0	63193351	91.4	78.6	76.7
163	2015/09/16	17:41:20	77.0	50276307	90.5	78.1	76.6
164	2015/09/16	17:41:25	76.8	47530814	90.3	77.2	76.6
165	2015/09/16	17:41:30	76.5	44788502	90.0	77.3	75.9
166	2015/09/16	17:41:35	75.9	38686234	89.3	76.1	75.5
167	2015/09/16	17:41:40	75.3	33773368	88.8	76.0	74.5
168	2015/09/16	17:41:45	75.8	38065614	89.7	76.7	74.9
169	2015/09/16	17:41:50	73.7	23176560	87.5	74.9	73.4
170	2015/09/16	17:41:55	75.3	33753854	88.4	75.5	73.5
171	2015/09/16	17:42:00	75.3	33508315	88.3	75.7	74.8
172	2015/09/16	17:42:05	76.0	39740004	89.2	76.5	75.3
173	2015/09/16	17:42:10	75.4	34583239	93.4	76.2	74.5
174	2015/09/16	17:42:15	76.3	42398140	89.8	76.6	76.0
175	2015/09/16	17:42:20	75.1	32066280	88.0	76.1	74.3
176	2015/09/16	17:42:25	75.9	38478628	90.3	76.1	75.3
177	2015/09/16	17:42:30	76.2	41506999	88.1	76.5	75.7
178	2015/09/16	17:42:35	76.6	46066397	89.7	76.9	76.4
179	2015/09/16	17:42:40	76.7	46498698	90.6	76.9	76.3
180	2015/09/16	17:42:45	77.4	55088848	90.5	77.8	76.8
181	2015/09/16	17:42:50	76.3	42238453	89.3	77.1	75.6
182	2015/09/16	17:42:55	76.9	48427598	89.6	77.5	76.4

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Noise Measurement Data

Measurement 7          Leq =    56.2

Record #	Date	Time	LAeq		LApeak	LASmax	LASmin
2	2015/09/17	09:22:19	53.1	206489.7	63.5	53.5	53.4
3	2015/09/17	09:22:20	53.2	208943	75.4	53.7	52.8
4	2015/09/17	09:22:25	55.8	380264.5	70.6	57.1	53.0
5	2015/09/17	09:22:30	61.1	1302674	78.3	62.6	57.0
6	2015/09/17	09:22:35	58.1	644924	73.1	62.6	56.9
7	2015/09/17	09:22:40	59.3	857896.1	78.7	60.3	56.9
8	2015/09/17	09:22:45	59.8	953435.1	80.8	60.5	59.4
9	2015/09/17	09:22:50	58.7	743281.4	75.3	60.4	58.1
10	2015/09/17	09:22:55	59.0	797189.8	77.2	59.8	57.8
11	2015/09/17	09:23:00	55.5	352841.4	69.7	57.8	55.1
12	2015/09/17	09:23:05	55.1	321736.3	68.1	55.5	54.7
13	2015/09/17	09:23:10	55.5	354494.4	68.0	55.9	54.8
14	2015/09/17	09:23:15	56.0	394760.2	70.6	57.1	54.5
15	2015/09/17	09:23:20	61.9	1551839	84.8	63.2	57.1
16	2015/09/17	09:23:25	53.7	236706.8	66.8	60.4	53.3
17	2015/09/17	09:23:30	53.1	201861.8	66.4	54.0	52.2
18	2015/09/17	09:23:35	55.9	391946	70.3	57.0	53.4
19	2015/09/17	09:23:40	57.2	527909.8	76.0	58.9	55.3
20	2015/09/17	09:23:45	60.6	1149732	77.7	61.3	58.9
21	2015/09/17	09:23:50	63.5	2241852	80.1	65.3	59.5
22	2015/09/17	09:23:55	55.6	364711.9	70.4	59.5	55.3
23	2015/09/17	09:24:00	51.7	147411.9	65.1	56.0	50.6
24	2015/09/17	09:24:05	50.4	109125.9	66.7	51.3	50.0
25	2015/09/17	09:24:10	52.0	158728	72.4	54.0	49.9
26	2015/09/17	09:24:15	50.7	116468	63.8	51.2	50.4
27	2015/09/17	09:24:20	51.4	139502.5	63.6	51.8	50.6
28	2015/09/17	09:24:25	53.9	246565.1	69.7	54.7	51.7
29	2015/09/17	09:24:30	54.0	253276.3	68.6	55.4	53.5
30	2015/09/17	09:24:35	52.0	160041.1	70.7	53.6	51.7
31	2015/09/17	09:24:40	56.2	421654.3	78.8	57.0	51.9
32	2015/09/17	09:24:45	51.7	148540.4	65.6	55.7	51.2
33	2015/09/17	09:24:50	50.8	119666.2	62.7	51.3	50.5
34	2015/09/17	09:24:55	51.1	129528.3	65.7	52.0	50.5
35	2015/09/17	09:25:00	54.8	300363.9	70.2	56.5	51.8
36	2015/09/17	09:25:05	57.5	557451.4	72.3	59.2	55.0
37	2015/09/17	09:25:10	54.4	277361	69.0	57.9	52.5
38	2015/09/17	09:25:15	51.0	126450.9	70.6	52.5	50.4
39	2015/09/17	09:25:20	49.5	88583.14	62.3	50.7	49.1
40	2015/09/17	09:25:25	51.8	151462.4	67.2	52.3	50.1
41	2015/09/17	09:25:30	58.4	690330.7	75.9	60.8	52.3
42	2015/09/17	09:25:35	55.5	352556.7	70.9	57.9	54.2
43	2015/09/17	09:25:40	54.8	301574.4	68.0	55.4	54.0
44	2015/09/17	09:25:45	52.1	161325.5	64.8	54.2	51.6
45	2015/09/17	09:25:50	54.7	296260.6	69.4	56.4	51.9
46	2015/09/17	09:25:55	53.9	247758.9	67.3	54.8	53.1
47	2015/09/17	09:26:00	56.8	478385.4	71.2	58.5	54.8
48	2015/09/17	09:26:05	52.1	160934.3	67.2	55.6	51.7
49	2015/09/17	09:26:10	50.8	120986	64.4	51.7	50.7
50	2015/09/17	09:26:15	51.5	141479.1	67.1	52.6	50.5
51	2015/09/17	09:26:20	53.3	215762.7	68.4	54.6	52.2
52	2015/09/17	09:26:25	52.8	191799.6	71.2	55.4	51.1
53	2015/09/17	09:26:30	59.7	925896.1	73.7	60.9	55.5
54	2015/09/17	09:26:35	53.7	231969.1	68.5	58.8	51.5
55	2015/09/17	09:26:40	50.3	107518.6	63.7	51.5	49.9
56	2015/09/17	09:26:45	50.5	111456.1	65.8	51.1	50.0
57	2015/09/17	09:26:50	55.3	341326.1	69.2	56.4	50.4
58	2015/09/17	09:26:55	53.2	210817.5	67.5	56.3	51.8
59	2015/09/17	09:27:00	55.7	375284.2	70.8	57.9	51.7
60	2015/09/17	09:27:05	54.7	297833.4	89.0	57.7	51.7
61	2015/09/17	09:27:10	54.6	287004.1	72.1	58.1	52.1
62	2015/09/17	09:27:15	62.4	1730675	76.7	63.9	58.2
63	2015/09/17	09:27:20	55.0	313840.8	69.2	60.3	52.6
64	2015/09/17	09:27:25	49.8	96066.88	62.5	52.6	49.4
65	2015/09/17	09:27:30	49.5	90111.5	62.6	49.9	49.2
66	2015/09/17	09:27:35	48.7	74943.85	62.1	49.3	48.6
67	2015/09/17	09:27:40	50.7	116545	86.6	54.4	48.4
68	2015/09/17	09:27:45	48.6	71793.7	62.1	49.0	48.3
69	2015/09/17	09:27:50	53.9	247713.6	73.2	57.5	48.8
70	2015/09/17	09:27:55	60.8	1210268	75.2	62.2	57.2
71	2015/09/17	09:28:00	53.0	198619.4	71.5	60.4	50.8
72	2015/09/17	09:28:05	49.9	98774.17	62.1	50.8	49.8
73	2015/09/17	09:28:10	54.1	254111.7	68.4	55.4	50.1
74	2015/09/17	09:28:15	60.2	1044048	74.2	62.0	54.7
75	2015/09/17	09:28:20	58.9	782872.9	74.5	62.3	57.6
76	2015/09/17	09:28:25	61.1	1294517	81.7	62.4	57.8
77	2015/09/17	09:28:30	58.0	636723.5	70.9	60.4	57.9
78	2015/09/17	09:28:35	62.2	1671504	79.2	64.0	58.5
79	2015/09/17	09:28:40	63.3	2159263	81.8	65.3	61.8
80	2015/09/17	09:28:45	56.0	396079.3	70.8	61.8	53.6
81	2015/09/17	09:28:50	50.8	119703.1	64.3	53.6	50.2
82	2015/09/17	09:28:55	56.0	399949.4	71.8	58.8	50.3
83	2015/09/17	09:29:00	60.0	989285.5	73.8	60.6	58.8
84	2015/09/17	09:29:05	60.6	1142057	73.8	61.2	59.6
85	2015/09/17	09:29:10	58.7	746523.4	76.9	60.8	57.1
86	2015/09/17	09:29:15	58.7	743192	73.1	60.0	56.1
87	2015/09/17	09:29:20	58.7	735377.6	74.2	60.0	57.9
88	2015/09/17	09:29:25	55.3	337891.8	71.6	58.9	51.6
89	2015/09/17	09:29:30	49.2	82876.08	61.4	51.6	48.9
90	2015/09/17	09:29:35	49.4	87803.76	64.1	49.7	49.0
91	2015/09/17	09:29:40	49.3	85348.71	62.6	49.8	49.0

7899 Mission Valley CPU  
Noise Measurement Data

92	2015/09/17	09:29:45	49.0	78668.28	64.4	49.3	48.7
93	2015/09/17	09:29:50	49.0	80283.81	62.1	49.3	48.8
94	2015/09/17	09:29:55	49.9	98467.26	63.7	50.6	49.2
95	2015/09/17	09:30:00	51.4	137534.9	65.3	52.0	50.6
96	2015/09/17	09:30:05	56.2	413375.2	72.6	58.8	50.6
97	2015/09/17	09:30:10	56.5	447829.6	77.7	59.1	53.6
98	2015/09/17	09:30:15	54.2	262157.3	70.5	56.2	52.0
99	2015/09/17	09:30:20	62.4	1747155	77.8	64.3	56.2
100	2015/09/17	09:30:25	53.4	217370.3	69.7	60.0	52.5
101	2015/09/17	09:30:30	56.6	454062	72.3	58.0	53.4
102	2015/09/17	09:30:35	54.9	308264.6	71.6	56.9	52.7
103	2015/09/17	09:30:40	49.4	86448.62	61.7	52.7	48.9
104	2015/09/17	09:30:45	48.2	66708.71	61.6	48.9	48.0
105	2015/09/17	09:30:50	48.8	75011.75	75.5	49.9	48.5
106	2015/09/17	09:30:55	50.1	102227.3	66.3	50.8	48.6
107	2015/09/17	09:31:00	51.8	152628.7	78.4	52.5	50.0
108	2015/09/17	09:31:05	52.0	158538.6	67.6	52.6	51.4
109	2015/09/17	09:31:10	49.2	82409.68	61.7	51.4	48.7
110	2015/09/17	09:31:15	56.3	427533.4	71.9	58.2	49.5
111	2015/09/17	09:31:20	57.8	601566.9	71.4	58.8	56.2
112	2015/09/17	09:31:25	59.1	804487.8	74.9	60.1	58.2
113	2015/09/17	09:31:30	54.5	281374.3	68.4	58.2	53.6
114	2015/09/17	09:31:35	57.9	611126.2	72.4	59.5	54.2
115	2015/09/17	09:31:40	56.7	472945.2	71.0	59.3	54.3
116	2015/09/17	09:31:45	51.5	142369.1	67.2	54.3	50.8
117	2015/09/17	09:31:50	50.9	123210.1	64.1	51.8	50.2
118	2015/09/17	09:31:55	51.0	124970.3	63.8	51.5	50.2
119	2015/09/17	09:32:00	55.6	366299.1	70.2	57.9	50.7
120	2015/09/17	09:32:05	55.1	322379.9	74.8	57.7	54.6
121	2015/09/17	09:32:10	57.3	534894.9	71.0	57.8	55.0
122	2015/09/17	09:32:15	55.7	370196.4	69.6	57.3	53.8
123	2015/09/17	09:32:20	51.1	129766.4	65.1	53.8	49.9
124	2015/09/17	09:32:25	48.2	65422.06	61.3	49.9	47.8
125	2015/09/17	09:32:30	48.2	66195.87	60.6	48.6	47.8
126	2015/09/17	09:32:35	53.8	238221.5	69.9	56.1	48.6
127	2015/09/17	09:32:40	55.9	385431.7	70.6	57.5	54.9
128	2015/09/17	09:32:45	56.0	396277.6	70.3	57.2	53.8
129	2015/09/17	09:32:50	59.8	948632.7	78.6	60.9	56.7
130	2015/09/17	09:32:55	59.7	943240.3	79.9	62.0	56.9
131	2015/09/17	09:33:00	58.5	703306	78.6	62.2	55.1
132	2015/09/17	09:33:05	50.8	120575.8	67.8	55.1	50.2
133	2015/09/17	09:33:10	56.5	443484.1	70.6	57.7	50.4
134	2015/09/17	09:33:15	55.3	338347.1	71.8	58.2	53.1
135	2015/09/17	09:33:20	58.2	657976.3	78.5	58.7	56.4
136	2015/09/17	09:33:25	52.2	164462.4	66.4	57.7	51.6
137	2015/09/17	09:33:30	53.1	203147.3	71.2	53.9	52.2
138	2015/09/17	09:33:35	56.5	448155.4	71.5	58.3	52.1
139	2015/09/17	09:33:40	57.3	536668.6	70.8	58.6	56.2
140	2015/09/17	09:33:45	54.2	262705.7	69.6	57.5	53.1
141	2015/09/17	09:33:50	51.1	129144.9	72.3	53.7	49.8
142	2015/09/17	09:33:55	49.7	92390.9	68.1	49.9	49.5
143	2015/09/17	09:34:00	51.1	128538.3	64.0	52.8	49.0
144	2015/09/17	09:34:05	49.7	93536.03	61.8	50.8	49.4
145	2015/09/17	09:34:10	51.1	129492.9	73.2	52.3	49.6
146	2015/09/17	09:34:15	48.8	76429.05	69.6	50.4	48.6
147	2015/09/17	09:34:20	56.3	430867.1	73.8	59.4	48.7
148	2015/09/17	09:34:25	62.0	1587185	76.2	63.0	59.4
149	2015/09/17	09:34:30	53.7	236730.1	69.9	60.0	52.6
150	2015/09/17	09:34:35	56.1	403513.7	76.3	57.7	53.5
151	2015/09/17	09:34:40	59.4	872381.9	73.6	60.8	57.5
152	2015/09/17	09:34:45	54.2	263213.1	68.4	58.5	53.2
153	2015/09/17	09:34:50	59.5	889277.2	75.7	61.0	54.4
154	2015/09/17	09:34:55	52.7	185442.9	69.3	59.5	50.4
155	2015/09/17	09:35:00	51.7	147493.8	68.3	52.4	50.3
156	2015/09/17	09:35:05	50.2	104135.1	63.6	52.3	49.3
157	2015/09/17	09:35:10	48.0	63325.87	61.0	49.3	47.7
158	2015/09/17	09:35:15	48.7	74115.35	61.8	49.4	47.8
159	2015/09/17	09:35:20	56.1	404350.6	71.6	58.5	49.4
160	2015/09/17	09:35:25	61.7	1487401	76.4	63.2	58.5
161	2015/09/17	09:35:30	52.7	186511.1	72.9	60.1	50.3
162	2015/09/17	09:35:35	49.0	79556.2	63.4	50.3	48.8
163	2015/09/17	09:35:40	48.5	71118.74	62.7	48.9	48.3
164	2015/09/17	09:35:45	52.8	191230	80.2	56.8	48.4
165	2015/09/17	09:35:50	57.4	548932.2	76.3	59.8	50.1
166	2015/09/17	09:35:55	57.5	556559.5	73.1	59.9	53.9
167	2015/09/17	09:36:00	55.9	385233.7	85.3	59.1	52.6
168	2015/09/17	09:36:05	50.8	121409.7	77.4	52.9	49.8
169	2015/09/17	09:36:10	50.6	115039	66.1	53.0	48.5
170	2015/09/17	09:36:15	56.6	455739.8	77.4	57.5	53.0
171	2015/09/17	09:36:20	58.4	686522.3	74.4	59.7	57.4
172	2015/09/17	09:36:25	53.9	247593.5	68.6	57.6	51.7
173	2015/09/17	09:36:30	56.7	472854.6	73.1	59.6	51.5
174	2015/09/17	09:36:35	52.2	167165.4	66.4	55.5	50.6
175	2015/09/17	09:36:40	55.0	313270.4	76.9	58.8	50.3
176	2015/09/17	09:36:45	58.7	744893.8	73.8	60.2	56.3
177	2015/09/17	09:36:50	56.1	410076.7	71.7	58.5	54.4
178	2015/09/17	09:36:55	61.6	1433431	74.7	62.0	58.5
179	2015/09/17	09:37:00	60.4	1085927	73.7	62.1	58.4
180	2015/09/17	09:37:05	52.8	188871.9	68.6	58.4	52.1
181	2015/09/17	09:37:10	51.3	135339.1	65.0	52.5	50.5
182	2015/09/17	09:37:15	55.0	313223.9	69.6	56.2	52.5
183	2015/09/17	09:37:20	55.2	334200.5	77.38261	54.64168	54.10412















