Appendix E

ACOUSTIC ANALYSIS TECHNICAL REPORT

HELIX
Environmental Planning

San Ysidro Community Plan Update and San Ysidro Historic Village Specific Plan

Acoustic Analysis Technical Report

March 2016

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ACOUSTICAL ANALYSIS REPORT

FOR THE

SAN YSIDRO COMMUNITY PLAN UPDATE
AND
SAN YSIDRO HISTORIC VILLAGE SPECIFIC PLAN

Prepared for:

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Planning & Community Investment Department
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March 2016

San Ysidro Community Plan Update and San Ysidro Historic Village Specific Plan

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ACRONYMS

ADT	Average Daily Trips (roadway traffic)
ANSI	American National Standards Institute
BJRR	Baja California Railroad
CalGeen	California Green Buildings Standards Code
CBSC	California Building Standards Commission
CEQA	California Environmental Quality Act
City	City of San Diego
CNEL	Community Noise Equivalent Level
Daytime	The period from 7:00 a.m. to 10:00 p.m.
dB	Decibel
dBA	A-weighted decibels
FTA	Federal Transit Administration
Hz	Hertz
I-	Interstate
in./sec	inches per second
KHA	Kimley-Horn & Associates
kHz	kilohertz
L_{DN}	Day-Night Level
L_{EQ}	Equivalent Sound Level
L_{MAX}	Maximum Sound Level
LRV	Light Rail Vehicles
Lxx	The sound level exceeded for a given percentage of a specified period
mPa	micro-Pascals
mph	miles per hour
MTS	Metropolitan Transit System
NOLF	Naval Outlying Landing Field
NSLU	Noise-Sensitive Land Use
POE	Port of Entry
PPV	peak particle velocity

RMS	root mean square
ROW	right-of-way
SANDAG	San Diego Association of Governments
SDIY	San Diego and Imperial Valley Railroad
SDT	San Diego Trolley
S_{PL}	Sound Pressure Level
SR-	State Route
STC	Sound Transmission Class
SYCPU	San Ysidro Community Plan Update
SYHVSP	San Ysidro Historic Village Specific Plan
TNM	Traffic Noise Model
U.S. DOT	U.S. Department of Transportation
VdB	Vibration Decibels

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EXECUTIVE SUMMARY

The San Ysidro Community Plan Update (SYCPU) is located in the southernmost portion of the City of San Diego (City) on the border between the United States and Mexico. The SYCPU is intended to implement the General Plan policies through the provision of community-specific recommendations. The two documents are intended to work together to establish the framework for growth and development within the San Ysidro community.

Potentially significant noise impacts have been identified in relation to traffic noise (exterior and interior) as well as vibration impacts related to the rail lines, truck traffic, and major construction activity.

Portions of the community would be exposed to noise levels in excess of 65 community noise equivalent level (CNEL); these levels are considered conditionally acceptable for residential uses under the Noise Element of the City's General Plan. Residential uses would be allowed within these areas provided interior noise levels can be reduced to 45 CNEL. Standard building attenuation for existing and new residences within the SYCPU area may not be sufficient to reduce interior noise levels below the 45 CNEL standard, if exterior noise levels exceed 60 CNEL. A site-specific acoustical study would be required where noise levels exceed the conditionally compatible exterior noise levels as defined in the City's Land Use/Noise Compatibility Guidelines. The completion of an exterior-to-interior noise analysis where exterior noise levels exceed 60 CNEL for residential land uses and the subsequent implementation of applicable attenuation measures (e.g., noise barriers and architectural enhancements including dual pane windows reduce interior noise) would reduce interior noise levels below the 45 CNEL interior standard. Application of noise attenuation measures identified in those studies would reduce noise impacts. However, insufficient information for each situation exists to conclude that the attenuation measures could reduce noise impacts to less than significant. Thus, noise impacts are considered potentially significant and not mitigated.

Vibration sensitive instruments and operations can be disrupted at low levels. Vibration sensitive instruments and operations may require special consideration during construction activities and near rail lines. A site specific vibration study would be required within specified distances from heavy truck traffic on freeways, major construction sites, and pile driving activities. A vibration study would also be required for developments according to the Federal Transit Administration (FTA) screening distances for rail related vibration. Application of vibration attenuation measures identified in those studies would reduce vibration impacts. However, insufficient information for each situation exists to conclude that the attenuation measures could reduce vibration impacts to less than significant. Thus, vibration impacts are considered potentially significant and not mitigated.

Ambient noise levels would increase resulting from the build-out of the SYCPU. Noise levels would increase by more than 3 A-weighted decibels (dBA) by the year 2035 along 13 roadway segments, which would be considered perceptible. However, exterior noise levels would remain below the City's 65 CNEL threshold for noise – sensitive land uses, and would not result in a significant impact.

Construction noise impacts due to the implementation of the SYCPU would be less than significant with compliance with the City noise ordinance.

The SYCPU area is located near three active airports. However, no effects related to airport noise would occur within the SYCPU area, and impacts would be less than significant.

1.0 INTRODUCTION

1.1 PURPOSE OF REPORT

This report analyzes potential noise and vibration impacts associated with the San Ysidro Community Plan Update (SYCPU) and the associated San Ysidro Historic Village Specific Plan (SYHVSP). The report includes an evaluation of existing conditions within and adjacent to the Community Plan area. Based on a comparison of the existing noise and vibration conditions with the conditions anticipated to exist with buildout of community under the SYCPU, this report analyses the potential impacts of future development within the Community Plan area, and, as appropriate, identifies measures which can be taken to avoid adverse impacts on noise sensitive uses. The analysis of impacts and report is prepared in accordance with the City of San Diego's (City) California Environmental Quality Act (CEQA) guidelines (City 2011).

1.2 PROJECT DESCRIPTION

1.2.1 San Ysidro Community Plan Update

The SYCPU is a comprehensive update to the current community plan, which was adopted in 1990. The San Ysidro Community Plan covers a total of 1,863 acres within the southern tip of the City of San Diego, adjacent to Otay Mesa-Nestor, Otay Mesa, the Tijuana River Valley, and the international border with Mexico (see Figures 1, *Site Vicinity Map*, and 2, *Project Vicinity Map [Aerial Photograph]*, respectively).

The SYCPU includes the following eight individual elements intended to guide development: Land Use; Mobility; Urban Design; Economic Prosperity; Public Facilities, Services & Safety; Recreation; Conservation; and Historic Preservation. Each element would be updated to bring the community plan into conformance with the City of San Diego's General Plan as well as embrace current urban planning and sustainability concepts.

The **Land Use Element** is designed to guide future development within the community. It establishes land use designations for each portion of the community (see Figure 3, *Land Use Plan*). The majority of the plan area (41 percent) would be designated for residential use. Commercial uses would comprise 18 percent of the plan area. Industrial development would comprise 2 percent of the plan area. A total of 11 percent of the plan area would be designated for institutional uses. Parks and Open Space would cover 5 and 13 percent of the area, respectively. The balance would be occupied by transportation facilities.

The **Mobility Element** is intended to improve mobility throughout the community through the development of a balanced multi-modal transportation network. The Element recommends future improvements to specific roadway segments ranging from restriping to new roadway connections. The Element also contains a number of policies designed to encourage the use of public transit including promoting pedestrian movement in the vicinity of transit and by enhancing existing bus and trolley stops.

The **Urban Design Element** establishes goals and policies that enhance the urban fabric of San Ysidro while retaining the historic elements that contribute to the overall character of the community.

The **Economic Prosperity Element** envisions a strategic approach that is focused on increasing opportunities for densification of residential and commercial development in selected parts of the community, while protecting the existing strong neighborhoods through enhancement of neighborhood villages.

The **Public Facilities, Services & Safety Element** identifies existing facilities and services, and addresses the capacity and needs for future services including potential sites and desired characteristics for future facilities.

The **Recreation Element** is intended to assure that the recreational needs of the community are met. The Element establishes goals and policies for population-based parks and recreation facilities within the community. In addition, the Element establishes goals and policies related to open space and resource-based parks.

The **Conservation Element** contains policies designed to meet the City's sustainable development goals in areas that have been identified as suitable for development. The Conservation Element also addresses open space and habitat protection.

The **Historic Preservation Element** contains specific recommendations to address the history and cultural resources, unique to San Ysidro, in order to encourage protection and appreciation of these resources.

1.2.2 San Ysidro Historic Village Specific Plan

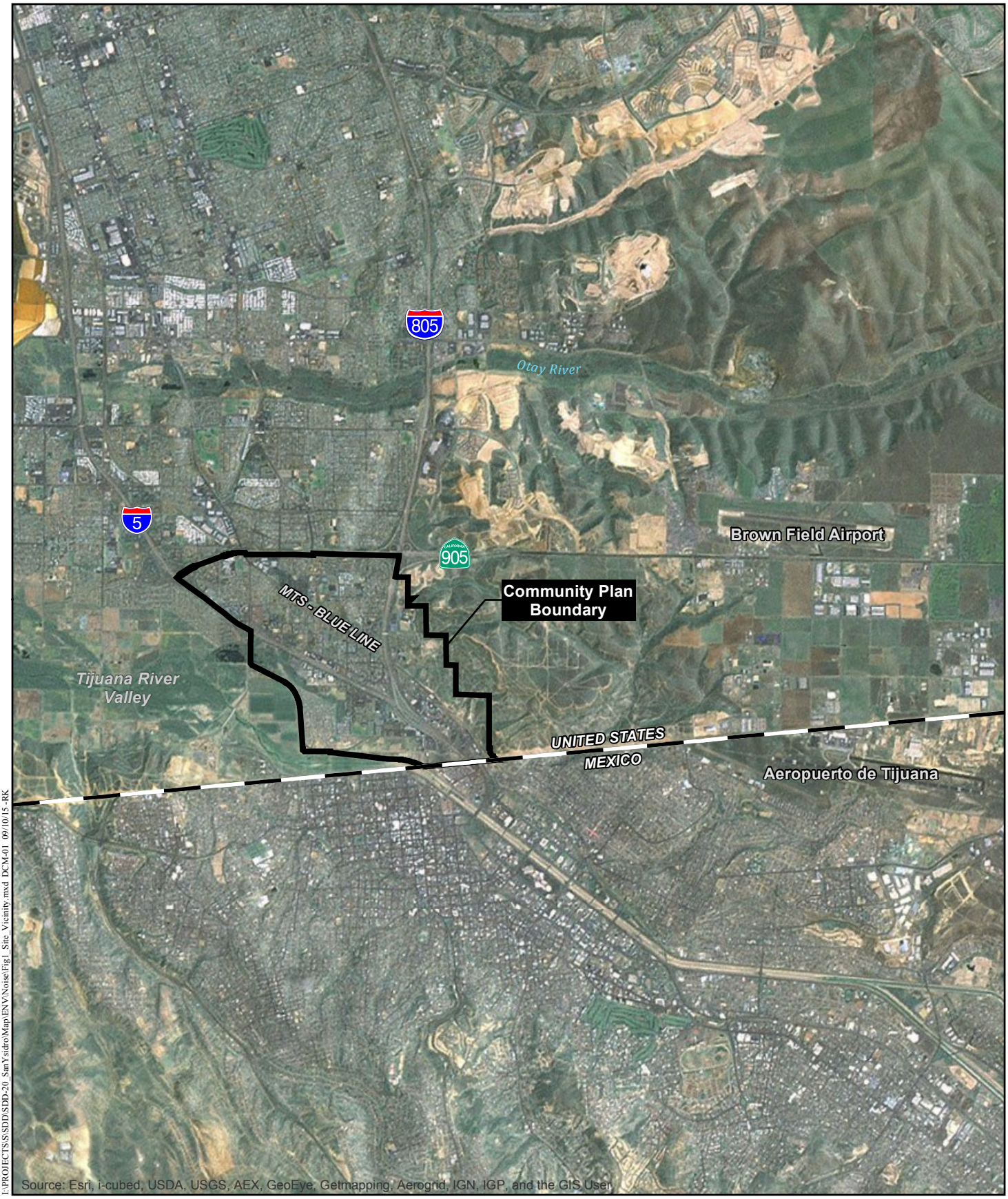
The SYHVSP, identified on Figure 3, is a comprehensive planning document that will implement the vision for the SYCPU for this Specific Plan Area. The SYHVSP covers approximately 112 acres, and is bounded by Beyer Boulevard to the north, Interstate (I-) 5 to the south, I-805 to the east, and Smythe Avenue to the west.

The overall goal of the Specific Plan is to create an attractive, intensified urban environment with a mix of land uses surrounding the Beyer Trolley Station and along San Ysidro Boulevard, while preserving the low-scale single- and multi-family character of the residential areas.

The **Land Use Component** of the Specific Plan includes guidelines intended to: (1) preserve the historic character of the area; (2) attract community-oriented development; (3) promote alternate forms of transportation (e.g., walking and biking); and (4) focus increased residential density on major transportation corridors and near transit. The Specific Plan Area includes the following five land use designations, as specified by the SYCPU: Low-Medium Density Residential, Medium Density Residential, Community Commercial (Residential Permitted), Institutional, and Park.

The **Mobility Component** of the Specific Plan sets forth a number of polices and guidelines to promote mobility including (1) install new, and widen existing, sidewalks; (2) improve lighting and landscaping along sidewalks; (3) improve street crossings; and (4) incorporate bikeway facilities on select roadways.

The **Urban Design Component** of the Specific Plan identifies policies intended to enhance public spaces, including parks, public plazas, and roadways. The Specific Plan encourages the



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Site Vicinity Map

SAN YSIDRO COMMUNITY PLAN UPDATE

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N 0 6,000 Feet

Figure 1

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Project Vicinity Map (Aerial Photograph)

SAN YSIDRO COMMUNITY PLAN UPDATE

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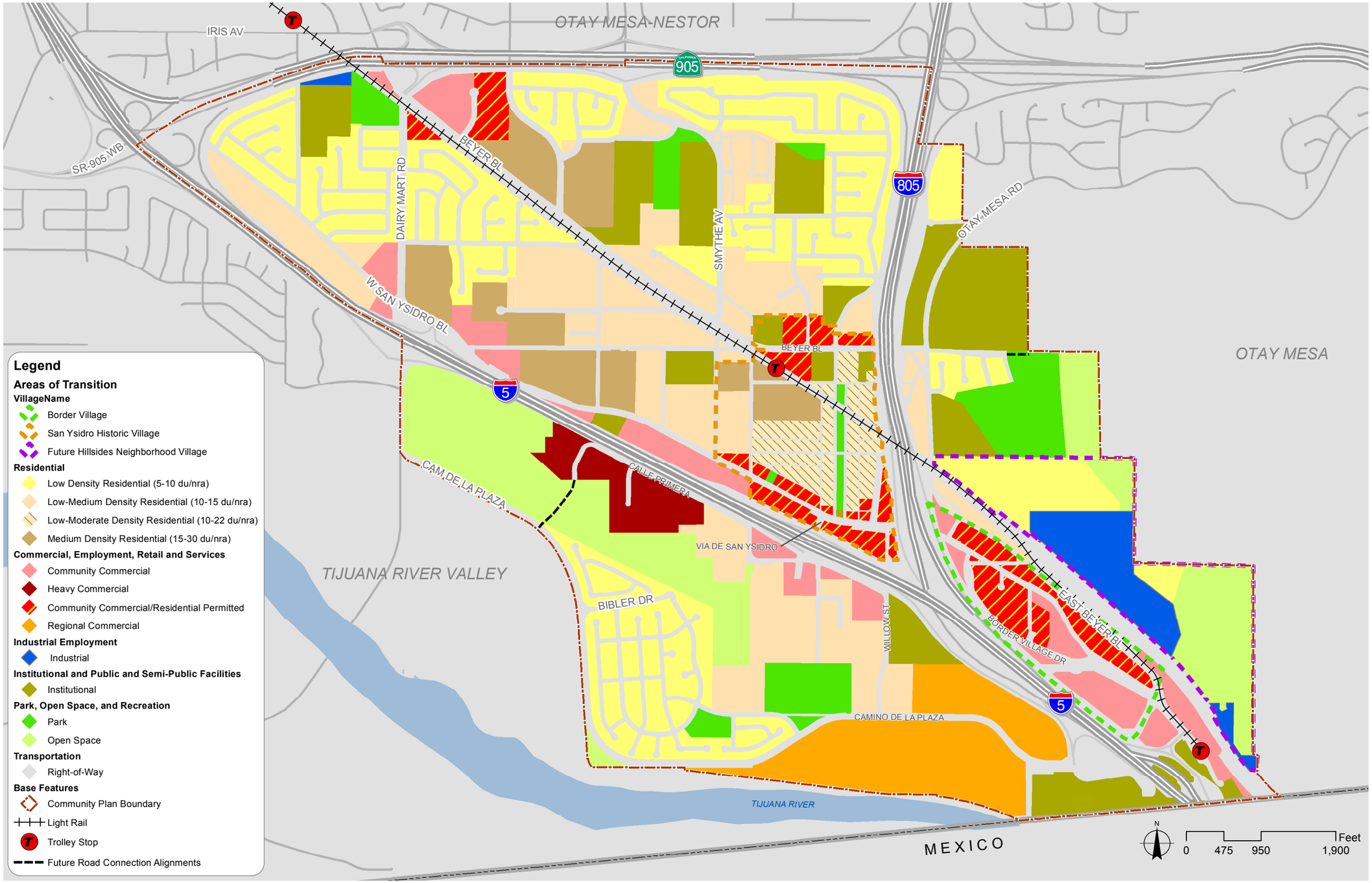
N 0 2,500 Feet

Figure 2



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Source: SYCPU 2016

Land Use Plan

SAN YSIDRO COMMUNITY PLAN UPDATE

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Figure 3

creation of pocket parks and neighborhood plazas. Enhanced streetscape is encouraged including benches, bicycle parking, and improved landscaping and lighting. Bioswales and pervious pavement are encouraged to reduce stormwater runoff and pollutants. Signage improvements are recommended to increase transit usage, and facilitate movement within the community. Lastly, the inclusion of public art is encouraged.

The **Infrastructure and Public Facilities Component** of the Specific Plan establishes policies and describes improvements necessary for the upgrading and expansion of public facilities, including water, wastewater, solid waste, stormwater, natural gas, police and fire protection, schools, libraries, parks, and other public services. Water conservation measures are identified to help assure a reliable water supply. Stormwater facilities are encouraged to convey runoff through the Specific Plan Area, and reduce water pollution. Adequate staffing and equipment are identified as important to assuring adequate police and fire protection. A new location for the community library in the Specific Plan Area is proposed. Mini and pocket park locations are identified in the Specific Plan area to enhance recreational opportunities within the Specific Plan Area as well as the overall Community Plan Area.

2.0 NOISE AND VIBRATION FUNDAMENTALS

2.1 FUNDAMENTALS OF NOISE

2.1.1 Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound. In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound, with associated factors summarized below.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness), with a low-frequency sound perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz). A frequency of 250 cycles per second, for example, is referred to as 250 Hz), with higher frequencies sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hz. The audible frequency range for humans is generally between 20 and 20,000 Hz (or 20 kHz).

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa), with one mPa representing approximately one hundred billionth of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than

100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (S_{PL}) in terms of decibels (dB). The threshold of audible sound is about 0 dB for a healthy human ear, which corresponds to 20 mPa.

Human Perception of Noise

The decibel scale alone does not adequately characterize how humans perceive noise, as the dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear. Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the S_{PL} within that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. An "A-weighted" sound level (expressed in units of dBA) can then be calculated from this information. Noise levels are typically reported in terms of A-weighted decibels or dBA. Table 1, *Typical A-weighted Noise Levels*, describes levels for various noise sources.

Table 1 TYPICAL A-WEIGHTED NOISE LEVELS		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph*		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: Caltrans 2009
* = miles per hour

2.1.2 Noise Descriptors

Noise in the daily human environment fluctuates over time; these changes can be minor or substantial, depending on individual factors. Specifically, noise fluctuations can be influenced by conditions such as: (1) whether noise levels occur in regular or random patterns; (2) if noise level fluctuations are rapid or slow; and (3) if noise levels vary widely or are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels, with the following noise descriptors most commonly used in transportation noise analysis.

Equivalent Sound Level (L_{EQ})

L_{EQ} represents an average of the sound energy occurring over a specified period. In effect, L_{EQ} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The one-hour A-weighted equivalent sound level (L_{EQ}[h]), for example, is the energy average of A-weighted sound levels occurring during a

one-hour period. One hour is the normal (default) assumed time period for L_{EQ} unless stated otherwise.

Percentile-Exceeded Sound Level (L_{XX})

L_{XX} represents the sound level exceeded for a given percentage of a specified period. For example, L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time.

Maximum Sound Level (L_{MAX})

L_{MAX} is the maximum sound level measured during a specified time period with "slow/1-second" time-averaging.

Day-Night Level (L_{DN})

L_{DN} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.

Community Noise Equivalent Level (CNEL)

Similar to L_{DN}, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of six dB for each doubling of distance from a point source. Sound levels from a line source attenuate at a rate of three dB for each doubling of distance.

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense/deep woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least five dB of noise reduction, with taller barriers providing increased noise reduction. Vegetation, such as highway landscaping, between the source and receiver is rarely effective in reducing noise, as it does not create a solid barrier.

2.1.3 Human Response to Changes in Noise Levels

A doubling of sound energy results in a three-dB increase in sound. The subjective human perception of a doubling of loudness, however, will usually be different than what is measured

with precise instrumentation. In typical noisy environments, changes in noise of one to two dB are generally not perceptible, although it is widely accepted that people are able to begin to detect sound level increases of three dB in typical noisy environments. In addition, a five-dB increase is generally perceived as distinctly noticeable, and a 10-dB increase is generally perceived as a doubling of loudness. Accordingly, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a three-dB increase in sound would generally be perceived as barely detectable by the human ear.

2.2 VIBRATION

2.2.1 Fundamentals of Vibration

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of input excitation. Sources of ground-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or manmade (explosions, trains, machinery, traffic, construction equipment, etc.). Vibration sources may be transient, steady-state (continuous), or pseudo steady-state. Examples of transient construction vibrations are those that occur from blasting with explosives, impact pile driving, demolition, and wrecking balls.

Ambient and source vibration information are expressed in terms of the peak particle velocity (PPV) in inches per second (in./sec). The root mean square (RMS) of a signal is the average of the squared amplitude of the signal in decibels (re 1 micro-inch per second). Because the net average of a vibration signal is zero, the RMS amplitude is used to describe the "smoothed" vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal. The RMS amplitude is always less than the PPV and is always positive. The RMS average is typically calculated over a one-second period.

2.2.2 Human Perception and Typical Levels of Ground-borne Vibration and Noise

The background vibration velocity level in residential areas is usually 50 vibration decibels (VdB) or lower; this is well below the level perceptible by humans, which is approximately 65 VdB. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

3.0 REGULATORY FRAMEWORK

3.1 STATE

3.1.1 California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, find that excessive noise is a serious hazard to the public health and welfare, and that exposure to certain levels of noise can result in physiological, psychological,

and economic damage. The Act also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

3.1.2 California Environmental Quality Act (CEQA)

Under CEQA, lead agencies are directed to assess conformance to local or other agency noise standards; measure and identify the potentially significant exposure of people to (or generation of) excessive ground-borne vibration or noise levels; and measure and identify potentially significant permanent or temporary increases in ambient noise levels. Implementation of CEQA ensures that during the decision-making stage of development, decision-makers and the public will be informed of any potentially excessive noise levels and available mitigation measures to reduce them to acceptable levels.

3.1.3 California Noise Insulation Standards (California Code of Regulations Title 24)

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for hotels, motels, dormitories, and multi-family residential buildings (California Building Standards Commission [CBSC] 2013a). Title 24 requires that residential structures be designed to prevent the intrusion of exterior noise so that the interior CNEL, with windows closed, attributable to exterior sources shall not exceed 45 dBA in any habitable room. The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure may be exposed to exterior noise levels of 60 dBA CNEL or greater. Such acoustical analysis must demonstrate that the residences have been designed to limit intruding noise to a maximum interior noise level of 45 dBA CNEL.

3.1.4 2013 California Green Buildings Standards Code

Section 5.507 of the California Green Buildings Standards Code ([CalGreen] CBSC 2013b) establishes requirements for acoustical control in non-residential buildings. The standards require that wall and roof-ceiling assemblies making up the building envelope shall have a Sound Transmission Class (STC) value of at least 50, and exterior windows shall have a minimum STC of 40 or Outdoor-Indoor STC of 30 for buildings within: (1) the 65 CNEL noise contour of an airport; or (2) the 65 CNEL or L_{DN} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source. Wall and floor-ceiling assemblies separating tenant spaces and public places shall have an STC of at least 40. Additionally, Section A5.507.5 requires that classrooms have a maximum interior background noise level of no more than 45 dBA L_{EQ}.

3.2 LOCAL

3.2.1 City of San Diego General Plan

The Noise Element of the City of San Diego General Plan includes the following policies intended to minimize noise through standards, site planning, and noise mitigation.