**ATTACHMENT 2**

**FHWA Existing and Future Vehicle Traffic  
Contour Distance Calculations**

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Data Input Sheet**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** Existing

**Surface Refelction:** CNEL  
**Assessment Metric:** Hard  
**Peak ratio to ADT:** 10.00  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	From	Segment	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Phyllis Place	Abbotshill Road	I-805 SB Ramps		2,270	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
2	Sea World Drive	Mission Bay Parkway	Friars Road		34,200	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
3	Sea World Drive	Friars Road	I-5 SB Ramps		29,490	40	50	96.00	3.00	1.00	80.00	10.00	10.00	
4	Tecolote Road	I-5 SB Ramps	I-5 NB Ramps		30,470	40	50	96.00	3.00	1.00	80.00	10.00	10.00	
5	Tecolote Road	I-5 NB Ramps	Morena Boulevard		22,410	35	50	96.00	3.00	1.00	80.00	10.00	10.00	
6	Mission Valley Road	Metropolitan Drive	Mission Center Road		7,440	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
7	Civita Boulevard	Mission Center Road	Qualcomm Way		2,480	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
8	Westside Drive	Mission Center Road	Via Alta		4,070	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
9	Friars Road	Sea World Drive	Napa Street		13,650	55	50	96.00	3.00	1.00	80.00	10.00	10.00	
10	Friars Road	Napa Street	Colusa Street		19,170	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
11	Friars Road	Colusa Street	Via Las Cumbres		19,200	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
12	Friars Road	Via Las Cumbres	Fashion Valley Road		22,270	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
13	Friars Road	Fashion Valley Road	Via De La Moda		26,100	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
14	Friars Road	Via De La Moda	Fashion Valley Driveway		25,920	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
15	Friars Road	Fashion Valley Driveway	Avenida De Las Tiendas		26,830	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
16	Friars Road	Avenida De Las Tiendas	Ulric Street/SR-163 SB Ramps		40,510	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
17	Friars Road	Ulric Street/SR-163 SB Ramps	SR-163 NB Ramps		53,170	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
18	Friars Road	SR-163 NB Ramps	Frazee Road		54,150	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
19	Friars Road	Frazee Road	Mission Center Road		42,780	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
20	Friars Road	Mission Center Road	Qualcomm Way		37,050	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
21	Friars Road	Qualcomm Way	River Run Drive		33,250	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
22	Friars Road	River Run Drive	Fenton Parkway		22,080	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
23	Friars Road	Fenton Parkway	Northside Drive		28,430	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
24	Friars Road	Northside Drive	San Diego Mission Road		45,330	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
25	Friars Road	San Diego Mission Road	I-15 SB Ramps		57,740	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
26	Friars Road	I-15 SB Ramps	I-15 NB Ramps		46,570	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
27	Friars Road	I-15 NB Ramps	Rancho Mission Road		51,610	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
28	Friars Road	Rancho Mission Road	Santo Road		39,430	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
29	Friars Road	Santo Road	Riverdale Street		43,380	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
30	Friars Road	Riverdale Street	Mission Gorge Road		31,300	45	50	96.00	3.00	1.00	80.00	10.00	10.00	



31	Mission Gorge Road	Friars Road	Zion Avenue	40,690	45	50	96.00	3.00	1.00	80.00	10.00	10.00
32	Hazard Center Drive	Western Terminus	Mission Center Road	8,710	35	50	96.00	3.00	1.00	80.00	10.00	10.00
33	Rio San Diego Drive	Gill Village Way	Qualcomm Way	10,500	40	50	96.00	3.00	1.00	80.00	10.00	10.00
34	Rio San Diego Drive	Qualcomm Way	River Run Drive	11,280	40	50	96.00	3.00	1.00	80.00	10.00	10.00
35	Rio San Diego Drive	River Run Drive	Fenton Parkway	9,090	40	50	96.00	3.00	1.00	80.00	10.00	10.00
36	San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	7,590	40	50	96.00	3.00	1.00	80.00	10.00	10.00
37	San Diego Mission Road	Rancho Mission Road	950 Feet West of Fairmount Avenue	8,020	35	50	96.00	3.00	1.00	80.00	10.00	10.00
38	San Diego Mission Road	950 Feet West of Fairmount Avenue	Fairmount Avenue	8,020	35	50	96.00	3.00	1.00	80.00	10.00	10.00
39	Taylor Street	Pacific Highway	Morena Boulevard	19,060	35	50	96.00	3.00	1.00	80.00	10.00	10.00
40	Taylor Street	Morena Boulevard	I-8 EB Ramps	17,750	35	50	96.00	3.00	1.00	80.00	10.00	10.00
41	Taylor Street	I-8 EB Ramps	Hotel Circle South	14,410	35	50	96.00	3.00	1.00	80.00	10.00	10.00
42	Hotel Circle North	Hotel Circle South	Hotel Circle Place	15,340	35	50	96.00	3.00	1.00	80.00	10.00	10.00
43	Hotel Circle North	Hotel Circle Place	I-8 WB Ramps	6,510	35	50	96.00	3.00	1.00	80.00	10.00	10.00
44	Hotel Circle North	I-8 WB Ramps	Fashion Valley Road	15,510	40	50	96.00	3.00	1.00	80.00	10.00	10.00
45	Hotel Circle North	Fashion Valley Road	Camino De La Reina	12,460	40	50	96.00	3.00	1.00	80.00	10.00	10.00
46	Camino De La Reina	Hotel Circle North	Avenida Del Rio	8,480	25	50	96.00	3.00	1.00	80.00	10.00	10.00
47	Camino De La Reina	Avenida Del Rio	Camino De La Siesta	13,360	30	50	96.00	3.00	1.00	80.00	10.00	10.00
48	Camino De La Reina	Camino De La Siesta	Mission Center Road	10,730	30	50	96.00	3.00	1.00	80.00	10.00	10.00
49	Camino De La Reina	Mission Center Road	Camino Del Este	18,530	30	50	96.00	3.00	1.00	80.00	10.00	10.00
50	Camino De La Reina	Camino Del Este	Qualcomm Way	13,770	30	50	96.00	3.00	1.00	80.00	10.00	10.00
51	Camino Del Rio North	Camino De La Siesta	Mission Center Road	5,430	35	50	96.00	3.00	1.00	80.00	10.00	10.00
52	Camino Del Rio North	Mission Center Road	I-8 WB Ramps	24,030	35	50	96.00	3.00	1.00	80.00	10.00	10.00
53	Camino Del Rio North	I-8 WB Ramps	Camino Del Este	11,910	35	50	96.00	3.00	1.00	80.00	10.00	10.00
54	Camino Del Rio North	Camino Del Este	Qualcomm Way	12,180	35	50	96.00	3.00	1.00	80.00	10.00	10.00
55	Camino Del Rio North	Qualcomm Way	Mission City Parkway	10,590	45	50	96.00	3.00	1.00	80.00	10.00	10.00
56	Camino Del Rio North	Mission City Parkway	800 Feet East of Mission City Parkway	8,080	30	50	96.00	3.00	1.00	80.00	10.00	10.00
57	Camino Del Rio North	800 Feet East of Mission City Parkway	1800 Feet West of Ward Road	8,060	45	50	96.00	3.00	1.00	80.00	10.00	10.00
58	Camino Del Rio North	1800 Feet West of Ward Road	Ward Road	8,920	45	50	96.00	3.00	1.00	80.00	10.00	10.00
59	Camino Del Rio North	Ward Road	1000 Feet West of Fairmount Avenue	11,830	45	50	96.00	3.00	1.00	80.00	10.00	10.00
60	Camino Del Rio North	1000 Feet West of Fairmount Avenue	Fairmount Avenue	13,470	45	50	96.00	3.00	1.00	80.00	10.00	10.00
61	Hotel Circle South	Hotel Circle North	1200 Feet East of Hotel Circle North	12,010	35	50	96.00	3.00	1.00	80.00	10.00	10.00
62	Hotel Circle South	1200 Feet East of Hotel Circle North	I-8 EB Ramps	12,340	35	50	96.00	3.00	1.00	80.00	10.00	10.00
63	Hotel Circle South	I-8 EB Ramps	Bachman Place	17,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
64	Hotel Circle South	Bachman Place	Hotel Circle North	15,580	35	50	96.00	3.00	1.00	80.00	10.00	10.00
65	Camino Del Rio South	Western Terminus	1800 Feet west of Mission Center Road	7,330	25	50	96.00	3.00	1.00	80.00	10.00	10.00
66	Camino Del Rio South	1800 Feet west of Mission Center Road	Mission Center Road	6,870	35	50	96.00	3.00	1.00	80.00	10.00	10.00
67	Camino Del Rio South	Mission Center Road	Texas Street	7,410	35	50	96.00	3.00	1.00	80.00	10.00	10.00
68	Camino Del Rio South	Texas Street	Mission City Parkway	8,140	35	50	96.00	3.00	1.00	80.00	10.00	10.00
69	Camino Del Rio South	Mission City Parkway	I-15 SB Offramp	11,750	45	50	96.00	3.00	1.00	80.00	10.00	10.00
70	Camino Del Rio South	I-15 SB Offramp	I-15 SB Onramp	9,580	40	50	96.00	3.00	1.00	80.00	10.00	10.00
71	Camino Del Rio South	I-15 SB Onramp	Fairmount Avenue	6,370	40	50	96.00	3.00	1.00	80.00	10.00	10.00
72	Morena Boulevard	Tecolote Road	West Morena Boulevard	16,180	35	50	96.00	3.00	1.00	80.00	10.00	10.00
73	Morena Boulevard	West Morena Boulevard	Linda Vista Road	17,740	40	50	96.00	3.00	1.00	80.00	10.00	10.00
74	Morena Boulevard	Linda Vista Road	I-8 WB Offramp	41,930	40	50	96.00	3.00	1.00	80.00	10.00	10.00
75	Morena Boulevard	I-8 WB Offramp	Taylor Street	11,570	35	50	96.00	3.00	1.00	80.00	10.00	10.00
76	Napa Street	Morena Boulevard	Friars Road	13,430	25	50	96.00	3.00	1.00	80.00	10.00	10.00
77	Colusa Street	Linda Vista Road	Friars Road	2,720	25	50	96.00	3.00	1.00	80.00	10.00	10.00
78	Via Las Cumbres	Linda Vista Road	Friars Road	10,920	35	50	96.00	3.00	1.00	80.00	10.00	10.00
79	Fashion Valley Road	Friars Road	Hotel Circle North	9,980	35	50	96.00	3.00	1.00	80.00	10.00	10.00
80	Bachman Place	Hotel Circle South	Lewis Street	9,140	40	50	96.00	3.00	1.00	80.00	10.00	10.00
81	Avenida Del Rio	Fashion Valley Parking Lot	Camino De La Reina	8,740	35	50	96.00	3.00	1.00	80.00	10.00	10.00
82	Ulric Street	Fashion Hills Boulevard	600 Feet South of Fashion Hills Boulevard	20,380	40	50	96.00	3.00	1.00	80.00	10.00	10.00