1. Policy NE-A.1: Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.

2. Policy NE-A.2: Assure the appropriateness of proposed developments relative to existing and future noise levels by consulting the guidelines for noise-compatible land use (shown on Table NE-3) to minimize the effects on noise-sensitive land uses.

3. Policy NE-A.3: Limit future residential and other noise-sensitive land uses in areas exposed to high levels of noise.

4. Policy 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 proposed project design to meet the noise guidelines.

5. Policy NE-A.5: Prepare noise studies to address existing and future noise levels from noise sources that are specific to a community when updating community plans.

In addition, the Noise Element includes Noise/Land Use Compatibility Guidelines which identify the limits for acceptable noise levels for different land use categories, as illustrated in Table 2 *City of San Diego Land Use/Noise Compatibility Guidelines.*

Table 2
CITY OF SAN DIEGO LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	<60	**60-65**	**65-70**	**70-75**	**75+**
Open Space and Parks and Recreational					
Community & Neighborhood Parks; Passive Recreation					
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Water Recreational Facilities; Horse Stables; Park Maintenance Facilities					
Agricultural					
Crop Raising & Farming; Aquaculture, Dairies; Horticulture Nurseries & Greenhouses; Animal Raising, Maintain & Keeping; Commercial Stables					
Residential					
Single Units; Mobile Homes; Senior Housing		45			
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations		45	45		

Table 2 (cont.)
CITY OF SAN DIEGO LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	<60	**60-65**	**65-70**	**70-75**	**75+**
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; K-12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities		45			
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)		45	45		
Cemeteries					
Sales					
Building Supplies/Equipment; Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Apparel & Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating & Drinking; Financial Institutions; Assembly & Entertainment; Radio & Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Vehicle Repair & Maintenance; Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution					

Table 2 (cont.)
CITY OF SAN DIEGO LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use Category				Exterior Noise Exposure (dBA CNEL)				
				<60	60-65	65-70	70-75	75+
Industrial								
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries								
Research & Development							50	
	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.					
		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 Conditionally indicated by the number for occupied areas.					
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable					
	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 Noise Element 2008
Note: A proposed General Plan Amendment may change this table to adjust noise level compatibility for parks and religious assembly.

3.2.2 City of San Diego Municipal Code

City of San Diego Municipal Code Chapter 5 Article 9.5, Noise Abatement and Control, declares that the making, creation, or continuance of excessive noises are detrimental to public health, comfort, convenience, safety, welfare, and prosperity of the residents of San Diego. Section 59.5.0401 establishes sound level limits. The exterior noise limits for each land use classification are summarized in Table 3, *City of San Diego Table of Applicable Limits.* One hour average sound levels are not to exceed the applicable limit given in this table. The noise subject to these limits is defined as part of the total noise at the specified location.

Per San Diego Municipal Code Section 59.5.0404, construction noise levels measured at or beyond the property lines of any property zoned residential shall not exceed an average sound level greater than 75 decibels (dB) during the 12-hour period from 7:00 a.m. to 7:00 p.m. Further, construction activity is prohibited 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. Exceptions are allowed and subject to a permit granted by the Noise Abatement and Control Administrator.

Table 3
CITY OF SAN DIEGO TABLE OF APPLICABLE LIMITS

Land Use	Time of Day	One-Hour Average Sound Level (decibels)
Single Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
Multi-Family Residential (up to a maximum density of 1/2000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
All other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
Industrial or Agricultural	Anytime	75

Source: San Diego Municipal Code Section 59.5.0401

4.0 EXISTING NOISE ENVIRONMENT (BASELINE CONDITIONS)

4.1 METHODOLOGY AND EQUIPMENT

4.1.1 Methodology

The existing and future noise contours with the Community Plan area were calculated using the Federal Highway Administration's Traffic Noise Model (TNM) software version 2.5. TNM 2.5 noise model accepts as input the number and types of vehicles on the roadway, vehicle speeds, receiver locations, and other input data. Existing and projected traffic volumes were developed by Kimley-Horn & Associates (KHA) for the local streets and highways (KHA 2014, 2015).

The percentage of overall Average Daily Trips (ADT) for the local streets model was assumed to be 97.5 percent automobiles, 2 percent medium trucks, and 0.5 percent heavy trucks.

Noise levels associated with the San Diego Trolley (SDT) Blue Line along the railway corridor were calculated based on a noise prediction model from the San Diego Association of Governments' (SANDAG's) Noise and Vibration Impacts Technical Report for the Mid-Coast Corridor Transit Project (SANDAG 2014). The model calculated rail noise based on factors specific to the SDT Blue Line's Light Rail Vehicle (LRV) operations.

4.1.2 Equipment

The following equipment was used to measure existing daytime noise levels in the study area:

- Larson Davis System Sound Track LxT sound level meter
- Larson Davis Model CA150 Calibrator
- Windscreen and tripod for the sound level meter

The sound level meter was field-calibrated immediately prior to the noise measurements to ensure accuracy. All measurements were made with a meter that conforms to the American National Standards Institute (ANSI) specifications for sound level meters (ANSI SI.4-1983 R2001). All instruments were maintained with National Bureau of Standards traceable calibration per the manufacturers' standards.

Modeling of the outdoor noise environment for this report was accomplished using the TNM 2.5 software. The TNM was released in February 2004 by the U.S. Department of Transportation (U.S. DOT), and calculates the daytime average Hourly L_{EQ} from three-dimensional model inputs and traffic data.

4.2 EXISTING LAND USES

San Ysidro contains a mix of residential, commercial, industrial, institutional, recreational, and open space uses. Although within the boundaries of the SYCPU area, the San Ysidro Port of Entry (POE) facility is not within the City's jurisdiction for planning purposes.

4.2.1 Noise-sensitive Land Uses

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, such as residential dwellings, transient lodging, dormitories, hospitals, educational facilities, and libraries. Industrial and commercial land uses are generally not considered sensitive to noise. NSLUs within the SYCPU area include schools, libraries, churches, residences, lodging, nursing homes, playgrounds, and parks.

4.2.2 Vibration-sensitive Land Uses

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (Federal Transit Administration [FTA] 2006) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. Excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. Vibration-sensitive land uses within the SYCPU area include residential areas and hotels. High sensitivity land uses such as research operations and hospitals are generally not located within the SYCPU area. However, industrial and commercial land uses that could contain vibration sensitive equipment are located in locations along I-5, East San Ysidro Boulevard, and Beyer Boulevard.

4.3 EXISTING NOISE ENVIRONMENT

4.3.1 Ambient Noise Levels

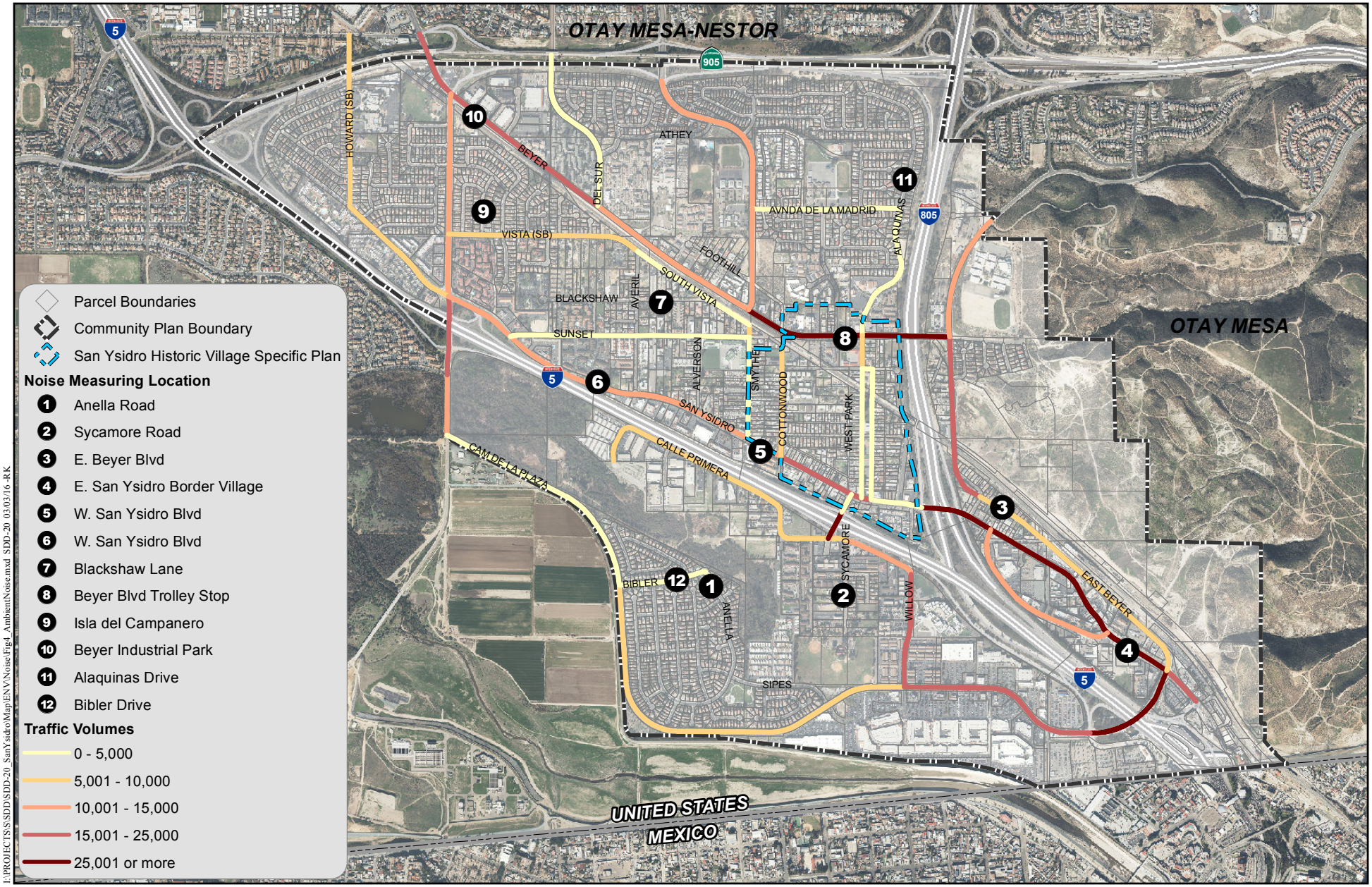
A community noise survey was conducted to document noise levels at various areas within the San Ysidro community. Eleven short-term daytime measurement locations were selected to be representative of typical conditions in the planning area. The short-term measurements show the average sound level over roughly 15- minute periods on weekdays in June and July 2015. They were primarily chosen based on proximity to important community areas, industrial uses, residences, schools, and transportation. Noise measurement locations are shown on Figure 4, *Ambient Noise Survey.*

The community noise survey represents a range of the existing conditions, provides a representation of baseline conditions in the study area, and is used to calibrate the noise model. The sources of noise varied between sites, but the major source in most cases was from vehicular traffic.

The measured average noise levels ranged from 53 to 69 dBA L_{EQ}. Most measurement sites ranged between 55 to 65 dBA L_{EQ}. The loudest average noise level was 68.9 dBA L_{EQ}. This measurement was located adjacent to West San Ysidro Boulevard which runs parallel to I-5 (Site 6). Another site measured an average noise level of 68.6 L_{EQ} (Site 10). This site was located along a heavily traveled segment of Beyer Boulevard, adjacent to SDT Blue Line tracks. Though these measurements provide a snapshot observation of the noise environment, noise can fluctuate widely throughout the day. Complete noise monitoring results are included in Table 4, *Noise Monitoring Results*. Individual site survey sheets can be found in Appendix A.

Table 4
NOISE MONITORING RESULTS

Site	Date	Time	Measured Noise Level (dBA Leq)
Site 1	July 1, 2015	10:52 a.m.- 11:09 a.m.	57.5
Site 2	July 1, 2015	2:01 p.m. - 2:21 p.m.	64.0
Site 3	July 5, 2015	9:30 a.m. - 9:47 a.m.	62.7
Site 4	July 5, 2015	10:06 a.m. - 10:29 a.m.	67.6
Site 5	July 1, 2015	3:29 p.m. - 3:37 p.m.	63.5
Site 6	July 1, 2015	2:41 p.m. - 2:57 p.m.	68.9
Site 7	July 1, 2015	11:30 a.m. - 11:45 a.m.	55.1
Site 8	July 1, 2015	9:57 a.m. - 10:12 a.m.	62.1
Site 9	July 1, 2015	11:03 a.m. - 11:19 a.m.	53.7
Site 10	July 1, 2015	10:27 a.m.- 10:42 a.m.	68.6
Site 11	July 1, 2015	9:25 a.m. - 9:39 a.m.	56.4
Site 12	July 5, 2015	1:22 p.m. - 1:37 p.m.	53.4



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Ambient Noise Survey

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Figure 4

4.3.2 Traffic Noise

Vehicles traveling along major local roadways and freeways generate noise levels which affect adjacent land uses. Traffic noise generated on a roadway is dependent on vehicle speed, volume, flow, percentage of vehicle types, properly functioning muffler systems, pavement type and condition. Traffic noise is also dependent on the presence of barriers, and distance between the noise source and receptor. In general, as traffic volumes increase, noise levels increase. This condition exists until there is so much traffic that flow degrades, and speeds decrease which reduces noise levels. A heavy truck generates more noise than a car when travelling at the same speed and distance. Therefore, roads with the same amount of traffic can have higher or lower sound levels depending on the mixture of vehicles.

A noise contour map displays linear bands of similar noise levels emanating from a noise source. Noise is at the highest level near the source and decreases with distance from the source. Traffic data was supplied by the traffic analysis prepared for the SYCPU (KHA 2015).

The existing noise level contours in the planning area are depicted in Figure 5, *Existing Transportation Noise Contours*. The noise levels are expressed in terms of CNEL. All noise contours depict the predicted noise level based on existing traffic volumes, and do not reflect attenuating effects of existing features such as noise barriers, buildings, topography, and dense vegetation. Modeling data used to develop the traffic contour maps is included in Appendix B.

The roads generating the greatest noise levels in the area are the I-5, I-805, and State Route (SR-) 905. Within the community, major traffic noise generators are associated with San Ysidro Boulevard, Beyer Boulevard, and Camino de la Plaza. The portions of the SYCPU area currently affected by noise levels that exceed 65 CNEL are generally located adjacent to freeways. In some areas along freeways, noise levels exceed 70 CNEL. Land uses in these areas include industrial, commercial, mixed-used, open space, and institutional land uses such as schools. Residential uses are currently exposed to noise levels that exceed 65 CNEL along the I-5, I-805, and SR-905 corridors including single- and multi- family residential development.

4.3.3 Rail Noise

The operation of freight trains and trolleys on the tracks that traverse the Community Plan area generate noise that affects adjacent uses. In addition, crossing signals including bells have a localized effect on surrounding development. Freight trains and trolleys generate high, relatively brief, intermittent noise events. Freight trains and trolleys are equipped with horns, whistles, and bells for use in emergency situations and as a general audible warning to alert people in the vicinity of the tracks. Horns, whistles, and bells combined with stationary bells at grade crossings can generate excessive noise levels that can affect noise-sensitive land uses.

The San Diego and Imperial Valley Railroad (SDIY) is a short-line railroad linking the BNSF Railway and the Baja California Railroad (BJRR). This 13-mile track between downtown San Diego and the U.S.-Mexico Border in San Ysidro is largely shared between freight and the SDT Blue Line. Within the SYCPU area, the SDT Blue Line separates from the SDIY freight rail line around 4,800 feet from the southern terminus at the International Border. This allows the SDT Blue Line to terminate at the San Ysidro Transit Center. Freight train operations occur at night

to avoid conflict with the trolley operations which utilize the same track. The SDIY operates five train trips northbound and five trips a week southbound between 1:30 a.m. and 4:30 a.m. The trains operate with one Genset locomotive using an average of 25 cars (pers. comm. Matt Domen). Five at-grade roadway crossings within the community are used by freight trains. As mentioned earlier, the crossings have warning signals and vehicular barriers which operate when a train is in the vicinity of the crossing. The modeled freight noise levels indicate that the existing noise level ranges up to approximately 60 CNEL at 50 feet. A single hourly event would register 67 dBA at 50 feet, 62 dBA at 100 feet, and 60 dBA at 150 feet.

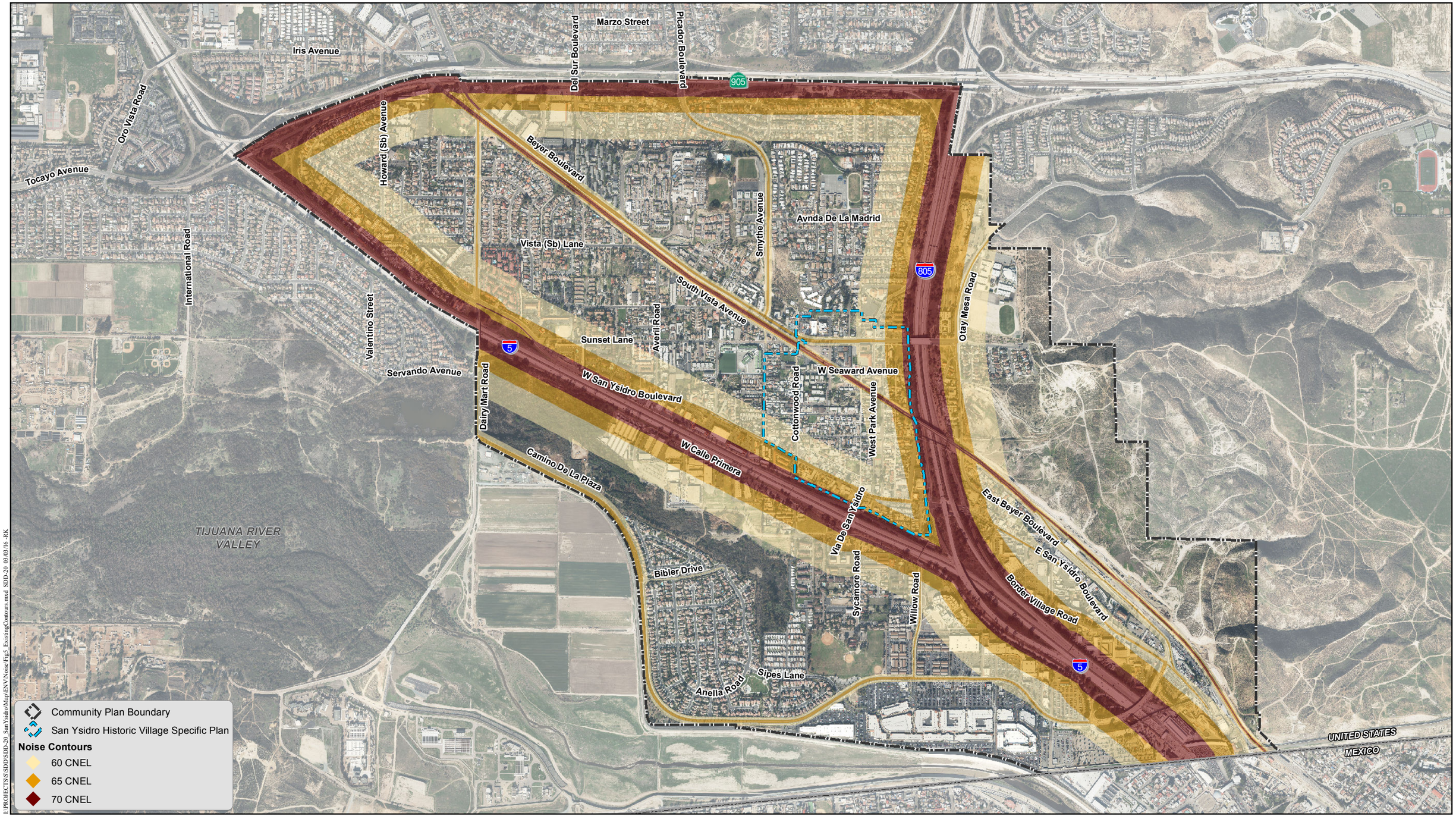
The SDT Blue Line trolley operates between 4:45 a.m. and 12:30 a.m. The trolley operates at 7.5-minute headways during rush hour periods on weekdays, 15-minute headways during non-rush hour periods, and 30-minute headways during late night periods (San Diego Metropolitan Transit System [SDMTS] 2011b). Noise associated with the SDT Blue Line was derived from SANDAG's Mid-Coast Corridor project, which will serve as an extension to the SDT Blue Line north of downtown San Diego. The Mid-Coast Corridor project will utilize the same vehicles and timetables as the existing SDT Blue Line. The modeled noise levels indicate that existing noise levels attributable to trolley operations is approximately 60 CNEL at 25 feet from the centerline of the tracks, which is within the trolley right-of-way (ROW).

4.3.4 Stationary Noise Sources

The study area includes various stationary noise sources including parks, playgrounds, schools, industrial and commercial activities. The Border Village area experiences elevated noise levels where large crowds of people gather and vehicles idle along the roadsides. Noise levels from stationary sources are highly localized, and may vary during the day based on the specific activity being performed, atmospheric conditions, and other factors. These noise sources can be continuous, and may contain tonal components that may be annoying to people who live in the nearby vicinity. Stationary noise levels throughout the San Ysidro community vary greatly due to different periods of activity depending on the time of day or day of the week.

4.4 SYHVSP

As the SYHVSP area is located within the SYCPU area, the existing conditions described above also apply to the SYHVSP area. Noise sources specific to the SYHVSP area include traffic noise from Beyer Boulevard, and East and West San Ysidro Boulevard. Railroad tracks carrying the SDT Blue Line and nighttime freight trains bisect the SYHVSP area diagonally from the northwest to the southeast. Noise levels in the SYHVSP area are heavily influenced by traffic noise from the I-805 freeway to the east and the I-5 freeway to the south.



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Existing Transportation Noise Contours

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Figure 5

5.0 SIGNIFICANCE THRESHOLDS

The following thresholds are based on the City's Significance Determination Thresholds and Noise Ordinance, as applicable to the proposed project.

A significant noise impact would occur if the proposed project would:

1. Expose new development to noise levels in excess of levels identified in Table 5, *City of San Diego Traffic Noise Significance Thresholds*.

Table 5
CITY OF SAN DIEGO TRAFFIC NOISE SIGNIFICANCE THRESHOLDS

Structure or Proposed Use that would be Impacted by Traffic Noise	Noise Level Limit		General Indication of Potential Significance
	Interior Space (CNEL)	Exterior Useable Space (CNEL)	
Single-family detached	45 dBA	65 dBA	Structure or outdoor useable area is < 50 feet from the center of the closest (outside) lane on a street with existing or future average daily trips (ADTs) > 7,500
Multi-family, schools, libraries, hospitals, day care, hotels, motels, parks, convalescent homes.	45 dBA	65 dBA	
Offices, Churches, Business, Professional Uses	n/a	70 dBA	Structure or outdoor usable 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 dBA	Structure or outdoor usable area is < 50 feet from the center of the closest lane on a street with existing or future ADTs > 40,000

Source: City 2011

2. Result in, or create, a significant permanent increase in existing noise levels. For the purposes of this analysis, a significant increase in traffic noise would be an exceedance of noise levels beyond the limits provided in Table 6 above, or if existing noise levels already exceed those levels, an increase in excess of 3 dBA over existing conditions. A substantial increase in stationary noise would occur if operational noise sources exceed the limits specified in the City Noise Ordinance.

3. Subject vibration-sensitive land uses to ground-borne vibration that exceeds the "severe" criteria, as specified by Caltrans (2013), for residences of 0.4 inches per second peak particle velocity (PPV).

4. Result in construction noise that exceeds 75 dBA L_{EQ} (12 hour) at the property line of a residentially zoned property from 7:00 a.m. to 7:00 p.m. (as identified in Section 59.0404 of the City's Municipal Code) or if non-emergency construction occurs during the 12-hour period from 7:00 p.m. to 7:00 a.m.