83	Ulric Street	600 Feet South of Fashion Hills Boulevard	Friars Road	20,430	40	50	96.00	3.00	1.00	80.00	10.00	10.00
84	Camino De La Siesta	Camino De La Reina	Camino Del Rio North	5,150	25	50	96.00	3.00	1.00	80.00	10.00	10.00
85	Metropolitan Drive	Mission Valley Road	Murray Canyon Road	3,840	25	50	96.00	3.00	1.00	80.00	10.00	10.00
86	Murray Canyon Road	Metropolitan Drive	Frazee Road	7,400	30	50	96.00	3.00	1.00	80.00	10.00	10.00
87	Frazee Road	Murray Canyon Road	Friars Road	14,670	30	50	96.00	3.00	1.00	80.00	10.00	10.00
88	Frazee Road	Friars Road	Hazard Center Drive	17,050	30	50	96.00	3.00	1.00	80.00	10.00	10.00
89	Mission Center Road	Murray Ridge Road	1200 Feet West of Murray Ridge Road	10,970	45	50	96.00	3.00	1.00	80.00	10.00	10.00
90	Mission Center Road	1200 Feet West of Murray Ridge Road	950 Feet North of Mission Valley Road	10,720	45	50	96.00	3.00	1.00	80.00	10.00	10.00
91	Mission Center Road	950 Feet North of Mission Valley Road	Mission Valley Road	10,940	40	50	96.00	3.00	1.00	80.00	10.00	10.00
92	Mission Center Road	Mission Valley Road	Westside Drive	14,170	40	50	96.00	3.00	1.00	80.00	10.00	10.00
93	Mission Center Road	Westside Drive	Friars Road WB Ramps	26,020	40	50	96.00	3.00	1.00	80.00	10.00	10.00
94	Mission Center Road	Friars Road WB Ramps	Friars Road EB Ramps	22,830	40	50	96.00	3.00	1.00	80.00	10.00	10.00
95	Mission Center Road	Friars Road EB Ramps	Mission Center Court	19,470	40	50	96.00	3.00	1.00	80.00	10.00	10.00
96	Mission Center Road	Mission Center Court	Hazard Center Drive	19,450	40	50	96.00	3.00	1.00	80.00	10.00	10.00
97	Mission Center Road	Hazard Center Drive	Camino De La Reina	27,060	40	50	96.00	3.00	1.00	80.00	10.00	10.00
98	Mission Center Road	Camino De La Reina	Camino Del Rio North	23,280	40	50	96.00	3.00	1.00	80.00	10.00	10.00
99	Auto Circle	Camino Del Rio North	I-8 EB Ramps	34,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
100	Auto Circle	I-8 EB Ramps	Camino Del Rio South	20,980	40	50	96.00	3.00	1.00	80.00	10.00	10.00
101	Via Alta	Westside Drive	Franklin Ridge Road	1,340	25	50	96.00	3.00	1.00	80.00	10.00	10.00
102	Murray Ridge Road	Mission Center Road	I-805 NB Ramps	20,000	35	50	96.00	3.00	1.00	80.00	10.00	10.00
103	Murray Ridge Road	I-805 NB Ramps	I-805 SB Ramps	11,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
104	Russell Park Way	Friars Road	Civita Boulevard	1,020	30	50	96.00	3.00	1.00	80.00	10.00	10.00
105	Camino Del Este	Rio San Diego Drive	Camino De La Reina	8,450	35	50	96.00	3.00	1.00	80.00	10.00	10.00
106	Camino Del Este	Camino De La Reina	Camino Del Rio North	9,880	25	50	96.00	3.00	1.00	80.00	10.00	10.00
107	Qualcomm Way	Friars Road WB Ramps	Friars Road EB Ramps	9,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
108	Qualcomm Way	Friars Road EB Ramps	Rio San Diego Drive	10,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
109	Qualcomm Way	Rio San Diego Drive	Camino Del Rio North	24,330	35	50	96.00	3.00	1.00	80.00	10.00	10.00
110	Qualcomm Way	Camino Del Rio North	I-8 WB Ramps	23,560	35	50	96.00	3.00	1.00	80.00	10.00	10.00
111	Qualcomm Way	I-8 WB Ramps	I-8 EB Ramps	36,410	35	50	96.00	3.00	1.00	80.00	10.00	10.00
112	Qualcomm Way	I-8 EB Ramps	Camino Del Rio South	25,830	35	50	96.00	3.00	1.00	80.00	10.00	10.00
113	Texas Street	Camino Del Rio South	1400 Feet North of Madison Ave	29,050	40	50	96.00	3.00	1.00	80.00	10.00	10.00
114	Texas Street	1400 Feet North of Madison Ave	Madison Avenue	29,240	40	50	96.00	3.00	1.00	80.00	10.00	10.00
115	Texas Street	Madison Avenue	Meade Ave	17,090	25	50	96.00	3.00	1.00	80.00	10.00	10.00
116	Texas Street	Meade Ave	El Cajon Boulevard	14,310	25	50	96.00	3.00	1.00	80.00	10.00	10.00
117	River Run Drive	Friars Road	Rio San Diego Drive	4,030	25	50	96.00	3.00	1.00	80.00	10.00	10.00
118	Fenton Parkway	Portofino Driveway	Friars Road	4,120	25	50	96.00	3.00	1.00	80.00	10.00	10.00
119	Fenton Parkway	Friars Road	Rio San Diego Drive	12,610	30	50	96.00	3.00	1.00	80.00	10.00	10.00
120	Fenton Parkway	Rio San Diego Drive	Del Rio Apartments Driveway	5,400	30	50	96.00	3.00	1.00	80.00	10.00	10.00
121	Mission City Parkway	Camino Del Rio North	Camino Del Rio South	6,430	35	50	96.00	3.00	1.00	80.00	10.00	10.00
122	Northside Drive	Portofino Driveway	Friars Road	6,590	25	50	96.00	3.00	1.00	80.00	10.00	10.00
123	Northside Drive	Friars Road	Fenton Marketplace Driveway	20,310	30	50	96.00	3.00	1.00	80.00	10.00	10.00
124	Northside Drive	Fenton Marketplace Driveway	Lowe's Frontage Road	15,890	30	50	96.00	3.00	1.00	80.00	10.00	10.00
125	Mission Village Drive	Ronda Avenue	Friars Road WB Ramps	17,220	45	50	96.00	3.00	1.00	80.00	10.00	10.00
126	Mission Village Drive	Friars Road WB Ramps	Friars Road EB Ramps	13,660	45	50	96.00	3.00	1.00	80.00	10.00	10.00
127	Rancho Mission Road	Friars Road	San Diego Mission Road	12,820	35	50	96.00	3.00	1.00	80.00	10.00	10.00
128	Ward Road	San Diego Mission Road	Camino Del Rio North	9,580	35	50	96.00	3.00	1.00	80.00	10.00	10.00
129	Santo Road	Northern Terminus	Friars Road	6,360	30	50	96.00	3.00	1.00	80.00	10.00	10.00
130	Riverdale Street	Zion Road	Friars Road	2,770	30	50	96.00	3.00	1.00	80.00	10.00	10.00
131	Riverdale Street	Friars Road	Vandever Avenue	8,900	30	50	96.00	3.00	1.00	80.00	10.00	10.00
132	Mission Gorge Road	Friars Road	Camino Del Rio North	14,710	30	50	96.00	3.00	1.00	80.00	10.00	10.00
133	Fairmount Avenue	Camino Del Rio North/I-8 WB Offramp	I-8 EB Offramp	40,210	35	50	96.00	3.00	1.00	80.00	10.00	10.00
134	Fairmount Avenue	I-8 EB Offramp	Camino Del Rio South	82,880	35	50	96.00	3.00	1.00	80.00	10.00	10.00

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Predicted Noise Levels**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** Existing  
**Assessment Metric:** Hard

Segment	Roadway	From	To	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
				Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Phyllis Place	Abbotshill Road	I-805 SB Ramps	53.3	49.8	52.7	57.0	1	3	8	25	79	251
2	Sea World Drive	Mission Bay Parkway	Friars Road	73.7	66.3	65.8	75.0	50	158	500	1,581	5,000	15,811
3	Sea World Drive	Friars Road	I-5 SB Ramps	70.3	64.2	64.2	72.0	25	79	251	792	2,506	7,924
4	Tecolote Road	I-5 SB Ramps	I-5 NB Ramps	70.4	64.3	64.4	72.2	26	83	262	830	2,624	8,298
5	Tecolote Road	I-5 NB Ramps	Morena Boulevard	67.4	62.1	62.5	69.5	14	45	141	446	1,409	4,456
6	Mission Valley Road	Metropolitan Drive	Mission Center Road	58.4	55.0	57.9	62.1	3	8	26	81	256	811
7	Civita Boulevard	Mission Center Road	Qualcomm Way	53.7	50.2	53.1	57.3	1	3	8	27	85	269
8	Westside Drive	Mission Center Road	Via Alta	55.8	52.4	55.2	59.5	1	4	14	45	141	446
9	Friars Road	Sea World Drive	Napa Street	70.9	63.0	62.1	72.0	25	79	251	792	2,506	7,924
10	Friars Road	Napa Street	Colusa Street	69.9	63.1	62.8	71.4	22	69	218	690	2,183	6,902
11	Friars Road	Colusa Street	Via Las Cumbres	69.9	63.1	62.8	71.4	22	69	218	690	2,183	6,902
12	Friars Road	Via Las Cumbres	Fashion Valley Road	70.5	63.7	63.5	72.0	25	79	251	792	2,506	7,924
13	Friars Road	Fashion Valley Road	Via De La Moda	71.2	64.4	64.2	72.7	29	93	294	931	2,944	9,310
14	Friars Road	Via De La Moda	Fashion Valley Driveway	71.2	64.4	64.1	72.7	29	93	294	931	2,944	9,310
15	Friars Road	Fashion Valley Driveway	Avenida De Las Tiendas	71.4	64.6	64.3	72.8	30	95	301	953	3,013	9,527
16	Friars Road	Avenida De Las Tiendas	Ulric Street/SR-163 SB Ramps	73.1	66.3	66.1	74.6	46	144	456	1,442	4,560	14,420
17	Friars Road	Ulric Street/SR-163 SB Ramps	SR-163 NB Ramps	74.3	67.5	67.3	75.8	60	190	601	1,901	6,011	19,009
18	Friars Road	SR-163 NB Ramps	Frazee Road	74.4	67.6	67.3	75.9	62	195	615	1,945	6,151	19,452
19	Friars Road	Frazee Road	Mission Center Road	74.7	67.3	66.7	76.0	63	199	629	1,991	6,295	19,905
20	Friars Road	Mission Center Road	Qualcomm Way	74.1	66.7	66.1	75.4	55	173	548	1,734	5,482	17,337
21	Friars Road	Qualcomm Way	River Run Drive	73.6	66.2	65.6	74.9	49	155	489	1,545	4,886	15,451
22	Friars Road	River Run Drive	Fenton Parkway	71.8	64.4	63.9	73.1	32	102	323	1,021	3,228	10,209
23	Friars Road	Fenton Parkway	Northside Drive	72.9	65.5	65.0	74.2	42	132	416	1,315	4,159	13,151
24	Friars Road	Northside Drive	San Diego Mission Road	75.0	67.5	67.0	76.2	66	208	659	2,084	6,591	20,843
25	Friars Road	San Diego Mission Road	I-15 SB Ramps	76.0	68.6	68.0	77.3	85	269	849	2,685	8,491	26,852
26	Friars Road	I-15 SB Ramps	I-15 NB Ramps	73.8	67.0	66.7	75.2	52	166	524	1,656	5,236	16,557
27	Friars Road	I-15 NB Ramps	Rancho Mission Road	74.2	67.4	67.1	75.7	59	186	587	1,858	5,874	18,577
28	Friars Road	Rancho Mission Road	Santo Road	73.0	66.2	66.0	74.5	45	141	446	1,409	4,456	14,092
29	Friars Road	Santo Road	Riverdale Street	73.4	66.6	66.4	74.9	49	155	489	1,545	4,886	15,451
30	Friars Road	Riverdale Street	Mission Gorge Road	72.0	65.2	65.0	73.5	35	112	354	1,119	3,540	11,194

31	Mission Gorge Road	Friars Road	Zion Avenue	73.2	66.4	66.1	74.6	46	144	456	1,442	4,560	14,420
32	Hazard Center Drive	Western Terminus	Mission Center Road	63.3	58.0	58.4	65.4	5	17	55	173	548	1,734
33	Rio San Diego Drive	Gill Village Way	Qualcomm Way	65.8	59.7	59.7	67.5	9	28	89	281	889	2,812
34	Rio San Diego Drive	Qualcomm Way	River Run Drive	66.1	60.0	60.0	67.9	10	31	97	308	975	3,083
35	Rio San Diego Drive	River Run Drive	Fenton Parkway	65.2	59.1	59.1	66.9	8	24	77	245	774	2,449
36	San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	64.4	58.3	58.3	66.1	6	20	64	204	644	2,037
37	San Diego Mission Road	Rancho Mission Road	950 Feet West of Fairmount Avenue	63.0	57.6	58.0	65.0	5	16	50	158	500	1,581
38	San Diego Mission Road	950 Feet West of Fairmount Avenue	Fairmount Avenue	63.0	57.6	58.0	65.0	5	16	50	158	500	1,581
39	Taylor Street	Pacific Highway	Morena Boulevard	66.7	61.4	61.8	68.8	12	38	120	379	1,199	3,793
40	Taylor Street	Morena Boulevard	I-8 EB Ramps	66.4	61.1	61.5	68.5	11	35	112	354	1,119	3,540
41	Taylor Street	I-8 EB Ramps	Hotel Circle South	65.5	60.2	60.6	67.6	9	29	91	288	910	2,877
42	Hotel Circle North	Hotel Circle South	Hotel Circle Place	65.8	60.4	60.9	67.9	10	31	97	308	975	3,083
43	Hotel Circle North	Hotel Circle Place	I-8 WB Ramps	62.1	56.7	57.1	64.1	4	13	41	129	406	1,285
44	Hotel Circle North	I-8 WB Ramps	Fashion Valley Road	67.5	61.4	61.4	69.2	13	42	132	416	1,315	4,159
45	Hotel Circle North	Fashion Valley Road	Camino De La Reina	66.6	60.4	60.5	68.3	11	34	107	338	1,069	3,380
46	Camino De La Reina	Hotel Circle North	Avenida Del Rio	59.0	55.6	58.4	62.7	3	9	29	93	294	931
47	Camino De La Reina	Avenida Del Rio	Camino De La Siesta	63.3	58.8	61.1	66.2	7	21	66	208	659	2,084
48	Camino De La Reina	Camino De La Siesta	Mission Center Road	62.3	57.8	60.2	65.3	5	17	54	169	536	1,694
49	Camino De La Reina	Mission Center Road	Camino Del Este	64.7	60.2	62.6	67.6	9	29	91	288	910	2,877
50	Camino De La Reina	Camino Del Este	Qualcomm Way	63.4	58.9	61.3	66.3	7	21	67	213	674	2,133
51	Camino Del Rio North	Camino De La Siesta	Mission Center Road	61.3	55.9	56.3	63.3	3	11	34	107	338	1,069
52	Camino Del Rio North	Mission Center Road	I-8 WB Ramps	67.7	62.4	62.8	69.8	15	48	151	477	1,510	4,775
53	Camino Del Rio North	I-8 WB Ramps	Camino Del Este	64.7	59.3	59.8	66.8	8	24	76	239	757	2,393
54	Camino Del Rio North	Camino Del Este	Qualcomm Way	64.8	59.4	59.8	66.9	8	24	77	245	774	2,449
55	Camino Del Rio North	Qualcomm Way	Mission City Parkway	67.3	60.5	60.2	68.8	12	38	120	379	1,199	3,793
56	Camino Del Rio North	Mission City Parkway	800 Feet East of Mission City Parkway	61.1	56.6	59.0	64.0	4	13	40	126	397	1,256
57	Camino Del Rio North	800 Feet East of Mission City Parkway	1800 Feet West of Ward Road	66.1	59.3	59.1	67.6	9	29	91	288	910	2,877
58	Camino Del Rio North	1800 Feet West of Ward Road	Ward Road	66.6	59.8	59.5	68.1	10	32	102	323	1,021	3,228
59	Camino Del Rio North	Ward Road	1000 Feet West of Fairmount Avenue	67.8	61.0	60.7	69.3	13	43	135	426	1,346	4,256
60	Camino Del Rio North	1000 Feet West of Fairmount Avenue	Fairmount Avenue	68.4	61.6	61.3	69.8	15	48	151	477	1,510	4,775
61	Hotel Circle South	Hotel Circle North	1200 Feet East of Hotel Circle North	64.7	59.4	59.8	66.8	8	24	76	239	757	2,393
62	Hotel Circle South	1200 Feet East of Hotel Circle North	I-8 EB Ramps	64.8	59.5	59.9	66.9	8	24	77	245	774	2,449
63	Hotel Circle South	I-8 EB Ramps	Bachman Place	66.3	60.9	61.3	68.4	11	35	109	346	1,094	3,459
64	Hotel Circle South	Bachman Place	Hotel Circle North	65.9	60.5	60.9	67.9	10	31	97	308	975	3,083
65	Camino Del Rio South	Western Terminus	1800 Feet west of Mission Center Road	58.4	54.9	57.8	62.0	3	8	25	79	251	792
66	Camino Del Rio South	1800 Feet west of Mission Center Road	Mission Center Road	62.3	56.9	57.4	64.4	4	14	44	138	435	1,377
67	Camino Del Rio South	Mission Center Road	Texas Street	62.6	57.3	57.7	64.7	5	15	47	148	467	1,476
68	Camino Del Rio South	Texas Street	Mission City Parkway	63.0	57.7	58.1	65.1	5	16	51	162	512	1,618
69	Camino Del Rio South	Mission City Parkway	I-15 SB Offramp	67.8	61.0	60.7	69.2	13	42	132	416	1,315	4,159
70	Camino Del Rio South	I-15 SB Offramp	I-15 SB Onramp	65.4	59.3	59.3	67.1	8	26	81	256	811	2,564
71	Camino Del Rio South	I-15 SB Onramp	Fairmount Avenue	63.6	57.5	57.6	65.4	5	17	55	173	548	1,734
72	Morena Boulevard	Tecolote Road	West Morena Boulevard	66.0	60.7	61.1	68.1	10	32	102	323	1,021	3,228
73	Morena Boulevard	West Morena Boulevard	Linda Vista Road	68.1	62.0	62.0	69.8	15	48	151	477	1,510	4,775
74	Morena Boulevard	Linda Vista Road	I-8 WB Offramp	71.8	65.7	65.8	73.6	36	115	362	1,145	3,622	11,454
75	Morena Boulevard	I-8 WB Offramp	Taylor Street	64.6	59.2	59.6	66.6	7	23	72	229	723	2,285
76	Napa Street	Morena Boulevard	Friars Road	61.0	57.6	60.4	64.7	5	15	47	148	467	1,476
77	Colusa Street	Linda Vista Road	Friars Road	54.1	50.6	53.5	57.7	1	3	9	29	93	294
78	Via Las Cumbres	Linda Vista Road	Friars Road	64.3	58.9	59.4	66.4	7	22	69	218	690	2,183
79	Fashion Valley Road	Friars Road	Hotel Circle North	63.9	58.6	59.0	66.0	6	20	63	199	629	1,991
80	Bachman Place	Hotel Circle South	Lewis Street	65.2	59.1	59.1	66.9	8	24	77	245	774	2,449
81	Avenida Del Rio	Fashion Valley Parking Lot	Camino De La Reina	63.3	58.0	58.4	65.4	5	17	55	173	548	1,734
82	Ulric Street	Fashion Hills Boulevard	600 Feet South of Fashion Hills Boulevard	68.7	62.6	62.6	70.4	17	55	173	548	1,734	5,482