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

6.0 IMPACT ASSESSMENT

6.1 ISSUE 1: COMPATIBILITY OF PROPOSED LAND USES WITH CITY NOISE GUIDELINES

6.1.1 SYCPU

Impacts

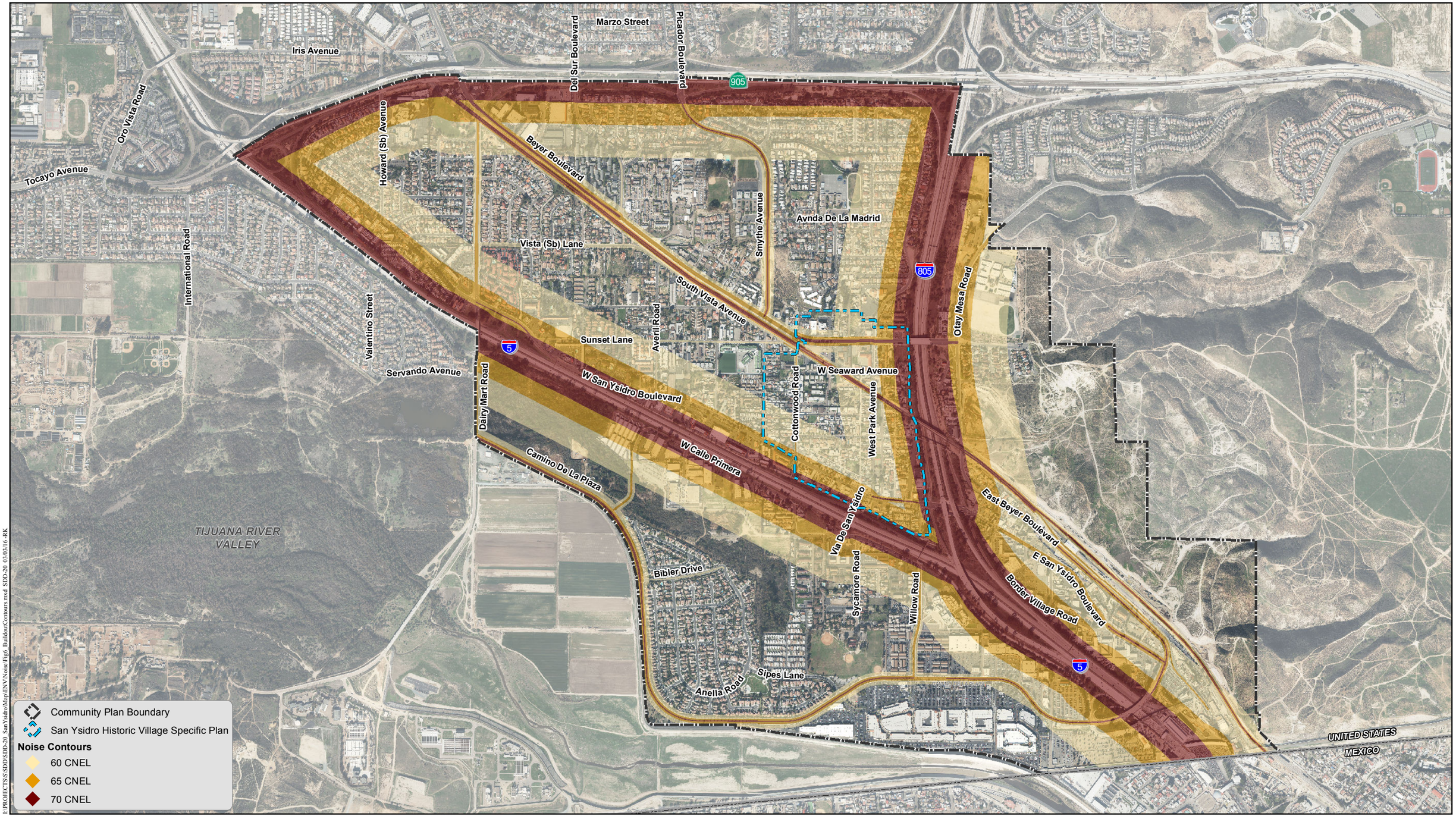
Traffic Noise

Implementation of the SYCPU would increase noise levels in the horizon year 2035 due to the increase of traffic volumes throughout the community. Future transportation, including traffic noise, is shown on Figure 6, *Buildout Transportation Noise Contours.* The projected ADT for selected road segments, calculated CNEL at 100 feet from the centerline of each roadway, and the distance from the roadway centerline to the 60, 65, and 70 CNEL contours are contained in Appendix B.

Freeways such as I-5 and I-805 would continue to generate substantial amounts of traffic noise. The average distance to the 65 CNEL noise contour along I-5 would be approximately 330 to 600 feet from the freeway centerline. Along I-805, the predicted 65 CNEL contour would be approximately 400 to 450 feet from the freeway centerline. The average distance to the 65 CNEL noise contour from the SR-905 centerline would be approximately 400-425 feet.

A variety of noise sensitive uses would occur along local roadways within the SYCPU area where traffic noise levels would exceed 65 CNEL when freeway noise is included. While the 65 CNEL contour along local roads may not encompass buildings, the 60 CNEL contour could affect adjacent residential structures. Beyer Boulevard's 60 CNEL contour lines would extend into residential areas including low, low-medium, and low-moderate density residential areas. Proposed community commercial with residential areas occur on the northern and eastern ends of Beyer Boulevard, including areas within the larger freeway noise contours of SR-905 and I-805. The 60 CNEL noise contour along Smythe Avenue, north of Beyer Boulevard, would pass through low and low-medium residential areas, as well as Smythe Elementary School. Traffic on Camino de la Plaza and Dairy Mart Road would create noise levels of 60 CNEL, which would affect low and low-medium density residential, as well as open space land uses along their rights-of-way.

In addition, the noise levels predicted throughout the San Ysidro community would be higher due to increased traffic volumes on local roadways. Noise levels up to 60 CNEL would be present along East and West San Ysidro Boulevard, Beyer Boulevard, Camino de la Plaza, Dairy Mart Road, Otay Mesa Road, and Smythe Avenue. Parcels adjacent to portions of Dairy Mart Road and West San Ysidro Boulevard would be subject to noise levels up to 70 CNEL.



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Buildout Transportation Noise Contours

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Figure 6

Community commercial land use designations which allow residential are proposed along East and West San Ysidro Boulevard. These areas would be subject to noise levels of up to 60 CNEL from traffic noise increases. Similar land uses are proposed along Beyer Boulevard and would be subject to noise levels ranging from 60 to 65 CNEL.

Noise-sensitive land uses are generally considered incompatible with an outdoor noise levels of 65 to 70 CNEL. However, as indicated in Table 2, the General Plan conditionally allows multiple-family and mixed-use residential development up to 70 CNEL. Proposed NSLUs under the SYCPU would be primarily multi-family or mixed-use in nature. Substantial numbers of new single-family residences are not anticipated.

As indicated in Table 2, institutional uses, such as schools, are considered incompatible land uses for exterior noise exposure levels of 65 CNEL or greater. The location of these land uses would not change with the implementation of the SYCPU. No institutional sites such as schools would be affected by noise increases due to the SYCPU; however, a small portion of Smythe Elementary would be subject to noise levels of 60 CNEL. Three schools would be impacted by noise exposure from the surrounding freeways. These institutions are Nicoloff Elementary, the Beyer Elementary School site, and an adult school. La Mirada Elementary, Willow Elementary, and San Ysidro Middle School would be subject to noise exposure levels of 60 CNEL or greater due to freeway traffic increases.

Calle Primera Extension

The existing Community Plan calls for the extension of Calle Primera to Camino de la Plaza. The SYCPU update includes three optional alignments for the extension. The preferred alignment (Option 3) as well as Option 2 would connect to Camino de la Plaza to the north of the residential area along the east side of this roadway. Option 1 would connect to Bibler Drive within the residential area.

Based on an anticipated traffic volume of up to 7,000 ADT, this new segment of roadway would generate traffic levels of up to 11,400 ADT when added to the 4,400 ADT on Bibler Drive. This would create noise levels of 65 CNEL at 27 feet from the roadway centerline, and 60 CNEL at 75 feet. Thus, Option 1 would result in significant noise impacts on the existing residents along Bibler Drive. Should Option 1 be chosen, a mitigation measure to reduce noise to a level below significance would be required. This measure would include the construction of a noise wall or retrofitting existing homes. However, mitigation would not be required if appropriate measures were implemented during the initial construction of the homes.

The preferred alignment and Option 2 would generate traffic noise levels of 60 CNEL 50 feet from the roadway's proposed centerline for both Options 2 and 3. However, these options would be located sufficiently far from existing development that they would not increase noise beyond acceptable levels.

Rail Noise

Trolley service within the Community Plan area could increase or decrease depending on future demand and development throughout San Diego County. SANDAG's Mid-Coast Corridor project aims to have trains operating on the Blue Line at current headways upon the line's full

buildout by 2035 (SANDAG 2014). Freight trains would likely operate on an as needed basis and would not have a fixed schedule. Future freight service could also increase or decrease depending on future demand. Therefore, noise levels and frequency would continue to vary greatly. However, using existing freight conditions and anticipated future Trolley headways, it is anticipated that rail traffic would generate noise levels of 60 CNEL 56 feet from the tracks.

Implementation of the SYCPU would change land uses in the vicinity of the tracks and stations. Community Commercial with Residential Permitted is proposed in the vicinity of the Beyer Boulevard Trolley stop and at the northern end of the SYCPU area near the intersection of the tracks and Dairy Mart Road. Increased residential density is also proposed south of the tracks along South Vista Avenue. Community Commercial with Residential Permitted is also proposed along the Trolley tracks in the Border Village neighborhood south of East Beyer Boulevard. As a result, the SYCPU would increase the number of sensitive noise receptors exposed to Trolley and freight train noise.

Stationary Noise Sources

Similar to existing conditions, future development within the Community Plan area would be subject to various stationary noise sources including noise from parks, playgrounds, schools, crowds, and commercial activities. However, enforcement of noise limits imposed by the City's Noise Ordinance would avoid significant impacts on future development from stationary sources.

Interior Noise

Standard construction techniques generally provide a 15 dBA reduction of exterior noise within interior space of buildings. Given this assumption, standard building construction could be assumed to maintain interior noise to levels less than 45 CNEL when exterior noise sources are 60 CNEL or less. If exterior noise levels exceed 60 CNEL, interior noise levels could potentially exceed the interior General Plan noise standard of 45 CNEL.

As discussed earlier, traffic associated with future development in accordance with the proposed SYCPU would increase noise levels to 60 CNEL along a number of community roadways, including Beyer Boulevard, Camino de la Plaza, and East and West San Ysidro Boulevard. As a result, additional noise attenuation would be required to achieve or maintain interior noise levels which would not exceed 45 dBA.

Significance of Impacts

Traffic increases attributable to the implementation of the SYCPU would result in noise levels over 60 CNEL along several major roadways within the SYCPU area. Where the design of existing or future residential development would be unable to achieve interior noise levels of less than 45 dBA, significant noise impacts would occur.

Mitigation Measures

Consistent with the General Plan Policy NE-A.4, the following measures would be required to ensure that noise-sensitive land uses are not exposed to noise levels in excess of City standards.

NOI-1: Where new development would expose people to noise exceeding normally acceptable levels, a site-specific acoustical analysis shall be performed prior to the approval of building permits for:

- Single-family homes, senior housing, and mobile homes where exterior noise levels range between 60 and 65 CNEL.
- Multi-family homes and mixed-use/commercial and residential, where exterior noise levels range between 65 and 70 CNEL.
- All land uses where noise levels exceed the conditionally compatible exterior noise exposure levels as defined in the City's Land Use/Noise Compatibility Guidelines.

The acoustical analysis shall be conducted to ensure that barriers, building design and/or location are capable of maintaining interior noise levels at 45 CNEL or less. Barriers may include a combination of earthen berms, masonry block, and Plexiglas. Building location may include the use of appropriate setbacks. Building design measures may include dual-pane windows, solid core exterior doors with perimeter weather stripping, and mechanical ventilation to allow windows and doors to remain closed.

Significance of Impacts After Mitigation

The ability of future development to achieve applicable noise level standards through implementation of Mitigation Measure NOI-1 cannot be determined at the programmatic level. Thus, noise impacts on future development in accordance with the proposed SYCPU are considered potentially significant and not mitigated.

6.1.2 SYHVSP

Impacts

Vehicular Noise

Like the rest of the SYCPU area, noise levels in the SYHVSP area would be dominated by freeway noise, and overall noise levels would increase by the horizon year 2035 due to higher traffic volumes throughout the neighborhood.

Noise sensitive land uses are also within the 65 CNEL range of major roadways and freeways. Beyer Boulevard's 65 CNEL contour lines pass along residential areas including Low-Medium density, Low-Moderate residential, and Community Commercial/Residential Permitted areas. High noise levels would be also present along West San Ysidro Boulevard and Smythe Avenue. Proposed Community Commercial/Residential Permitted areas along West San Ysidro Boulevard and the east end of Beyer Boulevard would be subjected to noise levels of 65 CNEL, and 70 CNEL in some locations due to I-5 and I-805 traffic.

Proposed noise-sensitive land uses under the SYHVSP would be primarily multi-family or mixed-use in nature. Substantial numbers of new single-family residences in the SYHVSP area

are not anticipated. As multi-family residential is conditionally compatible in higher noise levels (65 to 70 CNEL), it is better suited along major roadways.

No schools are located within the SYHVSP; however, the San Ysidro Health Center could experience noise levels up to 65 CNEL.

Rail Noise

Railroad tracks for Trolley and freight use pass through the SYHVSP area. Noise issues would be similar to the SYCPU discussion above.

Stationary Noise Sources

Similar to the SYCPU discussion, future development within the SYHVSP area would be subject to various stationary noise sources including noise from parks, playgrounds, schools, crowds, and commercial activities. However, enforcement of noise limits imposed by the City's Noise Control Ordinance would avoid significant impacts on future development from stationary sources.

Interior Noise

As discussed above, traffic associated with future development in accordance with the proposed SYHVSP would increase noise levels to above 60 CNEL along a number of community roadways, including Beyer Boulevard and West San Ysidro Boulevard. As a result, additional noise attenuation would be required to achieve or maintain interior noise levels which would not exceed 45 dBA.

Significance of Impact

Traffic noise with the SYHVSP would result in noise levels over 65 CNEL along several major roadways within the plan area. Where the design of existing or future residential development would be unable to achieve interior noise levels of less than 45 dBA, significant noise impacts would occur.

Mitigation Measures

As with the SYCPU, Mitigation Measure NOI-1 would apply within the SYHVSP.

Significance After Mitigation

The ability of future development to achieve applicable noise level standards through implementation of Mitigation Measure NOI-1 cannot be determined at the programmatic level. Thus, noise impacts on future development in accordance with the proposed SYHVSP are considered potentially significant and not mitigated.

6.2 ISSUE 2: SUBSTANTIAL NOISE LEVEL INCREASE

6.2.1 SYCPU

Impacts

Vehicular traffic in the SYCPU area would increase with build-out under the proposed SYCPU. The future noise environment would be dominated by highway traffic noise, which would overshadow any increased traffic noise on local streets in close proximity to the freeways.

Roadway noise increases associated with future development pursuant to the proposed SYCPU are shown in Table 6, *Future Buildout (2035) Roadway Noise Levels*. Although future development would result in increases in traffic noise levels, no road segments would exceed the City's 65 CNEL threshold when freeway noise is excluded.

Table 6
FUTURE BUILDOUT (2035) ROADWAY NOISE LEVELS[1]

Roadway Segment	Existing Conditions	SYCPU 2035 Build-out		
	CNEL @ 100 ft.	CNEL @ 100 ft.	Change	Exceed 65 CNEL?
Beyer Blvd				
SR-905 WB Off-Ramp to Dairy Mart Rd.	61.5	62.6	1.1	No
Dairy Mart Rd. to Del Sur Blvd.	58.5	61.4	2.9	No
Del Sur Blvd. to Cottonwood Rd	56.6	58.4	1.8	No
Cottonwood Rd. to W. Park Ave.	57.8	62.4	4.6	No
W. Park Ave. to E. Beyer Blvd.	56.5	62.3	5.8	No
Otay Mesa Rd.				
North of Beyer Blvd.	55.2	58.6	3.4	No
E. Beyer Blvd.				
Beyer Blvd. to Center St.	50.3	58.5	8.2	No
Center St. to E. San Ysidro Blvd.[2]	50.3	56	5.7	No
Center St. to E. San Ysidro Blvd.[2]	53.6	59.2	5.6	No
Del Sur Blvd.				
SR-905 EB Ramps to Beyer Blvd.	46.3	51	4.7	No
Smythe Ave.				
SR-905 EB Ramps to Beyer Blvd.	56.4	59	2.6	No
S. Vista Ave. to Sunset Ln.	50.8	53.5	2.7	No
Sunset Ln. to W. San Ysidro Blvd.	43.2	47.7	4.5	No
Dairy Mart Rd.				
Beyer Blvd to S. Vista Ln	55.4	56.8	1.4	No
S. Vista Ln. to W. San Ysidro Blvd.	56.6	57.8	1.2	No
W. San Ysidro Blvd. to I-5 SB Ramps	58.5	57.8	-0.7	No
I-5 SB Ramps to Servando Ave.	57.7	58.6	0.9	No
Servando Ave. to Camino de la Plaza	58.8	60	1.2	No

Table 7 (cont.)
FUTURE BUILDOUT (2035) ROADWAY NOISE LEVELS[1]

Roadway Segment	Existing Conditions	SYCPU 2035 Build-out		
	CNEL @ 100 ft.	CNEL @ 100 ft.	Change	Exceed 65 CNEL?
W. San Ysidro Blvd.				
Howard Ave. to Dairy Mart Rd	53.8	54.8	1	No
Dairy Mart Rd. to Sunset Ln.	59.3	59.3	0	No
Sunset Ln. to Averil Rd.	58.8	59	0.2	No
Averil Rd. to Smythe Ave.	55.1	55.4	0.3	No
Smythe Ave. to Cottonwood Rd.	56.8	56	-0.8	No
Cottonwood Rd. to Via de San Ysidro	56	57.6	1.6	No
Via de San Ysidro to W. Park Ave	56.7	58.1	1.4	No
E. San Ysidro Blvd.				
W. Park Ave. to I-805 SB Ramps	58.2	59.6	1.4	No
I-805 SB Ramps to I-805 NB Ramps	57.9	59.5	1.6	No
I-805 NB Ramps to Border Village Rd. (west)	57.9	58.5	0.6	No
Border Village Rd. (west) to Border Village Rd (east)	55.4	58.5	3.1	No
Border Village Rd. (south) to E. Beyer Blvd./Camino de la Plaza	56.4	60.2	3.8	No
E. Beyer Blvd./Camino de la Plaza to I-5 SB Ramps	54.7	56.6	1.9	No
Border Village Rd.				
San Ysidro Blvd. to San Ysidro Blvd.	49.6	54.6	5	No
Via de San Ysidro				
W. San Ysidro Blvd. to I-5 NB Ramps	56.8	58.3	1.5	No
I-5 NB Ramps to Calle Primera	57.4	58.6	1.2	No
Calle Primera				
West of Rancho del Rio Estates	49.6	54	4.4	No
Rancho del Rio Estates to Via de San Ysidro	49.6	54	4.4	No
Via de San Ysidro to Willow Rd	54.8	56.2	1.4	No
Willow Rd.				
Calle Primera to Camino de la Plaza	54.5	57	2.5	No
Bibler Dr.				
East of Camino de la Plaza	50.8	50.8	0	No
Camino de la Plaza				
Dairy Mart Rd. to Bibler Dr.	59.9	61.2	1.3	No
Bibler Dr. to Willow Rd.	57.2	59.4	2.2	No
Willow Rd. to I-5 SB Ramp	56	58.8	2.8	No
I-5 SB Ramp to E. San Ysidro Blvd.	58.5	60.3	1.8	No
Vista Ln.				
Dairy Mart Rd. to Averil Rd.	48.1	53.7	5.6	No
Averil Rd. to Smythe Ave.	50.1	51	0.9	No

Table 7 (cont.) FUTURE BUILDOUT (2035) ROADWAY NOISE LEVELS[1]				
Roadway Segment	**Existing Conditions**	**SYCPU 2035 Build-out**		
	CNEL @ 100 ft.	**CNEL @ 100 ft.**	**Change**	**Exceed 65 CNEL?**
Sunset Ln.				
W. San Ysidro Blvd. to Averil Rd.	48.5	51	2.5	No
Averil Rd. to Smythe Ave.	48.2	51	2.8	No
Cottonwood Rd.				
Sunset Ln. to W San Ysidro Blvd.	50.3	53.8	3.5	No
W. Park Ave.				
Beyer Blvd. to Seaward Ave.	51.8	53.5	1.7	No
Seaward Ave. to W. San Ysidro Blvd.	49.5	50.4	0.9	No
E. Park Ave.				
Seaward Ave. to W. San Ysidro Blvd.	47.7	49.8	2.1	No
Seaward Ave				
W. Park Ave. to E. Park Ave.	48.3	50.5	2.2	No
Howard Ave.				
North of W. San Ysidro Blvd.	50.5	52.1	1.6	No
Avenida de la Madrid				
Smythe Ave. to Alaquinas Dr.	47.4	48.1	0.7	No
Alaquinas Dr.				
Beyer Blvd. to Avenida de la Madrid	46.4	46.9	0.5	No

[1] Noise levels are for the individual streets only and exclude freeway noise.
[2] East Beyer Boulevard from Center Street to East San Ysidro Boulevard changes speeds in the middle of this segment. Two segments were created to display this difference.

Significance of Impacts

In comparison with existing conditions, future development pursuant to the SYCPU would increase by more than 3 dBA by the year 2035 along 13 roadway segments. However, because exterior noise levels along these roadways would remain below the 65 CNEL, exclusive of freeway noise, implementation of the SYCPU would not result in a significant increase in noise levels on local roadways.

Mitigation Measures

Because there would be no significant impacts with respect to traffic noise on local streets, exclusive of freeway noise, within the Community Plan area, no mitigation measures are required.

Significance of Impacts After Mitigation

Increases in traffic noise on local roadways from development pursuant to the SYCPU would be less than significant.

6.2.2 SYHVSP

Impacts

Like the rest of the SYCPU area, vehicular traffic in the SYHVSP area would increase following the future build-out under the SYCPU. As with the SYCPU, the future noise environment would be dominated by freeway traffic noise, which would overshadow any increased traffic noise on local streets in close proximity to the freeways. Although future development would result in increases in traffic noise levels, no road segments would exceed the City's 65 CNEL threshold.

Significance of Impact

Because traffic noise levels would remain below the 65 CNEL, implementation of the SYHVSP would not result in a significant increase in noise levels on local roadways.

Mitigation Measures

Because there would be no significant increase in traffic levels within the Specific Plan area, no mitigation measures are required.

Significance After Mitigation

Increases in traffic noise on local roadways from development pursuant to the SYHVSP would be less than significant.

6.3 ISSUE 3: VIBRATION IMPACTS

6.3.1 SYCPU

Impacts

The main concerns related to ground-borne vibration are annoyance and damage. However, vibration sensitive instruments and operations can be disrupted at much lower levels. Vibration sensitive land uses may include machinery in manufacturing and processing uses or medical laboratory equipment.

Potential sources of ground-borne vibration are the SDT Blue Line and night freight trains that run on tracks bisecting the Community Plan area diagonally from northwest to southeast. The FTA provides screening distances for land uses that may be subject to vibration impacts from a commuter railroad (FTA 2006). 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, is 120 feet. Land use designations proposed by the SYCPU would potentially accommodate land uses associated with Categories 1, 2, and 3. Therefore, future development pursuant to the SYCPU has the potential to locate new vibration-sensitive land uses within the screening distance of the railroad tracks. New development that is proposed within the screening distance of the tracks would require further analysis to determine vibration-sensitive impacts.

Significance before Mitigation

Impacts due to ground-borne vibration could be potentially significant.

Mitigation Measure

Implementation of the following mitigation measures would reduce potential vibration-related impacts.

NOI-2 A site-specific vibration study shall be prepared for proposed land uses within FTA screening distances for potential vibration impacts related to train activity. Proposed development shall implement recommended measures within the technical study to ensure that vibration impacts meet the FTA criteria for vibration impacts.

Significance After Mitigation

The ability of future development to achieve applicable vibration standards through implementation of Mitigation Measure NOI-2 cannot be determined at the programmatic level. Thus, vibration impacts on future development in accordance with the proposed SYCPU are considered potentially significant and not mitigated.

6.3.2 SYHVSP

Impacts

The main concerns related to ground-borne vibration are similar to the SYCPU area. This includes vibration due to the SDT Blue Line Trolley and freight rail traffic. As mentioned above, the FTA provides screening distances for land uses that may be subject to vibration impacts from rail uses. Similar to the SYCPU area, future development pursuant to the SYHVSP has the potential to locate new vibration-sensitive land uses within the screening distance of the railroad tracks. New development that is proposed within the screening distance of the tracks would require further analysis to determine vibration-sensitive impacts.

Significance of Impact

Impacts due to ground-borne vibration could be potentially significant.

Mitigation Measures

Implementation of the mitigation measure NOI-2 above would reduce potential vibration-related impacts.

Significance After Mitigation

The ability of future development to achieve applicable vibration standards through implementation of Mitigation Measure NOI-2 cannot be determined at the programmatic level. Thus, vibration impacts on future development in accordance with the proposed SYHVSP are considered potentially significant and not mitigated.

6.4 ISSUE 4: CONSTRUCTION NOISE IMPACTS

6.4.1 SYCPU

Impacts

Construction can be a substantial source of noise, although typically short-term. Construction is of most concern when it takes place near noise-sensitive land uses and occurs at night or in early morning hours. The primary noise source is the operation of heavy construction equipment and impact noise associated with blasting and pile driving. As shown in Table 7, *Typical Construction Equipment Noise Levels*, operation of construction equipment would have the potential to generate high noise levels for construction activities, depending on the type, duration, and location of the activity.

Table 7
TYPICAL CONSTRUCTION EQUIPMENT
NOISE LEVELS

Equipment	Typical Noise Level (dBA at 50 feet from source)
Air Compressor	74
Backhoe	74
Ground Compactor	76
Concrete Mixer Truck	75
Crane	73
Dozer	78
Grader	81
Jack Hammer	82
Front End Loader	75
Paver	74
Impact Pile Driver	94
Pumps	78
Roller	73
Scraper	80
Dump Truck	73

Source: U.S. Department of Transportation Roadway Construction Noise Model, 2008.