83	Ulric Street	600 Feet South of Fashion Hills Boulevard	Friars Road	68.7	62.6	62.6	70.4	17	55	173	548	1,734	5,482
84	Camino De La Siesta	Camino De La Reina	Camino Del Rio North	56.8	53.4	56.3	60.5	2	6	18	56	177	561
85	Metropolitan Drive	Mission Valley Road	Murray Canyon Road	55.6	52.1	55.0	59.2	1	4	13	42	132	416
86	Murray Canyon Road	Metropolitan Drive	Frazee Road	60.7	56.2	58.6	63.6	4	11	36	115	362	1,145
87	Frazee Road	Murray Canyon Road	Friars Road	63.7	59.2	61.5	66.6	7	23	72	229	723	2,285
88	Frazee Road	Friars Road	Hazard Center Drive	64.3	59.8	62.2	67.3	8	27	85	269	849	2,685
89	Mission Center Road	Murray Ridge Road	1200 Feet West of Murray Ridge Road	67.5	60.7	60.4	69.0	13	40	126	397	1,256	3,972
90	Mission Center Road	1200 Feet West of Murray Ridge Road	950 Feet North of Mission Valley Road	67.4	60.6	60.3	68.9	12	39	123	388	1,227	3,881
91	Mission Center Road	950 Feet North of Mission Valley Road	Mission Valley Road	66.0	59.9	59.9	67.7	9	29	93	294	931	2,944
92	Mission Center Road	Mission Valley Road	Westside Drive	67.1	61.0	61.0	68.8	12	38	120	379	1,199	3,793
93	Mission Center Road	Westside Drive	Friars Road WB Ramps	69.8	63.6	63.7	71.5	22	71	223	706	2,233	7,063
94	Mission Center Road	Friars Road WB Ramps	Friars Road EB Ramps	69.2	63.1	63.1	70.9	19	62	195	615	1,945	6,151
95	Mission Center Road	Friars Road EB Ramps	Mission Center Court	68.5	62.4	62.4	70.2	17	52	166	524	1,656	5,236
96	Mission Center Road	Mission Center Court	Hazard Center Drive	68.5	62.4	62.4	70.2	17	52	166	524	1,656	5,236
97	Mission Center Road	Hazard Center Drive	Camino De La Reina	69.9	63.8	63.8	71.7	23	74	234	740	2,339	7,396
98	Mission Center Road	Camino De La Reina	Camino Del Rio North	69.3	63.1	63.2	71.0	20	63	199	629	1,991	6,295
99	Auto Circle	Camino Del Rio North	I-8 EB Ramps	70.9	64.8	64.9	72.7	29	93	294	931	2,944	9,310
100	Auto Circle	I-8 EB Ramps	Camino Del Rio South	68.8	62.7	62.7	70.6	18	57	182	574	1,815	5,741
101	Via Alta	Westside Drive	Franklin Ridge Road	51.0	47.6	50.4	54.7	0	1	5	15	47	148
102	Murray Ridge Road	Mission Center Road	I-805 NB Ramps	66.9	61.6	62.0	69.0	13	40	126	397	1,256	3,972
103	Murray Ridge Road	I-805 NB Ramps	I-805 SB Ramps	64.6	59.2	59.7	66.7	7	23	74	234	740	2,339
104	Russell Park Way	Friars Road	Civita Boulevard	52.1	47.6	50.0	55.0	1	2	5	16	50	158
105	Camino Del Este	Rio San Diego Drive	Camino De La Reina	63.2	57.8	58.3	65.3	5	17	54	169	536	1,694
106	Camino Del Este	Camino De La Reina	Camino Del Rio North	59.7	56.2	59.1	63.3	3	11	34	107	338	1,069
107	Qualcomm Way	Friars Road WB Ramps	Friars Road EB Ramps	63.6	58.3	58.7	65.7	6	19	59	186	587	1,858
108	Qualcomm Way	Friars Road EB Ramps	Rio San Diego Drive	64.0	58.7	59.1	66.1	6	20	64	204	644	2,037
109	Qualcomm Way	Rio San Diego Drive	Camino Del Rio North	67.8	62.4	62.9	69.9	15	49	155	489	1,545	4,886
110	Qualcomm Way	Camino Del Rio North	I-8 WB Ramps	67.7	62.3	62.7	69.7	15	47	148	467	1,476	4,666
111	Qualcomm Way	I-8 WB Ramps	I-8 EB Ramps	69.5	64.2	64.6	71.6	23	72	229	723	2,285	7,227
112	Qualcomm Way	I-8 EB Ramps	Camino Del Rio South	68.0	62.7	63.1	70.1	16	51	162	512	1,618	5,116
113	Texas Street	Camino Del Rio South	1400 Feet North of Madison Ave	70.2	64.1	64.2	72.0	25	79	251	792	2,506	7,924
114	Texas Street	1400 Feet North of Madison Ave	Madison Avenue	70.3	64.1	64.2	72.0	25	79	251	792	2,506	7,924
115	Texas Street	Madison Avenue	Meade Ave	62.0	58.6	61.5	65.7	6	19	59	186	587	1,858
116	Texas Street	Meade Ave	El Cajon Boulevard	61.3	57.8	60.7	65.0	5	16	50	158	500	1,581
117	River Run Drive	Friars Road	Rio San Diego Drive	55.8	52.3	55.2	59.4	1	4	14	44	138	435
118	Fenton Parkway	Portofino Driveway	Friars Road	55.9	52.4	55.3	59.5	1	4	14	45	141	446
119	Fenton Parkway	Friars Road	Rio San Diego Drive	63.0	58.5	60.9	66.0	6	20	63	199	629	1,991
120	Fenton Parkway	Rio San Diego Drive	Del Rio Apartments Driveway	59.3	54.8	57.2	62.3	3	8	27	85	269	849
121	Mission City Parkway	Camino Del Rio North	Camino Del Rio South	62.0	56.6	57.1	64.1	4	13	41	129	406	1,285
122	Northside Drive	Portofino Driveway	Friars Road	57.9	54.5	57.3	61.6	2	7	23	72	229	723
123	Northside Drive	Friars Road	Fenton Marketplace Driveway	65.1	60.6	63.0	68.0	10	32	100	315	998	3,155
124	Northside Drive	Fenton Marketplace Driveway	Lowe's Frontage Road	64.0	59.5	61.9	67.0	8	25	79	251	792	2,506
125	Mission Village Drive	Ronda Avenue	Friars Road WB Ramps	69.4	62.6	62.4	70.9	19	62	195	615	1,945	6,151
126	Mission Village Drive	Friars Road WB Ramps	Friars Road EB Ramps	68.4	61.6	61.4	69.9	15	49	155	489	1,545	4,886
127	Rancho Mission Road	Friars Road	San Diego Mission Road	65.0	59.6	60.1	67.1	8	26	81	256	811	2,564
128	Ward Road	San Diego Mission Road	Camino Del Rio North	63.7	58.4	58.8	65.8	6	19	60	190	601	1,901
129	Santo Road	Northern Terminus	Friars Road	60.0	55.6	57.9	63.0	3	10	32	100	315	998
130	Riverdale Street	Zion Road	Friars Road	56.4	51.9	54.3	59.4	1	4	14	44	138	435
131	Riverdale Street	Friars Road	Vandever Avenue	61.5	57.0	59.4	64.4	4	14	44	138	435	1,377
132	Mission Gorge Road	Friars Road	Camino Del Rio North	63.7	59.2	61.6	66.6	7	23	72	229	723	2,285
133	Fairmount Avenue	Camino Del Rio North/I-8 WB Offramp	I-8 EB Offramp	70.0	64.6	65.0	72.0	25	79	251	792	2,506	7,924
134	Fairmount Avenue	I-8 EB Offramp	Camino Del Rio South	73.1	67.8	68.2	75.2	52	166	524	1,656	5,236	16,557

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Data Input Sheet**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** Freeway Existing

**Surface Refelction:** CNEL  
**Assessment Metric:** Soft  
**Peak ratio to ADT:** 10.00  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	I-5	Washington Street	Old Town Avenue	203,000	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
2	I-5	Old Town Avenue	I-8	205,000	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
3	I-5	I-8	Sea World Drive	207,000	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
4	I-5	Sea World Drive	Clairemont Drive	222,000	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
5	I-8	Midway Drive	I-5	102,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
6	I-8	I-5	Morena Boulevard	134,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
7	I-8	Morena Boulevard	Hotel Circle/Taylor Street	196,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
8	I-8	Hotel Circle/Taylor Street	Hotel Circle	199,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
9	I-8	Hotel Circle	SR-163	215,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
10	I-8	SR-163	Mission Center Road	221,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
11	I-8	Mission Center Road	Texas Street	237,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
12	I-8	Texas Street	I-805	210,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
13	I-8	I-805	I-15	246,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
14	I-8	I-15	Fairmount Avenue	224,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
15	I-8	Fairmount Avenue	Waring Road	247,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
16	I-15	El Cajon Boulevard	Adams Avenue	169,000	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
17	I-15	Adams Avenue	I-8	177,000	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
18	I-15	I-8	Friars Road	217,000	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
19	I-15	Friars Road	Aero Drive	224,000	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
20	I-805	El Cajon Boulevard	Adams Avenue	192,000	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
21	I-805	Adams Avenue	I-8	213,000	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
22	I-805	I-8	Murray Ridge	203,000	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
23	I-805	Murray Ridge	Kearny Villa Road	199,000	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
24	SR-163	Washington Street	6th Avenue	130,000	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
25	SR-163	6th Avenue	I-8	162,000	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
26	SR-163	I-8	Friars Road	153,000	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
27	SR-163	Friars Road	Genesee Avenue	179,000	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
28	SR-163	Genesee Avenue	Mesa College Drive	163,000	65	50	96.50	2.70	0.80	80.00	10.00	10.00	

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Predicted Noise Levels**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** Freeway Existing  
**Assessment Metric:** Soft