Construction activities related to implementation of the SYCPU would not take place all at once; however, future development accommodated by the SYCPU would have the potential to temporarily generate construction noise resulting in a short-term annoyance to nearby noise sensitive land uses.

The City regulates noise associated with construction equipment and activities through enforcement of San Diego Municipal Code Section 59.5.0404 standards related to hours and days of operation. Furthermore, the City imposes conditions for approval of building or grading permits.

Significance before Mitigation

Because construction noise would be regulated by the City's Municipal Code, construction noise impacts due to the implementation of the SYCPU would be less than significant.

Mitigation Measure

Implementation of the SYCPU would not result in significant construction noise impacts. No mitigation is required.

Significance After Mitigation

Impacts related to construction noise would be less than significant.

6.4.2 SYHVSP

Impacts

As noted in the SYCPU section, construction noise can be a substantial source of noise, though usually in the short-term. Construction activities related to implementation of the SYHVSP would not take place all at once; however, future development accommodated by the Specific Plan would have the potential to temporarily generate construction noise resulting in a short-term annoyance to nearby noise sensitive land uses.

As discussed earlier, the City regulates noise associated with construction equipment and activities.

Significance of Impact

Because construction noise would be regulated by the City's Municipal Code, construction noise impacts due to the implementation of the SYHVSP would be less than significant.

Mitigation Measures

Implementation of the SYCPU would not result in significant construction noise impacts. No mitigation is required.

Significance After Mitigation

Impacts related to construction noise would be less than significant.

6.5 ISSUE 5: AIRPORT NOISE IMPACTS

6.5.1 SYCPU

Impacts

The Community Plan area is located near three airfields. Naval Outlying Landing Field (NOLF) Imperial Beach is located 2.1 miles west of the SYCPU area. Brown Field Municipal Airport is located 2.8 miles northeast of the plan area. Tijuana's General Abelardo L. Rodriguez

International Airport is located in 2.3 miles to the southeast in Mexico. The Community Plan area is not located within the 60 CNEL noise contour of either the NOLF (Department of Defense 2011) or Brown Field (City of San Diego 2013). According to the Noise Element of the San Diego General Plan, aircraft noise from operations at the Tijuana International Airport primarily affect open space and industrial uses adjacent to the international border in the Otay Mesa area.

Significance before Mitigation

As the Community Plan area is not affected by aircraft operation noise in excess of 60 CNEL, future development pursuant to the SYCPU would not be significantly impacted by nearby airport operations.

Mitigation Measure

Implementation of the SYCPU would not result in significant impacts from aircraft noise. Thus, no mitigation is required.

Significance After Mitigation

Impacts related to aircraft noise would be less than significant.

6.5.2 SYHVSP

Impacts

As the SYHVSP is located within the SYCPU area, it would not lie within the 60 CNEL contour of any of the three nearby airports. Thus, future development within the SYHVSP would not be impacted by aircraft noise.

Significance of Impact

As the SYHVSP area is not affected by aircraft operation noise in excess of 60 CNEL, future development pursuant to the SYHVSP would not be significantly impacted by nearby airport operations.

Mitigation Measures

Implementation of the SYHVSP would not result in significant impacts from aircraft noise. Thus, no mitigation is required.

Significance After Mitigation

Impacts related to aircraft noise would be less than significant.

7.0 LIST OF PREPARERS

Jason Runyan	Environmental Planner
Charles Terry	Senior Acoustic Specialist
Joanne M. Dramko, AICP, GISP	Quality Assurance Reviewer

8.0 REFERENCES

California Building Standards Commission (CBSC)

2013a California Building Code, California Code of Regulations, Title 24, Part 2.

2013b California Building Code, California Code of Regulations, Title 24, Part 11.

California Department of Transportation (Caltrans)

2013 Transportation and Construction Vibration Guidance Manual. September.

2009 Technical Noise Supplement (TeNS). November.

City of San Diego

2015 San Ysidro Community Plan and Local Coastal Program Land Use Plan Draft. April.

2013 Final Program Environmental Impact Report for the Otay Mesa Community Plan update. December 18.

2011 California Environmental Quality Act Significance Determination Thresholds. January.

2008 City of San Diego General Plan Noise Element. March 10.

Federal Transit Administration (FTA)

2006 Transit Noise and Vibration Impact Assessment. May.

Kimley-Horn and Associates (KHA)

2015 San Ysidro Community Plan Update – Mobility Analysis Memo for the Preferred Land Use Alternative. April 1, 2015.

2014 San Ysidro Community Plan Update – Freeway Analysis Memo for the Preferred Land Use Alternative. November 21, 2014.

San Diego Association of Governments (SANDAG)

2014 Mid-Coast Corridor Transit Project Noise and Vibration Impacts Technical Report. August 2014.

San Diego Metropolitan Transit System (MTS)

2011b San Diego Trolley, Inc. Fact Sheet. February.

U.S. Department of Defense

2011 Air Installation Compatible Use Zones Update, Naval Air Station North Island and Naval Outlying Landing Field Imperial Beach, California.

U.S. Department of Transportation

2008 Roadway Construction Noise Model.

Appendix A

SITE VISIT SURVEY SHEETS

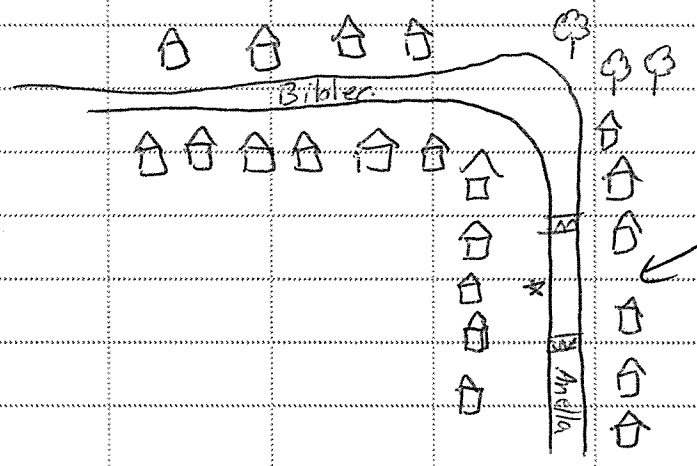
Site Survey

Job # SDD-20	Project Name: San Ysidro Community Plan Update		
Date: 7/1/2015	Site #: 1	Engineer: *Jason Runyan*	
Address: 3068 Anella Road	32° 32' 56.63" N // 117° 3' 3.50" W		
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 15 mph - btw. two speedbumps., 9:15 car u-turns in front of meter. ~9:45 - car honks.

~~35 mph~~

Sketch:



Temp: 83° F	Wind Spd: 8 mph max mph	Humidity: %
Start of Measurement: 1:22 p	End of Measurement: 1:37 p	53.4 dBA L_{EQ}

Cars (~~tally per 5 cars~~) 1 = 1 car	Medium Trucks (MT)	Heavy Trucks (HT)
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Noise Measurement for Information Only

No Through Roadways

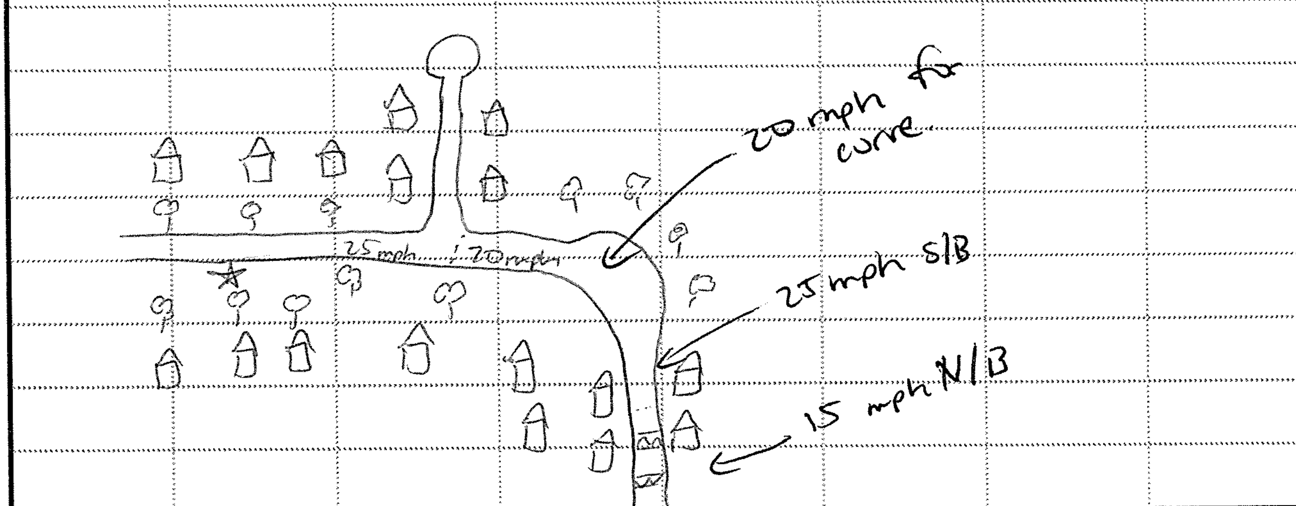
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20	Project Name: San Ysidro Community Plan Update		
Date: ~~7/1/2015~~ 7/5/15	Site #: 1 - ALT.	Engineer: *Jason Runyan*	
Address:	Anella Road → GPS: 32°32'57.4"N // 117°3'8.82" W		
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 25 → 20 mph @ curve, 6:07 - City of SD car stops to ask Question.
Coast Guard heli @ 7:30-8:20

Sketch:



Temp: 69° F	Wind Spd: 3 mph	Humidity: %
Start of Measurement: 10:52a	End of Measurement: 11:09a	57.5 dBA L_{EQ}

Cars ~~(tally per 5 cars)~~ I = 1 car	Medium Trucks (MT)	Heavy Trucks (HT)
~~IIII~~ ~~IIII~~ ~~IIII~~ IIII		
Noise Measurement for Information Only		
No Through Roadways		
No Calibration Analysis Will Be Provided		

Site Survey

Job # SDD-20	Project Name: San Ysidro Community Plan Update

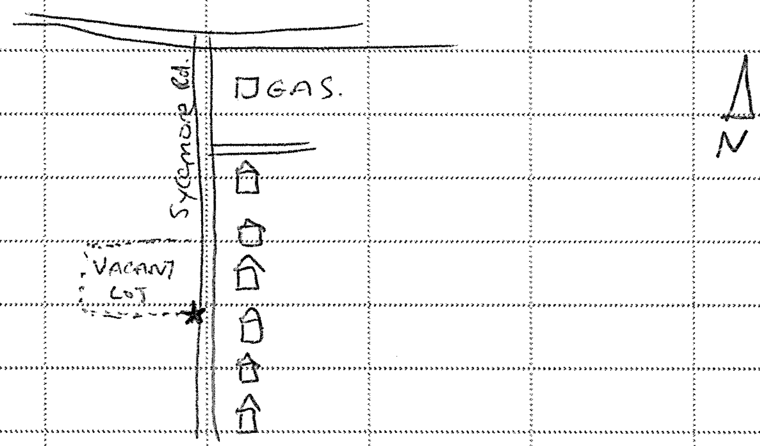
Date: 7/1/2015	Site #: 2	Engineer: *Jason Runyan*

Address: Vacant lot adjacent to: 311 Sycamore Road | 32° 32' 55.58" N | 117° 2' 42.94" W

Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 25 mph (assumed), car starts + idles @ :40 or so, man slows and speaks to me @ 7:00, chopper ~~plane~~ at 12:00 - truck doing sewer maint @ ~10:00

Sketch:



Temp: 83° F	Wind Spd: 3 mph mph	Humidity: %

Start of Measurement: 2:00p	End of Measurement: 2:21p	64.0 dBA L_{EQ}

Cars (~~tally per 5 cars~~) I = 1 car	Medium Trucks (MT)	Heavy Trucks (HT)
~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ II	I	
Noise Measurement for Information Only		
No Through Roadways		
No Calibration Analysis Will Be Provided		