Segment	Roadway	From	Segment To	Noise Levels, dBA Soft				Distance to Traffic Noise Level Contours, Feet					
				Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	I-5	Washington Street	Old Town Avenue	84.8	75.7	74.5	85.6	254	548	1,181	2,545	5,482	11,811
2	I-5	Old Town Avenue	I-8	84.8	75.7	74.6	85.7	258	557	1,199	2,584	5,567	11,994
3	I-5	I-8	Sea World Drive	84.8	75.8	74.6	85.7	258	557	1,199	2,584	5,567	11,994
4	I-5	Sea World Drive	Clairemont Drive	85.1	76.1	74.9	86.0	271	583	1,256	2,706	5,830	12,559
5	I-8	Midway Drive	I-5	81.8	72.1	70.0	82.5	158	341	734	1,581	3,406	7,339
6	I-8	I-5	Morena Boulevard	83.0	73.2	71.2	83.7	190	410	882	1,901	4,095	8,823
7	I-8	Morena Boulevard	Hotel Circle/Taylor Street	84.6	74.9	72.8	85.3	243	524	1,128	2,430	5,236	11,280
8	I-8	Hotel Circle/Taylor Street	Hotel Circle	84.7	75.0	72.9	85.4	247	532	1,145	2,468	5,317	11,454
9	I-8	Hotel Circle	SR-163	85.0	75.3	73.2	85.7	258	557	1,199	2,584	5,567	11,994
10	I-8	SR-163	Mission Center Road	85.2	75.4	73.4	85.8	262	565	1,218	2,624	5,653	12,180
11	I-8	Mission Center Road	Texas Street	85.5	75.7	73.7	86.1	275	592	1,275	2,748	5,920	12,754
12	I-8	Texas Street	I-805	84.9	75.2	73.1	85.6	254	548	1,181	2,545	5,482	11,811
13	I-8	I-805	I-15	85.6	75.9	73.8	86.3	283	610	1,315	2,833	6,104	13,151
14	I-8	I-15	Fairmount Avenue	85.2	75.5	73.4	85.9	266	574	1,237	2,665	5,741	12,368
15	I-8	Fairmount Avenue	Waring Road	85.6	75.9	73.8	86.3	283	610	1,315	2,833	6,104	13,151
16	I-15	El Cajon Boulevard	Adams Avenue	83.9	74.7	74.5	84.9	229	492	1,061	2,285	4,924	10,608
17	I-15	Adams Avenue	I-8	84.2	74.9	74.7	85.1	236	508	1,094	2,357	5,077	10,939
18	I-15	I-8	Friars Road	85.0	75.8	75.6	86.0	271	583	1,256	2,706	5,830	12,559
19	I-15	Friars Road	Aero Drive	85.2	76.0	75.8	86.1	275	592	1,275	2,748	5,920	12,754
20	I-805	El Cajon Boulevard	Adams Avenue	84.4	77.0	77.9	85.9	266	574	1,237	2,665	5,741	12,368
21	I-805	Adams Avenue	I-8	84.8	77.4	78.4	86.3	283	610	1,315	2,833	6,104	13,151
22	I-805	I-8	Murray Ridge	84.6	77.2	78.2	86.1	275	592	1,275	2,748	5,920	12,754
23	I-805	Murray Ridge	Kearny Villa Road	84.5	77.1	78.1	86.0	271	583	1,256	2,706	5,830	12,559
24	SR-163	Washington Street	6th Avenue	82.8	73.4	71.6	83.6	187	403	869	1,872	4,033	8,689
25	SR-163	6th Avenue	I-8	83.8	74.4	72.6	84.5	215	463	998	2,149	4,631	9,976
26	SR-163	I-8	Friars Road	83.5	74.2	72.3	84.3	208	449	967	2,084	4,491	9,675
27	SR-163	Friars Road	Genesee Avenue	84.2	74.8	73.0	85.0	232	500	1,077	2,321	5,000	10,772
28	SR-163	Genesee Avenue	Mesa College Drive	83.8	74.4	72.6	84.6	218	470	1,013	2,183	4,702	10,131

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Data Input Sheet**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** 2050

**Surface Refelction:** CNEL  
**Assessment Metric:** Hard  
**Peak ratio to ADT:** 10.00  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	From	Segment	To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Phyllis Place	Abbotshill Road	I-805 SB Ramps		32,600	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
2	Sea World Drive	Mission Bay Parkway	Friars Road		41,200	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
3	Sea World Drive	Friars Road	I-5 SB Ramps		34,800	40	50	96.00	3.00	1.00	80.00	10.00	10.00	
4	Tecolote Road	I-5 SB Ramps	I-5 NB Ramps		34,800	40	50	96.00	3.00	1.00	80.00	10.00	10.00	
5	Tecolote Road	I-5 NB Ramps	Morena Boulevard		31,900	35	50	96.00	3.00	1.00	80.00	10.00	10.00	
6	Mission Valley Road	Metropolitan Drive	Mission Center Road		16,400	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
7	Civita Boulevard	Mission Center Road	Via Alta		5,000	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
8	Civita Boulevard	Via Alta	Qualcomm Way		4,200	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
9	Civita Boulevard	Qualcomm Way	Franklin Ridge Road		11,000	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
10	Westside Drive	Mission Center Road	Via Alta		5,100	25	50	96.00	3.00	1.00	80.00	10.00	10.00	
11	Friars Road	Sea World Drive	Napa Street		15,400	55	50	96.00	3.00	1.00	80.00	10.00	10.00	
12	Friars Road	Napa Street	Colusa Street		19,400	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
13	Friars Road	Colusa Street	Via Las Cumbres		25,200	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
14	Friars Road	Via Las Cumbres	Fashion Valley Road		24,600	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
15	Friars Road	Fashion Valley Road	Via De La Moda		27,200	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
16	Friars Road	Via De La Moda	Fashion Valley Driveway		26,500	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
17	Friars Road	Fashion Valley Driveway	Avenida De Las Tiendas		41,300	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
18	Friars Road	Avenida De Las Tiendas	Ulric Street/SR-163 SB Ramps		58,200	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
19	Friars Road	Ulric Street/SR-163 SB Ramps	SR-163 NB Ramps		55,600	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
20	Friars Road	SR-163 NB Ramps	Frazee Road		45,400	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
21	Friars Road	Frazee Road	Mission Center Road		41,500	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
22	Friars Road	Mission Center Road	Qualcomm Way		35,500	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
23	Friars Road	Qualcomm Way	River Run Drive		38,900	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
24	Friars Road	River Run Drive	Fenton Parkway		40,200	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
25	Friars Road	Fenton Parkway	Northside Drive		34,300	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
26	Friars Road	Northside Drive	San Diego Mission Road		51,700	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
27	Friars Road	San Diego Mission Road	I-15 SB Ramps		85,200	50	50	96.00	3.00	1.00	80.00	10.00	10.00	
28	Friars Road	I-15 SB Ramps	I-15 NB Ramps		74,100	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
29	Friars Road	I-15 NB Ramps	Rancho Mission Road		70,300	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
30	Friars Road	Rancho Mission Road	Santo Road		58,700	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
31	Friars Road	Santo Road	Riverdale Street		62,000	45	50	96.00	3.00	1.00	80.00	10.00	10.00	
32	Friars Road	Riverdale Street	Mission Gorge Road		42,600	45	50	96.00	3.00	1.00	80.00	10.00	10.00	



33	Mission Gorge Road	Friars Road	Zion Avenue	33,200	45	50	96.00	3.00	1.00	80.00	10.00	10.00
34	Hazard Center Drive	Avenida Del Rio	Hazard Center W. Driveway	12,500	35	50	96.00	3.00	1.00	80.00	10.00	10.00
35	Hazard Center Drive	Hazard Center W. Driveway	Mission Center Road	15,900	35	50	96.00	3.00	1.00	80.00	10.00	10.00
36	Rio San Diego Drive	Gill Village Way	Qualcomm Way	15,600	40	50	96.00	3.00	1.00	80.00	10.00	10.00
37	Rio San Diego Drive	Qualcomm Way	River Run Drive	14,700	40	50	96.00	3.00	1.00	80.00	10.00	10.00
38	Rio San Diego Drive	River Run Drive	Fenton Parkway	13,900	40	50	96.00	3.00	1.00	80.00	10.00	10.00
39	San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	12,400	40	50	96.00	3.00	1.00	80.00	10.00	10.00
40	San Diego Mission Road	Rancho Mission Road	950 Feet West of Fairmount Avenue	13,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
41	San Diego Mission Road	950 Feet West of Fairmount Avenue	Fairmount Avenue	13,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
42	Taylor Street	Pacific Highway	Morena Boulevard	18,800	35	50	96.00	3.00	1.00	80.00	10.00	10.00
43	Taylor Street	Morena Boulevard	I-8 EB Ramps	4,000	35	50	96.00	3.00	1.00	80.00	10.00	10.00
44	Taylor Street	I-8 EB Ramps	Hotel Circle South	5,000	35	50	96.00	3.00	1.00	80.00	10.00	10.00
45	Hotel Circle North	Hotel Circle South	Fashion Valley Road	8,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
46	Hotel Circle North	Fashion Valley Road	I-8 WB Off-Ramp	14,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
47	Hotel Circle North	I-8 WB Off-Ramp	Street "J"	25,000	35	50	96.00	3.00	1.00	80.00	10.00	10.00
48	Hotel Circle North	Street "J"	I-8 WB On-Ramp	15,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
49	Hotel Circle North	I-8 WB On-Ramp	Hotel Circle South	3,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
50	Camino De La Reina	Hotel Circle North	Avenida Del Rio	9,900	25	50	96.00	3.00	1.00	80.00	10.00	10.00
51	Camino De La Reina	Avenida Del Rio	Camino De La Siesta	17,100	30	50	96.00	3.00	1.00	80.00	10.00	10.00
52	Camino De La Reina	Camino De La Siesta	Mission Center Road	10,800	30	50	96.00	3.00	1.00	80.00	10.00	10.00
53	Camino De La Reina	Mission Center Road	Camino Del Este	19,700	30	50	96.00	3.00	1.00	80.00	10.00	10.00
54	Camino De La Reina	Camino Del Este	Qualcomm Way	13,200	30	50	96.00	3.00	1.00	80.00	10.00	10.00
55	Camino Del Rio North	Camino De La Siesta	Mission Center Road	12,800	35	50	96.00	3.00	1.00	80.00	10.00	10.00
56	Camino Del Rio North	Mission Center Road	I-8 WB Ramps	29,600	35	50	96.00	3.00	1.00	80.00	10.00	10.00
57	Camino Del Rio North	I-8 WB Ramps	Camino Del Este	11,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
58	Camino Del Rio North	Camino Del Este	Qualcomm Way	21,500	35	50	96.00	3.00	1.00	80.00	10.00	10.00
59	Camino Del Rio North	Qualcomm Way	Mission City Parkway	15,700	45	50	96.00	3.00	1.00	80.00	10.00	10.00
60	Camino Del Rio North	Mission City Parkway	800 Feet East of Mission City Parkway	8,900	30	50	96.00	3.00	1.00	80.00	10.00	10.00
61	Camino Del Rio North	800 Feet East of Mission City Parkway	1800 Feet West of Ward Road	8,900	45	50	96.00	3.00	1.00	80.00	10.00	10.00
62	Camino Del Rio North	1800 Feet West of Ward Road	Ward Road	9,700	45	50	96.00	3.00	1.00	80.00	10.00	10.00
63	Camino Del Rio North	Ward Road	1000 Feet West of Fairmount Avenue	9,700	45	50	96.00	3.00	1.00	80.00	10.00	10.00
64	Camino Del Rio North	1000 Feet West of Fairmount Avenue	Fairmount Avenue	20,400	45	50	96.00	3.00	1.00	80.00	10.00	10.00
65	Hotel Circle South	Taylor Street	I-8 EB Off-Ramp	3,100	35	50	96.00	3.00	1.00	80.00	10.00	10.00
66	Hotel Circle South	I-8 EB Off-Ramp	Street "J"	15,500	35	50	96.00	3.00	1.00	80.00	10.00	10.00
67	Hotel Circle South	Street "J"	I-8 EB On-Ramp	30,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
68	Hotel Circle South	I-8 EB On-Ramp	Bachman Place	14,100	35	50	96.00	3.00	1.00	80.00	10.00	10.00
69	Hotel Circle South	Bachman Place	Hotel Circle North	14,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
70	Camino Del Rio South	Western Terminus	1800 Feet west of Mission Center Road	7,500	25	50	96.00	3.00	1.00	80.00	10.00	10.00
71	Camino Del Rio South	1800 Feet west of Mission Center Road	Mission Center Road	7,500	35	50	96.00	3.00	1.00	80.00	10.00	10.00
72	Camino Del Rio South	Mission Center Road	Texas Street	8,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
73	Camino Del Rio South	Texas Street	Mission City Parkway	11,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
74	Camino Del Rio South	Mission City Parkway	I-15 SB Offramp	14,100	45	50	96.00	3.00	1.00	80.00	10.00	10.00
75	Camino Del Rio South	I-15 SB Offramp	I-15 SB Onramp	17,000	40	50	96.00	3.00	1.00	80.00	10.00	10.00
76	Camino Del Rio South	I-15 SB Onramp	Fairmount Avenue	7,700	40	50	96.00	3.00	1.00	80.00	10.00	10.00
77	West Morena Boulevard	Tecolote Road	Morena Boulevard	16,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
78	Morena Boulevard	West Morena Boulevard	Linda Vista Road	16,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
79	Morena Boulevard	Linda Vista Road	I-8 WB Offramp	28,900	40	50	96.00	3.00	1.00	80.00	10.00	10.00
80	Morena Boulevard	I-8 WB Offramp	Taylor Street	15,600	35	50	96.00	3.00	1.00	80.00	10.00	10.00
81	Napa Street	Morena Boulevard	Friars Road	15,700	25	50	96.00	3.00	1.00	80.00	10.00	10.00
82	Colusa Street	Linda Vista Road	Friars Road	2,700	25	50	96.00	3.00	1.00	80.00	10.00	10.00
83	Via Las Cumbres	Linda Vista Road	Friars Road	12,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
84	Via Las Cumbres	Friars Road	Riverwalk Drive	11,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00

85	Street "J"	Riverwalk Drive	Levi-Cushman Street "B"	17,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
86	Street "J"	Levi-Cushman Street "B"	Hotel Circle North	17,900	35	50	96.00	3.00	1.00	80.00	10.00	10.00
87	Street "J"	Hotel Circle North	Hotel Circle South	-	35	50		3.00	1.00	80.00	10.00	
88	Fashion Valley Road	Friars Road	Riverwalk Drive	8,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
89	Fashion Valley Road	Riverwalk Drive	Levi-Cushman Street "B"	17,400	35	50	96.00	3.00	1.00	80.00	10.00	10.00
90	Fashion Valley Road	Levi-Cushman Street "B"	Hotel Circle North	24,600	35	50	96.00	3.00	1.00	80.00	10.00	10.00
91	Bachman Place	Hotel Circle South	Lewis Street	20,800	40	50	96.00	3.00	1.00	80.00	10.00	10.00
92	Avenida Del Rio	Fashion Valley Parking Lot	Camino De La Reina	19,100	35	50	96.00	3.00	1.00	80.00	10.00	10.00
93	Ulric Street	Fashion Hills Boulevard	600 Feet South of Fashion Hills Boulevard	25,800	40	50	96.00	3.00	1.00	80.00	10.00	10.00
94	Ulric Street	600 Feet South of Fashion Hills Boulevard	Friars Road	27,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
95	Camino De La Siesta	Camino De La Reina	Camino Del Rio North	9,400	25	50	96.00	3.00	1.00	80.00	10.00	10.00
96	Metropolitan Drive	Mission Valley Road	Murray Canyon Road	11,400	25	50	96.00	3.00	1.00	80.00	10.00	10.00
97	Murray Canyon Road	Metropolitan Drive	Frazee Road	5,600	30	50	96.00	3.00	1.00	80.00	10.00	10.00
98	Frazee Road	Metropolitan Drive	Murray Canyon Road	6,200	25	50	96.00	3.00	1.00	80.00	10.00	10.00
99	Frazee Road	Murray Canyon Road	Friars Road	20,400	30	50	96.00	3.00	1.00	80.00	10.00	10.00
100	Frazee Road	Friars Road	Hazard Center Drive	19,200	30	50	96.00	3.00	1.00	80.00	10.00	10.00
101	Mission Center Road	Murray Ridge Road	1200 Feet West of Murray Ridge Road	14,700	45	50	96.00	3.00	1.00	80.00	10.00	10.00
102	Mission Center Road	1200 Feet West of Murray Ridge Road	950 Feet North of Mission Valley Road	14,700	45	50	96.00	3.00	1.00	80.00	10.00	10.00
103	Mission Center Road	950 Feet North of Mission Valley Road	Mission Valley Road	14,700	40	50	96.00	3.00	1.00	80.00	10.00	10.00
104	Mission Center Road	Mission Valley Road	Westside Drive	20,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
105	Mission Center Road	Westside Drive	Friars Road WB Ramps	33,000	40	50	96.00	3.00	1.00	80.00	10.00	10.00
106	Mission Center Road	Friars Road WB Ramps	Friars Road EB Ramps	25,600	40	50	96.00	3.00	1.00	80.00	10.00	10.00
107	Mission Center Road	Friars Road EB Ramps	Mission Center Court	22,400	40	50	96.00	3.00	1.00	80.00	10.00	10.00
108	Mission Center Road	Mission Center Court	Hazard Center Drive	26,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
109	Mission Center Road	Hazard Center Drive	Camino De La Reina	32,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
110	Mission Center Road	Camino De La Reina	Camino Del Rio North	31,700	40	50	96.00	3.00	1.00	80.00	10.00	10.00
111	Auto Circle	Camino Del Rio North	I-8 EB Ramps	41,100	40	50	96.00	3.00	1.00	80.00	10.00	10.00
112	Auto Circle	I-8 EB Ramps	Camino Del Rio South	18,000	40	50	96.00	3.00	1.00	80.00	10.00	10.00
113	Via Alta	Franklin Ridge Road	Civita Boulevard	10,900	25	50	96.00	3.00	1.00	80.00	10.00	10.00
114	Via Alta	Civita Boulevard	Westside Drive	6,400	25	50	96.00	3.00	1.00	80.00	10.00	10.00
115	Murray Ridge Road	Mission Center Road	I-805 NB Ramps	23,800	35	50	96.00	3.00	1.00	80.00	10.00	10.00
116	Murray Ridge Road	I-805 NB Ramps	I-805 SB Ramps	24,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
117	Russell Park Way	Friars Road	Civita Boulevard	7,400	30	50	96.00	3.00	1.00	80.00	10.00	10.00
118	Camino Del Este	Rio San Diego Drive	Camino De La Reina	13,900	35	50	96.00	3.00	1.00	80.00	10.00	10.00
119	Camino Del Este	Camino De La Reina	Camino Del Rio North	18,200	25	50	96.00	3.00	1.00	80.00	10.00	10.00
120	Franklin Ridge Road	Phyllis Place	Via Alta	31,800	25	50	96.00	3.00	1.00	80.00	10.00	10.00
121	Franklin Ridge Road	Via Alta	Civita Boulevard	17,100	25	50	96.00	3.00	1.00	80.00	10.00	10.00
122	Qualcomm Way	Civita Boulevard	Friars Road WB Ramps	19,700	30	50	96.00	3.00	1.00	80.00	10.00	10.00
123	Qualcomm Way	Friars Road WB Ramps	Friars Road EB Ramps	30,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
124	Qualcomm Way	Friars Road EB Ramps	Rio San Diego Drive	26,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
125	Qualcomm Way	Rio San Diego Drive	Camino Del Rio North	42,700	35	50	96.00	3.00	1.00	80.00	10.00	10.00
126	Qualcomm Way	Camino Del Rio North	I-8 WB Ramps	49,400	35	50	96.00	3.00	1.00	80.00	10.00	10.00
127	Qualcomm Way	I-8 WB Ramps	I-8 EB Ramps	53,500	35	50	96.00	3.00	1.00	80.00	10.00	10.00
128	Qualcomm Way	I-8 EB Ramps	Camino Del Rio South	32,100	35	50	96.00	3.00	1.00	80.00	10.00	10.00
129	Texas Street	Camino Del Rio South	1400 Feet North of Madison Ave	33,200	40	50	96.00	3.00	1.00	80.00	10.00	10.00
130	Texas Street	1400 Feet North of Madison Ave	Madison Avenue	33,200	40	50	96.00	3.00	1.00	80.00	10.00	10.00
131	Texas Street	Madison Avenue	Meade Ave	20,400	25	50	96.00	3.00	1.00	80.00	10.00	10.00
132	Texas Street	Meade Ave	El Cajon Boulevard	15,600	25	50	96.00	3.00	1.00	80.00	10.00	10.00
133	River Run Drive	Friars Road	Rio San Diego Drive	4,100	25	50	96.00	3.00	1.00	80.00	10.00	10.00
134	Fenton Parkway	Portofino Driveway	Friars Road	4,900	25	50	96.00	3.00	1.00	80.00	10.00	10.00
135	Fenton Parkway	Friars Road	Rio San Diego Drive	15,700	30	50	96.00	3.00	1.00	80.00	10.00	10.00
136	Fenton Parkway	Rio San Diego Drive	Del Rio Apartments Driveway	9,300	30	50	96.00	3.00	1.00	80.00	10.00	10.00

137	Fenton Parkway	Del Rio Apartments Driveway	New Street I	9,300	30	50	96.00	3.00	1.00	80.00	10.00	10.00
138	Fenton Parkway	New Street I	Camino Del Rio North	13,900	30	50	96.00	3.00	1.00	80.00	10.00	10.00
139	Mission City Parkway	Camino Del Rio North	Camino Del Rio South	11,000	35	50	96.00	3.00	1.00	80.00	10.00	10.00
140	Northside Drive	Portofino Driveway	Friars Road	5,100	25	50	96.00	3.00	1.00	80.00	10.00	10.00
141	Northside Drive	Friars Road	Fenton Marketplace Driveway	24,600	30	50	96.00	3.00	1.00	80.00	10.00	10.00
142	Northside Drive	Fenton Marketplace Driveway	Lowe's Frontage Road	19,600	30	50	96.00	3.00	1.00	80.00	10.00	10.00
143	Mission Village Drive	Ronda Avenue	Friars Road WB Ramps	17,900	45	50	96.00	3.00	1.00	80.00	10.00	10.00
144	Mission Village Drive	Friars Road WB Ramps	Friars Road EB Ramps	30,600	45	50	96.00	3.00	1.00	80.00	10.00	10.00
145	Rancho Mission Road	Friars Road	San Diego Mission Road	16,200	35	50	96.00	3.00	1.00	80.00	10.00	10.00
146	Rancho Mission Road	San Diego Mission Road	Camino Del Rio North	19,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
147	Santo Road	Northern Terminus	Friars Road	15,700	30	50	96.00	3.00	1.00	80.00	10.00	10.00
148	Riverdale Street	Zion Road	Friars Road	2,200	30	50	96.00	3.00	1.00	80.00	10.00	10.00
149	Riverdale Street	Friars Road	Vandever Avenue	26,500	30	50	96.00	3.00	1.00	80.00	10.00	10.00
150	Mission Gorge Road	Friars Road	Camino Del Rio North	22,700	30	50	96.00	3.00	1.00	80.00	10.00	10.00
151	Fairmount Avenue	Camino Del Rio North/I-8 WB Offramp	I-8 EB Offramp	53,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
152	Fairmount Avenue	I-8 EB Offramp	Camino Del Rio South	93,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
153	Riverwalk Drive	West of Street "J"		6,000	25	50	96.00	3.00	1.00	80.00	10.00	10.00
154	Riverwalk Drive	Street "J"	Fashion Valley Road	3,700	25	50	96.00	3.00	1.00	80.00	10.00	10.00
155	Riverwalk Drive	Fashion Valley Road	Avenida Del Rio	15,200	25	50	96.00	3.00	1.00	80.00	10.00	10.00
156	Levi-Cushman Street "B"	Via Las Cumbres	Fashion Valley Road	11,300	35	50	96.00	3.00	1.00	80.00	10.00	10.00
157	Goshen Street	Linda Vista Road	Gaines Street	4,300	25	50	96.00	3.00	1.00	80.00	10.00	10.00
158	Goshen Street	Gaines Street	Friars Road	3,400	25	50	96.00	3.00	1.00	80.00	10.00	10.00
159	Goshen Street	Friars Road	South End	5,000	25	50	96.00	3.00	1.00	80.00	10.00	10.00
160	New Street "I"	Mission City Parkway	Eastern End	11,900	25	50	96.00	3.00	1.00	80.00	10.00	10.00
161	Gill Village Way	Friars Road	Rio San Diego Drive	5,700	25	50	96.00	3.00	1.00	80.00	10.00	10.00
162	Rio Bonito Way	Friars Road	Rio San Diego Drive	4,100	25	50	96.00	3.00	1.00	80.00	10.00	10.00
163	Mission Valley Road	Frazee Road	Metropolitan Drive	6,500	25	50	96.00	3.00	1.00	80.00	10.00	10.00
164	Metropolitan Drive	Murray Canyon Road	Frazee Road	200	25	50	96.00	3.00	1.00	80.00	10.00	10.00

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Predicted Noise Levels**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** 2050  
**Assessment Metric:** Hard

Segment	Roadway	From	To	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
				Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Phyllis Place	Abbotshill Road	I-805 SB Ramps	64.9	61.4	64.3	68.5	11	35	112	354	1,119	3,540
2	Sea World Drive	Mission Bay Parkway	Friars Road	74.5	67.1	66.6	75.8	60	190	601	1,901	6,011	19,009
3	Sea World Drive	Friars Road	I-5 SB Ramps	71.0	64.9	64.9	72.7	29	93	294	931	2,944	9,310
4	Tecolote Road	I-5 SB Ramps	I-5 NB Ramps	71.0	64.9	64.9	72.7	29	93	294	931	2,944	9,310
5	Tecolote Road	I-5 NB Ramps	Morena Boulevard	69.0	63.6	64.0	71.0	20	63	199	629	1,991	6,295
6	Mission Valley Road	Metropolitan Drive	Mission Center Road	61.9	58.4	61.3	65.5	6	18	56	177	561	1,774
7	Civita Boulevard	Mission Center Road	Via Alta	56.7	53.3	56.1	60.4	2	5	17	55	173	548
8	Civita Boulevard	Via Alta	Qualcomm Way	56.0	52.5	55.4	59.6	1	5	14	46	144	456
9	Civita Boulevard	Qualcomm Way	Franklin Ridge Road	60.1	56.7	59.6	63.8	4	12	38	120	379	1,199
10	Westside Drive	Mission Center Road	Via Alta	56.8	53.4	56.2	60.5	2	6	18	56	177	561
11	Friars Road	Sea World Drive	Napa Street	71.5	63.5	62.7	72.6	29	91	288	910	2,877	9,099
12	Friars Road	Napa Street	Colusa Street	69.9	63.1	62.9	71.4	22	69	218	690	2,183	6,902
13	Friars Road	Colusa Street	Via Las Cumbres	71.1	64.3	64.0	72.6	29	91	288	910	2,877	9,099
14	Friars Road	Via Las Cumbres	Fashion Valley Road	71.0	64.2	63.9	72.5	28	89	281	889	2,812	8,891
15	Friars Road	Fashion Valley Road	Via De La Moda	71.4	64.6	64.3	72.9	31	97	308	975	3,083	9,749
16	Friars Road	Via De La Moda	Fashion Valley Driveway	71.3	64.5	64.2	72.8	30	95	301	953	3,013	9,527
17	Friars Road	Fashion Valley Driveway	Avenida De Las Tiendas	73.2	66.4	66.2	74.7	47	148	467	1,476	4,666	14,756
18	Friars Road	Avenida De Las Tiendas	Ulric Street/SR-163 SB Ramps	74.7	67.9	67.6	76.2	66	208	659	2,084	6,591	20,843
19	Friars Road	Ulric Street/SR-163 SB Ramps	SR-163 NB Ramps	74.5	67.7	67.4	76.0	63	199	629	1,991	6,295	19,905
20	Friars Road	SR-163 NB Ramps	Frazee Road	73.6	66.8	66.6	75.1	51	162	512	1,618	5,116	16,180
21	Friars Road	Frazee Road	Mission Center Road	74.6	67.2	66.6	75.8	60	190	601	1,901	6,011	19,009
22	Friars Road	Mission Center Road	Qualcomm Way	73.9	66.5	65.9	75.2	52	166	524	1,656	5,236	16,557
23	Friars Road	Qualcomm Way	River Run Drive	74.3	66.9	66.3	75.6	57	182	574	1,815	5,741	18,154
24	Friars Road	River Run Drive	Fenton Parkway	74.4	67.0	66.5	75.7	59	186	587	1,858	5,874	18,577
25	Friars Road	Fenton Parkway	Northside Drive	73.7	66.3	65.8	75.0	50	158	500	1,581	5,000	15,811
26	Friars Road	Northside Drive	San Diego Mission Road	75.5	68.1	67.6	76.8	76	239	757	2,393	7,568	23,932
27	Friars Road	San Diego Mission Road	I-15 SB Ramps	77.7	70.3	69.7	79.0	126	397	1,256	3,972	12,559	39,716
28	Friars Road	I-15 SB Ramps	I-15 NB Ramps	75.8	69.0	68.7	77.2	83	262	830	2,624	8,298	26,240
29	Friars Road	I-15 NB Ramps	Rancho Mission Road	75.5	68.7	68.5	77.0	79	251	792	2,506	7,924	25,059
30	Friars Road	Rancho Mission Road	Santo Road	74.8	68.0	67.7	76.2	66	208	659	2,084	6,591	20,843
31	Friars Road	Santo Road	Riverdale Street	75.0	68.2	67.9	76.5	71	223	706	2,233	7,063	22,334
32	Friars Road	Riverdale Street	Mission Gorge Road	73.4	66.6	66.3	74.8	48	151	477	1,510	4,775	15,100

33	Mission Gorge Road	Friars Road	Zion Avenue	72.3	65.5	65.2	73.8	38	120	379	1,199	3,793	11,994
34	Hazard Center Drive	Avenida Del Rio	Hazard Center W. Driveway	64.9	59.5	60.0	67.0	8	25	79	251	792	2,506
35	Hazard Center Drive	Hazard Center W. Driveway	Mission Center Road	65.9	60.6	61.0	68.0	10	32	100	315	998	3,155
36	Rio San Diego Drive	Gill Village Way	Qualcomm Way	67.5	61.4	61.5	69.3	13	43	135	426	1,346	4,256
37	Rio San Diego Drive	Qualcomm Way	River Run Drive	67.3	61.1	61.2	69.0	13	40	126	397	1,256	3,972
38	Rio San Diego Drive	River Run Drive	Fenton Parkway	67.0	60.9	61.0	68.8	12	38	120	379	1,199	3,793
39	San Diego Mission Road	Friars Road EB Ramps	Rancho Mission Road	66.5	60.4	60.5	68.3	11	34	107	338	1,069	3,380
40	San Diego Mission Road	Rancho Mission Road	950 Feet West of Fairmount Avenue	65.3	59.9	60.4	67.4	9	27	87	275	869	2,748
41	San Diego Mission Road	950 Feet West of Fairmount Avenue	Fairmount Avenue	65.3	59.9	60.4	67.4	9	27	87	275	869	2,748
42	Taylor Street	Pacific Highway	Morena Boulevard	66.7	61.3	61.7	68.7	12	37	117	371	1,172	3,707
43	Taylor Street	Morena Boulevard	I-8 EB Ramps	59.9	54.6	55.0	62.0	3	8	25	79	251	792
44	Taylor Street	I-8 EB Ramps	Hotel Circle South	60.9	55.6	56.0	63.0	3	10	32	100	315	998
45	Hotel Circle North	Hotel Circle South	Fashion Valley Road	63.1	57.7	58.1	65.1	5	16	51	162	512	1,618
46	Hotel Circle North	Fashion Valley Road	I-8 WB Off-Ramp	65.5	60.1	60.5	67.5	9	28	89	281	889	2,812
47	Hotel Circle North	I-8 WB Off-Ramp	Street "J"	67.9	62.5	63.0	70.0	16	50	158	500	1,581	5,000
48	Hotel Circle North	Street "J"	I-8 WB On-Ramp	65.8	60.4	60.8	67.8	10	30	95	301	953	3,013
49	Hotel Circle North	I-8 WB On-Ramp	Hotel Circle South	59.1	53.8	54.2	61.2	2	7	21	66	208	659
50	Camino De La Reina	Hotel Circle North	Avenida Del Rio	59.7	56.2	59.1	63.4	3	11	35	109	346	1,094
51	Camino De La Reina	Avenida Del Rio	Camino De La Siesta	64.3	59.9	62.2	67.3	8	27	85	269	849	2,685
52	Camino De La Reina	Camino De La Siesta	Mission Center Road	62.3	57.9	60.2	65.3	5	17	54	169	536	1,694
53	Camino De La Reina	Mission Center Road	Camino Del Este	64.9	60.5	62.8	67.9	10	31	97	308	975	3,083
54	Camino De La Reina	Camino Del Este	Qualcomm Way	63.2	58.7	61.1	66.2	7	21	66	208	659	2,084
55	Camino Del Rio North	Camino De La Siesta	Mission Center Road	65.0	59.6	60.1	67.1	8	26	81	256	811	2,564
56	Camino Del Rio North	Mission Center Road	I-8 WB Ramps	68.6	63.3	63.7	70.7	19	59	186	587	1,858	5,874
57	Camino Del Rio North	I-8 WB Ramps	Camino Del Este	64.5	59.1	59.5	66.5	7	22	71	223	706	2,233
58	Camino Del Rio North	Camino Del Este	Qualcomm Way	67.3	61.9	62.3	69.3	13	43	135	426	1,346	4,256
59	Camino Del Rio North	Qualcomm Way	Mission City Parkway	69.0	62.2	62.0	70.5	18	56	177	561	1,774	5,610
60	Camino Del Rio North	Mission City Parkway	800 Feet East of Mission City Parkway	61.5	57.0	59.4	64.4	4	14	44	138	435	1,377
61	Camino Del Rio North	800 Feet East of Mission City Parkway	1800 Feet West of Ward Road	66.6	59.8	59.5	68.0	10	32	100	315	998	3,155
62	Camino Del Rio North	1800 Feet West of Ward Road	Ward Road	66.9	60.1	59.9	68.4	11	35	109	346	1,094	3,459
63	Camino Del Rio North	Ward Road	1000 Feet West of Fairmount Avenue	66.9	60.1	59.9	68.4	11	35	109	346	1,094	3,459
64	Camino Del Rio North	1000 Feet West of Fairmount Avenue	Fairmount Avenue	70.2	63.4	63.1	71.6	23	72	229	723	2,285	7,227
65	Hotel Circle South	Taylor Street	I-8 EB Off-Ramp	58.8	53.5	53.9	60.9	2	6	19	62	195	615
66	Hotel Circle South	I-8 EB Off-Ramp	Street "J"	65.8	60.5	60.9	67.9	10	31	97	308	975	3,083
67	Hotel Circle South	Street "J"	I-8 EB On-Ramp	68.7	63.4	63.8	70.8	19	60	190	601	1,901	6,011
68	Hotel Circle South	I-8 EB On-Ramp	Bachman Place	65.4	60.1	60.5	67.5	9	28	89	281	889	2,812
69	Hotel Circle South	Bachman Place	Hotel Circle North	65.6	60.2	60.7	67.7	9	29	93	294	931	2,944
70	Camino Del Rio South	Western Terminus	1800 Feet west of Mission Center Road	58.5	55.0	57.9	62.1	3	8	26	81	256	811
71	Camino Del Rio South	1800 Feet west of Mission Center Road	Mission Center Road	62.7	57.3	57.7	64.8	5	15	48	151	477	1,510
72	Camino Del Rio South	Mission Center Road	Texas Street	63.3	58.0	58.4	65.4	5	17	55	173	548	1,734
73	Camino Del Rio South	Texas Street	Mission City Parkway	64.4	59.1	59.5	66.5	7	22	71	223	706	2,233
74	Camino Del Rio South	Mission City Parkway	I-15 SB Offramp	68.6	61.8	61.5	70.0	16	50	158	500	1,581	5,000
75	Camino Del Rio South	I-15 SB Offramp	I-15 SB Onramp	67.9	61.8	61.8	69.6	14	46	144	456	1,442	4,560
76	Camino Del Rio South	I-15 SB Onramp	Fairmount Avenue	64.5	58.3	58.4	66.2	7	21	66	208	659	2,084
77	West Morena Boulevard	Tecolote Road	Morena Boulevard	66.2	60.8	61.2	68.2	10	33	104	330	1,045	3,303
78	Morena Boulevard	West Morena Boulevard	Linda Vista Road	67.7	61.5	61.6	69.4	14	44	138	435	1,377	4,355
79	Morena Boulevard	Linda Vista Road	I-8 WB Offramp	70.2	64.1	64.1	71.9	24	77	245	774	2,449	7,744
80	Morena Boulevard	I-8 WB Offramp	Taylor Street	65.9	60.5	60.9	67.9	10	31	97	308	975	3,083
81	Napa Street	Morena Boulevard	Friars Road	61.7	58.2	61.1	65.4	5	17	55	173	548	1,734
82	Colusa Street	Linda Vista Road	Friars Road	54.0	50.6	53.5	57.7	1	3	9	29	93	294
83	Via Las Cumbres	Linda Vista Road	Friars Road	64.8	59.4	59.9	66.9	8	24	77	245	774	2,449
84	Via Las Cumbres	Friars Road	Riverwalk Drive	64.5	59.1	59.5	66.5	7	22	71	223	706	2,233

85	Street "J"	Riverwalk Drive	Levi-Cushman Street "B"	66.3	60.9	61.3	68.4	11	35	109	346	1,094	3,459
86	Street "J"	Levi-Cushman Street "B"	Hotel Circle North	66.5	61.1	61.5	68.5	11	35	112	354	1,119	3,540
87	Street "J"	Hotel Circle North	Hotel Circle South				#VALUE!						
88	Fashion Valley Road	Friars Road	Riverwalk Drive	63.1	57.7	58.1	65.1	5	16	51	162	512	1,618
89	Fashion Valley Road	Riverwalk Drive	Levi-Cushman Street "B"	66.3	61.0	61.4	68.4	11	35	109	346	1,094	3,459
90	Fashion Valley Road	Levi-Cushman Street "B"	Hotel Circle North	67.8	62.5	62.9	69.9	15	49	155	489	1,545	4,886
91	Bachman Place	Hotel Circle South	Lewis Street	68.8	62.7	62.7	70.5	18	56	177	561	1,774	5,610
92	Avenida Del Rio	Fashion Valley Parking Lot	Camino De La Reina	66.7	61.4	61.8	68.8	12	38	120	379	1,199	3,793
93	Ulric Street	Fashion Hills Boulevard	600 Feet South of Fashion Hills Boulevard	69.7	63.6	63.6	71.4	22	69	218	690	2,183	6,902
94	Ulric Street	600 Feet South of Fashion Hills Boulevard	Friars Road	69.9	63.8	63.9	71.7	23	74	234	740	2,339	7,396
95	Camino De La Siesta	Camino De La Reina	Camino Del Rio North	59.5	56.0	58.9	63.1	3	10	32	102	323	1,021
96	Metropolitan Drive	Mission Valley Road	Murray Canyon Road	60.3	56.9	59.7	64.0	4	13	40	126	397	1,256
97	Murray Canyon Road	Metropolitan Drive	Frazee Road	59.5	55.0	57.4	62.4	3	9	27	87	275	869
98	Frazee Road	Metropolitan Drive	Murray Canyon Road	57.6	54.2	57.1	61.3	2	7	21	67	213	674
99	Frazee Road	Murray Canyon Road	Friars Road	65.1	60.6	63.0	68.0	10	32	100	315	998	3,155
100	Frazee Road	Friars Road	Hazard Center Drive	64.8	60.4	62.7	67.8	10	30	95	301	953	3,013
101	Mission Center Road	Murray Ridge Road	1200 Feet West of Murray Ridge Road	68.7	61.9	61.7	70.2	17	52	166	524	1,656	5,236
102	Mission Center Road	1200 Feet West of Murray Ridge Road	950 Feet North of Mission Valley Road	68.7	61.9	61.7	70.2	17	52	166	524	1,656	5,236
103	Mission Center Road	950 Feet North of Mission Valley Road	Mission Valley Road	67.3	61.1	61.2	69.0	13	40	126	397	1,256	3,972
104	Mission Center Road	Mission Valley Road	Westside Drive	68.6	62.5	62.6	70.4	17	55	173	548	1,734	5,482
105	Mission Center Road	Westside Drive	Friars Road WB Ramps	70.8	64.7	64.7	72.5	28	89	281	889	2,812	8,891
106	Mission Center Road	Friars Road WB Ramps	Friars Road EB Ramps	69.7	63.6	63.6	71.4	22	69	218	690	2,183	6,902
107	Mission Center Road	Friars Road EB Ramps	Mission Center Court	69.1	63.0	63.0	70.8	19	60	190	601	1,901	6,011
108	Mission Center Road	Mission Center Court	Hazard Center Drive	69.8	63.6	63.7	71.5	22	71	223	706	2,233	7,063
109	Mission Center Road	Hazard Center Drive	Camino De La Reina	70.7	64.5	64.6	72.4	27	87	275	869	2,748	8,689
110	Mission Center Road	Camino De La Reina	Camino Del Rio North	70.6	64.5	64.5	72.3	27	85	269	849	2,685	8,491
111	Auto Circle	Camino Del Rio North	I-8 EB Ramps	71.7	65.6	65.7	73.5	35	112	354	1,119	3,540	11,194
112	Auto Circle	I-8 EB Ramps	Camino Del Rio South	68.2	62.0	62.1	69.9	15	49	155	489	1,545	4,886
113	Via Alta	Franklin Ridge Road	Civita Boulevard	60.1	56.7	59.5	63.8	4	12	38	120	379	1,199
114	Via Alta	Civita Boulevard	Westside Drive	57.8	54.3	57.2	61.5	2	7	22	71	223	706
115	Murray Ridge Road	Mission Center Road	I-805 NB Ramps	67.7	62.3	62.8	69.8	15	48	151	477	1,510	4,775
116	Murray Ridge Road	I-805 NB Ramps	I-805 SB Ramps	67.8	62.4	62.8	69.9	15	49	155	489	1,545	4,886
117	Russell Park Way	Friars Road	Civita Boulevard	60.7	56.2	58.6	63.6	4	11	36	115	362	1,145
118	Camino Del Este	Rio San Diego Drive	Camino De La Reina	65.4	60.0	60.4	67.4	9	27	87	275	869	2,748
119	Camino Del Este	Camino De La Reina	Camino Del Rio North	62.3	58.9	61.7	66.0	6	20	63	199	629	1,991
120	Franklin Ridge Road	Phyllis Place	Via Alta	64.7	61.3	64.2	68.4	11	35	109	346	1,094	3,459
121	Franklin Ridge Road	Via Alta	Civita Boulevard	62.0	58.6	61.5	65.7	6	19	59	186	587	1,858
122	Qualcomm Way	Civita Boulevard	Friars Road WB Ramps	64.9	60.5	62.8	67.9	10	31	97	308	975	3,083
123	Qualcomm Way	Friars Road WB Ramps	Friars Road EB Ramps	68.7	63.4	63.8	70.8	19	60	190	601	1,901	6,011
124	Qualcomm Way	Friars Road EB Ramps	Rio San Diego Drive	68.1	62.8	63.2	70.2	17	52	166	524	1,656	5,236
125	Qualcomm Way	Rio San Diego Drive	Camino Del Rio North	70.2	64.9	65.3	72.3	27	85	269	849	2,685	8,491
126	Qualcomm Way	Camino Del Rio North	I-8 WB Ramps	70.9	65.5	65.9	72.9	31	97	308	975	3,083	9,749
127	Qualcomm Way	I-8 WB Ramps	I-8 EB Ramps	71.2	65.9	66.3	73.3	34	107	338	1,069	3,380	10,690
128	Qualcomm Way	I-8 EB Ramps	Camino Del Rio South	69.0	63.6	64.1	71.1	20	64	204	644	2,037	6,441
129	Texas Street	Camino Del Rio South	1400 Feet North of Madison Ave	70.8	64.7	64.7	72.5	28	89	281	889	2,812	8,891
130	Texas Street	1400 Feet North of Madison Ave	Madison Avenue	70.8	64.7	64.7	72.5	28	89	281	889	2,812	8,891
131	Texas Street	Madison Avenue	Meade Ave	62.8	59.4	62.2	66.5	7	22	71	223	706	2,233
132	Texas Street	Meade Ave	El Cajon Boulevard	61.7	58.2	61.1	65.3	5	17	54	169	536	1,694
133	River Run Drive	Friars Road	Rio San Diego Drive	55.8	52.4	55.3	59.5	1	4	14	45	141	446
134	Fenton Parkway	Portofino Driveway	Friars Road	56.6	53.2	56.0	60.3	2	5	17	54	169	536
135	Fenton Parkway	Friars Road	Rio San Diego Drive	64.0	59.5	61.8	66.9	8	24	77	245	774	2,449
136	Fenton Parkway	Rio San Diego Drive	Del Rio Apartments Driveway	61.7	57.2	59.6	64.6	5	14	46	144	456	1,442

137	Fenton Parkway	Del Rio Apartments Driveway	New Street I	61.7	57.2	59.6	64.6	5	14	46	144	456	1,442
138	Fenton Parkway	New Street I	Camino Del Rio North	63.4	59.0	61.3	66.4	7	22	69	218	690	2,183
139	Mission City Parkway	Camino Del Rio North	Camino Del Rio South	64.3	59.0	59.4	66.4	7	22	69	218	690	2,183
140	Northside Drive	Portofino Driveway	Friars Road	56.8	53.4	56.2	60.5	2	6	18	56	177	561
141	Northside Drive	Friars Road	Fenton Marketplace Driveway	65.9	61.4	63.8	68.9	12	39	123	388	1,227	3,881
142	Northside Drive	Fenton Marketplace Driveway	Lowe's Frontage Road	64.9	60.4	62.8	67.9	10	31	97	308	975	3,083
143	Mission Village Drive	Ronda Avenue	Friars Road WB Ramps	69.6	62.8	62.5	71.1	20	64	204	644	2,037	6,441
144	Mission Village Drive	Friars Road WB Ramps	Friars Road EB Ramps	71.9	65.1	64.9	73.4	35	109	346	1,094	3,459	10,939
145	Rancho Mission Road	Friars Road	San Diego Mission Road	66.0	60.7	61.1	68.1	10	32	102	323	1,021	3,228
146	Rancho Mission Road	San Diego Mission Road	Camino Del Rio North	66.8	61.4	61.8	68.9	12	39	123	388	1,227	3,881
147	Santo Road	Northern Terminus	Friars Road	64.0	59.5	61.8	66.9	8	24	77	245	774	2,449
148	Riverdale Street	Zion Road	Friars Road	55.4	50.9	53.3	58.4	1	3	11	35	109	346
149	Riverdale Street	Friars Road	Vandever Avenue	66.2	61.8	64.1	69.2	13	42	132	416	1,315	4,159
150	Mission Gorge Road	Friars Road	Camino Del Rio North	65.6	61.1	63.4	68.5	11	35	112	354	1,119	3,540
151	Fairmount Avenue	Camino Del Rio North/I-8 WB Offramp	I-8 EB Offramp	71.2	65.8	66.3	73.3	34	107	338	1,069	3,380	10,690
152	Fairmount Avenue	I-8 EB Offramp	Camino Del Rio South	73.6	68.3	68.7	75.7	59	186	587	1,858	5,874	18,577
153	Riverwalk Drive	West of Street "J"		57.5	54.1	56.9	61.2	2	7	21	66	208	659
154	Riverwalk Drive	Street "J"	Fashion Valley Road	55.4	52.0	54.8	59.1	1	4	13	41	129	406
155	Riverwalk Drive	Fashion Valley Road	Avenida Del Rio	61.5	58.1	61.0	65.2	5	17	52	166	524	1,656
156	Levi-Cushman Street "B"	Via Las Cumbres	Fashion Valley Road	64.5	59.1	59.5	66.5	7	22	71	223	706	2,233
157	Goshen Street	Linda Vista Road	Gaines Street	56.1	52.6	55.5	59.7	1	5	15	47	148	467
158	Goshen Street	Gaines Street	Friars Road	55.0	51.6	54.5	58.7	1	4	12	37	117	371
159	Goshen Street	Friars Road	South End	56.7	53.3	56.1	60.4	2	5	17	55	173	548
160	New Street "I"	Mission City Parkway	Eastern End	60.5	57.0	59.9	64.1	4	13	41	129	406	1,285
161	Gill Village Way	Friars Road	Rio San Diego Drive	57.3	53.8	56.7	61.0	2	6	20	63	199	629
162	Rio Bonito Way	Friars Road	Rio San Diego Drive	55.8	52.4	55.3	59.5	1	4	14	45	141	446
163	Mission Valley Road	Frazee Road	Metropolitan Drive	57.8	54.4	57.3	61.5	2	7	22	71	223	706
164	Metropolitan Drive	Murray Canyon Road	Frazee Road	42.7	39.3	42.2	46.4	0	0	1	2	7	22

**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Data Input Sheet**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** Freeway 2050

**Surface Refelction:** CNEL  
**Assessment Metric:** Soft  
**Peak ratio to ADT:** 10.00  
**Traffic Desc. (Peak or ADT) :** ADT

Segment	Roadway	From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	I-5	Washington Street	Old Town Avenue	185,100	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
2	I-5	Old Town Avenue	I-8	231,000	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
3	I-5	I-8	Sea World Drive	192,600	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
4	I-5	Sea World Drive	Clairemont Drive	243,600	65	50	96.10	2.90	1.00	80.00	10.00	10.00	
5	I-8	Midway Drive	I-5	107,900	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
6	I-8	I-5	Morena Boulevard	150,100	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
7	I-8	Morena Boulevard	Hotel Circle/Taylor Street	199,400	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
8	I-8	Hotel Circle/Taylor Street	Hotel Circle	199,400	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
9	I-8	Hotel Circle	SR-163	211,300	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
10	I-8	SR-163	Mission Center Road	196,300	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
11	I-8	Mission Center Road	Texas Street	221,500	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
12	I-8	Texas Street	I-805	193,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
13	I-8	I-805	I-15	247,000	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
14	I-8	I-15	Fairmount Avenue	297,300	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
15	I-8	Fairmount Avenue	Waring Road	242,200	65	50	96.80	2.50	0.70	80.00	10.00	10.00	
16	I-15	El Cajon Boulevard	Adams Avenue	209,000	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
17	I-15	Adams Avenue	I-8	219,600	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
18	I-15	I-8	Friars Road	276,100	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
19	I-15	Friars Road	Aero Drive	255,100	65	50	96.00	2.80	1.20	80.00	10.00	10.00	
20	I-805	El Cajon Boulevard	Adams Avenue	223,600	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
21	I-805	Adams Avenue	I-8	250,700	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
22	I-805	I-8	Murray Ridge	254,800	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
23	I-805	Murray Ridge	Kearny Villa Road	260,900	65	50	93.60	4.10	2.30	80.00	10.00	10.00	
24	SR-163	Washington Street	6th Avenue	134,700	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
25	SR-163	6th Avenue	I-8	194,600	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
26	SR-163	I-8	Friars Road	187,300	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
27	SR-163	Friars Road	Genesee Avenue	214,900	65	50	96.50	2.70	0.80	80.00	10.00	10.00	
28	SR-163	Genesee Avenue	Mesa College Drive	211,100	65	50	96.50	2.70	0.80	80.00	10.00	10.00	



**FHWA RD-77-108**  
**Traffic Noise Prediction Model**  
**Predicted Noise Levels**

**Project Name :** Mission Valley CPU  
**Project Number :** 7899  
**Modeled Condition :** Freeway 2050  
**Assessment Metric:** Soft

Segment	Roadway	From	Segment To	Noise Levels, dBA Soft				Distance to Traffic Noise Level Contours, Feet					
				Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	I-5	Washington Street	Old Town Avenue	84.3	75.3	74.1	85.2	239	516	1,111	2,393	5,156	11,108
2	I-5	Old Town Avenue	I-8	85.3	76.3	75.1	86.2	279	601	1,295	2,790	6,011	12,951
3	I-5	I-8	Sea World Drive	84.5	75.5	74.3	85.4	247	532	1,145	2,468	5,317	11,454
4	I-5	Sea World Drive	Clairemont Drive	85.5	76.5	75.3	86.4	288	620	1,335	2,877	6,199	13,355
5	I-8	Midway Drive	I-5	82.0	72.3	70.2	82.7	163	351	757	1,630	3,513	7,568
6	I-8	I-5	Morena Boulevard	83.5	73.7	71.7	84.2	205	442	953	2,053	4,422	9,527
7	I-8	Morena Boulevard	Hotel Circle/Taylor Street	84.7	75.0	72.9	85.4	247	532	1,145	2,468	5,317	11,454
8	I-8	Hotel Circle/Taylor Street	Hotel Circle	84.7	75.0	72.9	85.4	247	532	1,145	2,468	5,317	11,454
9	I-8	Hotel Circle	SR-163	85.0	75.2	73.2	85.6	254	548	1,181	2,545	5,482	11,811
10	I-8	SR-163	Mission Center Road	84.6	74.9	72.8	85.3	243	524	1,128	2,430	5,236	11,280
11	I-8	Mission Center Road	Texas Street	85.2	75.4	73.4	85.9	266	574	1,237	2,665	5,741	12,368
12	I-8	Texas Street	I-805	84.6	74.8	72.8	85.3	243	524	1,128	2,430	5,236	11,280
13	I-8	I-805	I-15	85.6	75.9	73.8	86.3	283	610	1,315	2,833	6,104	13,151
14	I-8	I-15	Fairmount Avenue	86.4	76.7	74.6	87.1	320	690	1,487	3,204	6,902	14,870
15	I-8	Fairmount Avenue	Waring Road	85.5	75.8	73.8	86.2	279	601	1,295	2,790	6,011	12,951
16	I-15	El Cajon Boulevard	Adams Avenue	84.9	75.7	75.5	85.8	262	565	1,218	2,624	5,653	12,180
17	I-15	Adams Avenue	I-8	85.1	75.9	75.7	86.0	271	583	1,256	2,706	5,830	12,559
18	I-15	I-8	Friars Road	86.1	76.9	76.7	87.0	315	680	1,464	3,155	6,797	14,643
19	I-15	Friars Road	Aero Drive	85.7	76.5	76.3	86.7	301	649	1,398	3,013	6,491	13,984
20	I-805	El Cajon Boulevard	Adams Avenue	85.1	77.6	78.6	86.5	292	629	1,356	2,922	6,295	13,561
21	I-805	Adams Avenue	I-8	85.6	78.1	79.1	87.0	315	680	1,464	3,155	6,797	14,643
22	I-805	I-8	Murray Ridge	85.6	78.2	79.1	87.1	320	690	1,487	3,204	6,902	14,870
23	I-805	Murray Ridge	Kearny Villa Road	85.7	78.3	79.2	87.2	325	701	1,510	3,253	7,009	15,100
24	SR-163	Washington Street	6th Avenue	83.0	73.6	71.8	83.7	190	410	882	1,901	4,095	8,823
25	SR-163	6th Avenue	I-8	84.6	75.2	73.4	85.3	243	524	1,128	2,430	5,236	11,280
26	SR-163	I-8	Friars Road	84.4	75.0	73.2	85.2	239	516	1,111	2,393	5,156	11,108
27	SR-163	Friars Road	Genesee Avenue	85.0	75.6	73.8	85.8	262	565	1,218	2,624	5,653	12,180
28	SR-163	Genesee Avenue	Mesa College Drive	84.9	75.5	73.7	85.7	258	557	1,199	2,584	5,567	11,994

**ATTACHMENT 3**  
**Trolley Contours Noise Calculation Data**

# Green Line Trolley Speeds

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Stations	Distance (mi)	Time (sec)*	Time (hr)	Speed (mph)
Grantville to Mission San Diego	0.90	90	0.025	36
Mission San Diego to Stadium	0.50	90	0.025	20
Stadium to Fenton Parkway	0.49	30	0.008	58
Fenton Parkway to Rio Vista	0.95	90	0.025	38
Rio Vista to Mission Valley Center	0.51	90	0.025	20
Mission Valley Center to Hazard Center	0.50	90	0.025	20
Hazard Center to Fashion Valley	0.73	90	0.025	29
Fashion Valley to Morena/Linda Vista	1.66	150	0.042	40
Morena/Linda Vista to Old Town	0.82	150	0.042	20

\*Published schedule minus 30 sec to account for stops

Noise Model Based on Federal Transit Administration General Transit Noise Assessment  
 Developed for Chicago Create Project  
 Copyright 2006, HMMH Inc.  
 Case: 7899 Mission Valley CPU

RESULTS			
Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
<b>All Sources</b>	72	68	65
Source 1 - 36 mph	63	59	56
Source 2 - 20 mph	58	54	51
Source 3 - 58 mph	67	64	60
Source 4 - 38 mph	64	60	57
Source 5 - 29 mph	61	58	54
Source 6 - 40 mph	64	60	57
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS														
Parameter	Source 1		Source 2		Source 3		Source 4		Source 5		Source 6		Source 7	
<b>Source Num.</b>	RRT/LRT	4	RRT/LRT	4	RRT/LRT	4	RRT/LRT	4	RRT/LRT	4	RRT/LRT	4	RRT/LRT	4
<b>Distance (source to receiver)</b>	distance (ft)	50	distance (ft)	50	distance (ft)	50	distance (ft)	50	distance (ft)	50	distance (ft)	50	distance (ft)	50
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	36	speed (mph)	20	speed (mph)	58	speed (mph)	38	speed (mph)	29	speed (mph)	40	speed (mph)	40
	trains/hour	7.66667	trains/hour	7.66667	trains/hour	7.66667	trains/hour	7.66667	trains/hour	7.66667	trains/hour	7.66667	trains/hour	7.66667
	cars/train	5	cars/train	5	cars/train	5	cars/train	5	cars/train	5	cars/train	5	cars/train	5
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	36	speed (mph)	20	speed (mph)	58	speed (mph)	38	speed (mph)	29	speed (mph)	40	speed (mph)	40
	trains/hour	3.66667	trains/hour	3.66667	trains/hour	3.66667	trains/hour	3.66667	trains/hour	3.66667	trains/hour	3.66667	trains/hour	3.66667
	cars/train	5	cars/train	5	cars/train	5	cars/train	5	cars/train	5	cars/train	5	cars/train	5
<b>Wheel Flats?</b>	% of cars w/ wheel flats	0.00%	% of cars w/ wheel flats	0.00%	% of cars w/ wheel flats	0.00%	% of cars w/ wheel flats	0.00%	% of cars w/ wheel flats	0.00%	% of cars w/ wheel flats	0.00%	% of cars w/ wheel flats	0.00%
<b>Jointed Track?</b>	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
<b>Embedded Track?</b>	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
<b>Aerial Structure?</b>	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
<b>Barrier Present?</b>	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	Number
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

# Green Line Trolley Noise Levels

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Stations	Noise Level at 50 feet (CNEL)	Distance to Noise Contour:			
		75 CNEL	70 CNEL	65 CNEL	60 CNEL
Grantville to Mission San Diego	63	3	10	33	105
Mission San Diego to Stadium	58	1	3	10	32
Stadium to Fenton Parkway	67	9	27	86	272
Fenton Parkway to Rio Vista	64	4	12	37	117
Rio Vista to Mission Valley Center	63	3	10	33	105
Mission Valley Center to Hazard Center	63	3	10	33	105
Hazard Center to Fashion Valley	61	2	7	22	68
Fashion Valley to Morena/Linda Vista	64	4	13	41	130
Morena/Linda Vista to Old Town	63	3	10	33	105

# Trolley Vibration

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$$Lv = 85.88 - 1.06\log(D) - 2.32 \log (D)^2 - 0.87 \log(D)^3$$

Distance                    25 feet  
 VdB =                        77.487598

Speed	Adjustment	VdB		Distance to 72 VdB	Distance to 65 VdB
36	-2.8	74.7	Grantville to Mission San Diego	37	92
20	-8.0	69.5	Mission San Diego to Stadium	14	48
58	1.3	78.8	Stadium to Fenton Parkway	66	143
38	-2.4	75.1	Fenton Parkway to Rio Vista	39	97
20	-7.9	69.6	Rio Vista to Mission Valley Center	14	48
20	-7.9	69.6	Mission Valley Center to Hazard Center	14	48
29	-4.7	72.8	Hazard Center to Fashion Valley	27	75
40	-2.0	75.5	Fashion Valley to Morena/Linda Vista	42	101
20	-8.0	69.4	Morena/Linda Vista to Old Town	14	48

Speed	Adjustment	Distance to VdB (feet)			VdB
		75	72	65	
15	-10.5	1	9	33	67.0
20	-8.0	6	14	48	69.5
25	-6.0	11	21	63	71.5
30	-4.4	16	28	77	73.1
35	-3.1	21	35	90	74.4
40	-1.9	26	42	102	75.5
45	-0.9	31	49	114	76.6
50	0.0	36	55	125	77.5
55	0.8	41	62	136	78.3
60	1.6	45	68	147	79.1