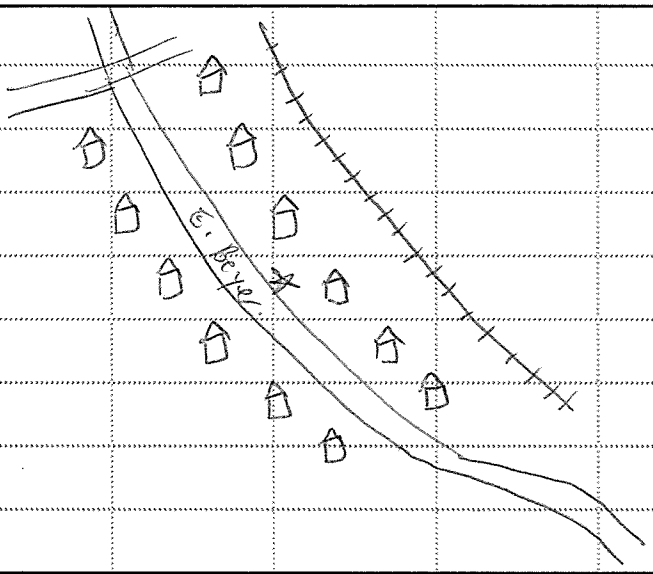
Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/15/2015	Site #: 3	Engineer: *Jason Runyan*	
Address: 2607 E. Beyer Blvd		32°33'7.30"N 117° 2'18.33"W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: dog barking, trolley 1 min., interrupted @ 3:30, trolley 6:30, neighbor opening gate @ 7:00

30mph Speed Limit

Sketch:



Temp: 70°F	Wind Spd: 1 mph	mph	Humidity: %
Start of Measurement: 9:30a	End of Measurement: 9:47a		62.7 dBA L_{EQ}

Cars ~~(tally per 5 cars)~~ 1=1cc	Medium Trucks (MT)	Heavy Trucks (HT)
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Noise Measurement for Information Only

No Through Roadways

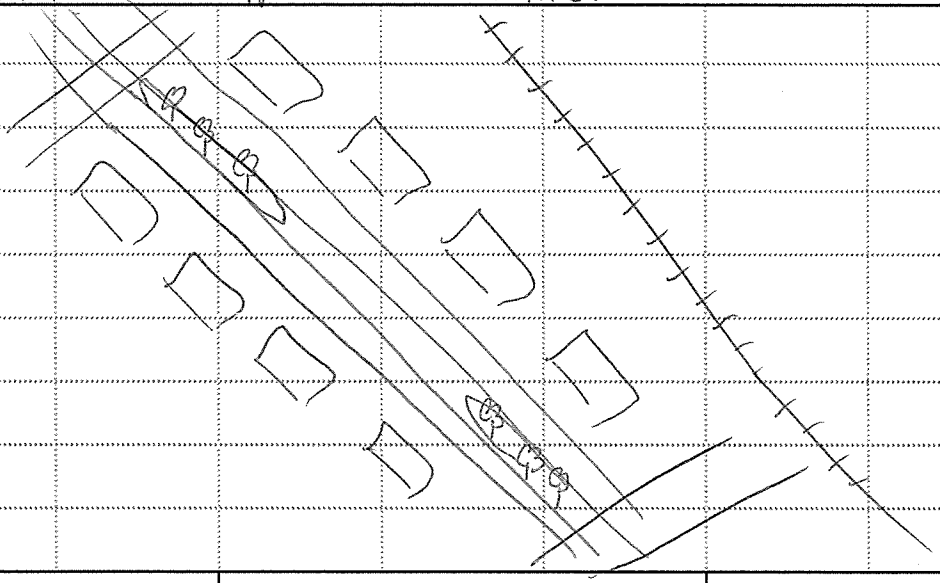
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/9/2015	Site #: #4	Engineer: *Jason Runyan*	
Address:	E San Ysidro Blvd (Border Village)	32°32'48.59"N 117° 1'58.75"W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: near constant foot traffic noise throghout, idling cars/trucks/ shuttles in loading zone across street, train horn @ 3:26, passed @ 5:51 when mail truck stopped in front of mic.

Sketch:



Temp: 70°	Wind Spd: 1 mph	Humidity: %
Start of Measurement: 10:00a	End of Measurement: 10:29a	67.6 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

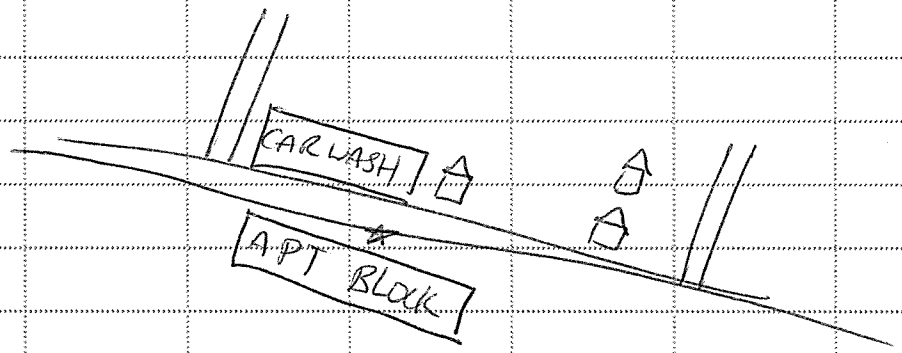
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/1/2015	Site #: 5	Engineer: *Jason Runyan*	
Address: #208 W. San Ysidro Blvd (near Smythe)		32° 33' 14.45" N // 117° 2' 55.98" W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 25 mph. - mic on steps of apt building to rise above wall of cars, 3:45 - slamming door.

Sketch:



Temp: 75° F	Wind Spd: 10 mph gust. mph	Humidity: %
Start of Measurement: 3:22 p	End of Measurement: 3:37 p	63.5 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

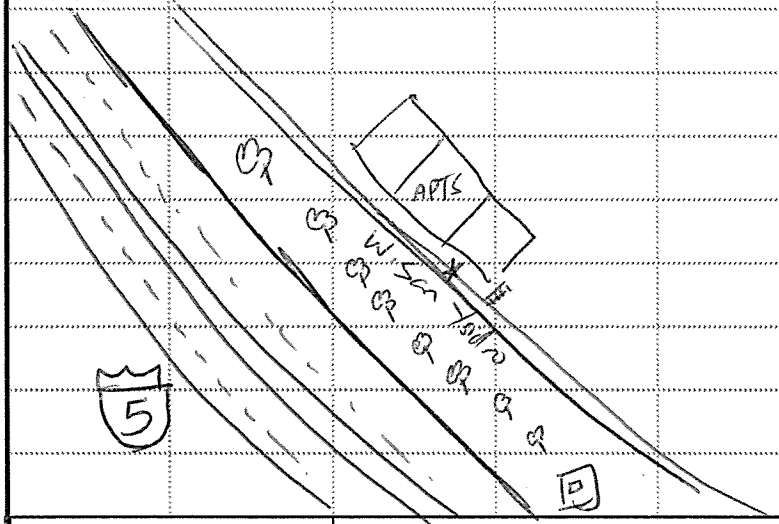
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/1/2015	Site #: 6	Engineer: *Jason Runyan*	
Address:	W San Ysidro Blvd (apts)	32° 33' 23.43" N // 117° 3' 21.32" W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 25 mph - stopped @ 5:00 to chat with someone.

Sketch:



Temp: 77° F	Wind Spd: gust @ 10.4 mph	Humidity: %
Start of Measurement: 2:41	End of Measurement: 2:	68.9 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

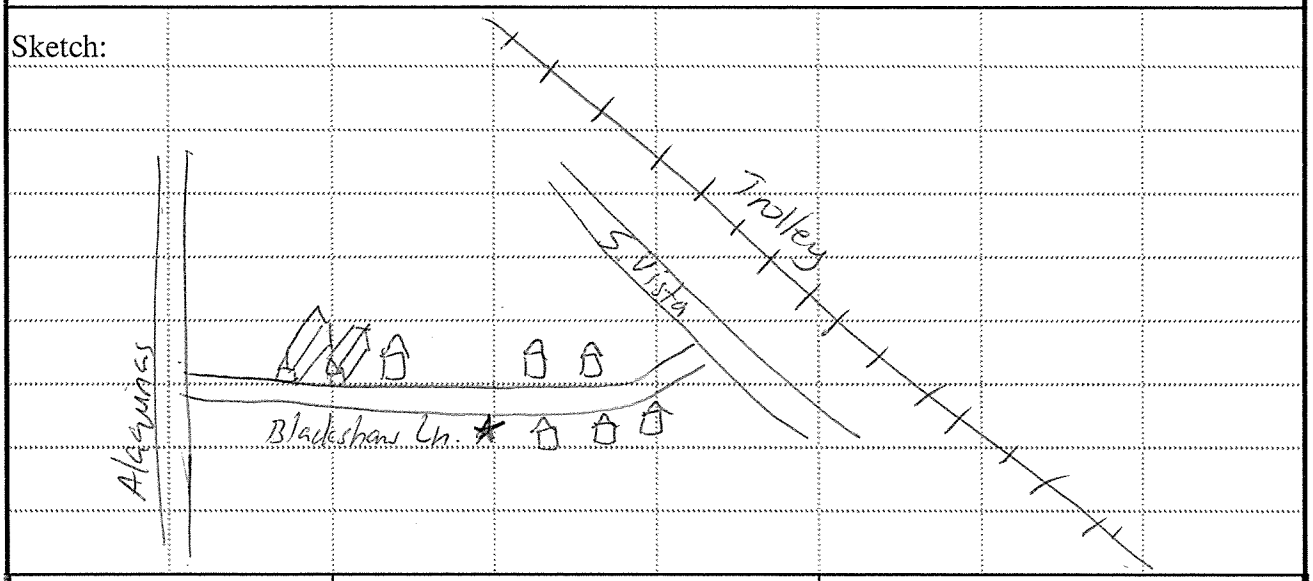
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/1/2015	Site #: 7	Engineer: *Jason Runyan*	
Address: 448 Blackshaw Lane		32° 33' 33.99" N // 117° 3' 11.59" W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 25 mph - some distant trolley bells.

Sketch:



Temp: 80° F	Wind Spd: 8 mph. mph	Humidity: %
Start of Measurement: 10:30a	End of Measurement: 11:45a	55.1 dBA L_{EQ}

Cars (~~tally per 5 cars~~) 1=1 car	Medium Trucks (MT)	Heavy Trucks (HT)
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Noise Measurement for Information Only

No Through Roadways

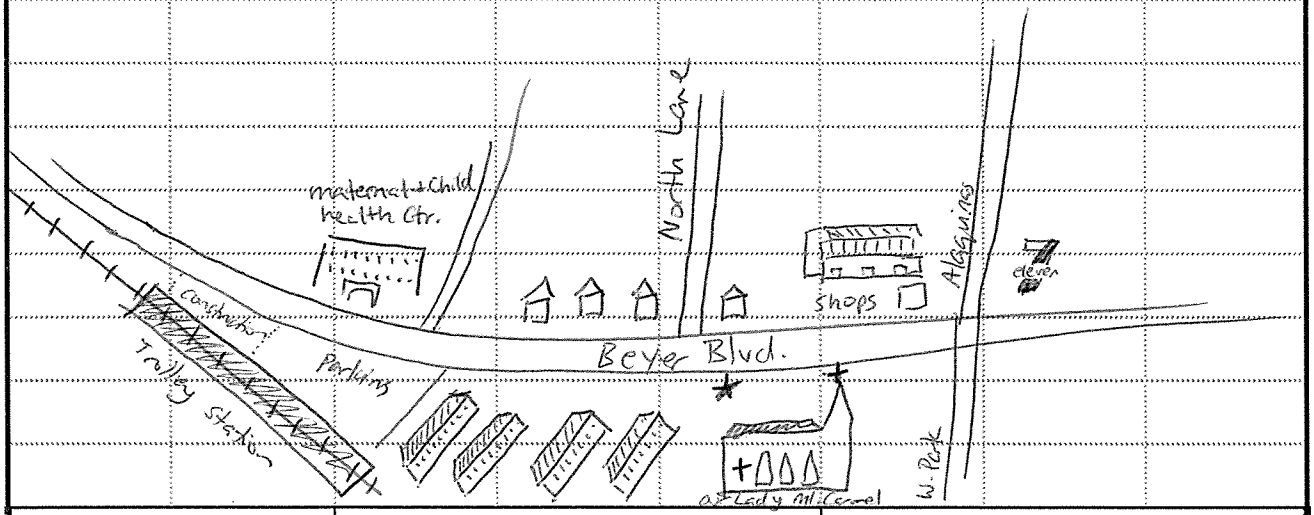
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/1/2015	Site #: 8	Engineer: *Jason Runyan*	
Address:	Beyer Blvd. Trolley Stop	32°33'29.37"N // 117°2'42.94"W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 3 axle truck idling from start, distant siren @ 1:25, trolley horn @ 3:15

Sketch:



Temp:	Wind Spd: ~6 mph	Humidity: %
Start of Measurement: 9:57a	End of Measurement: 10:12	62.1 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

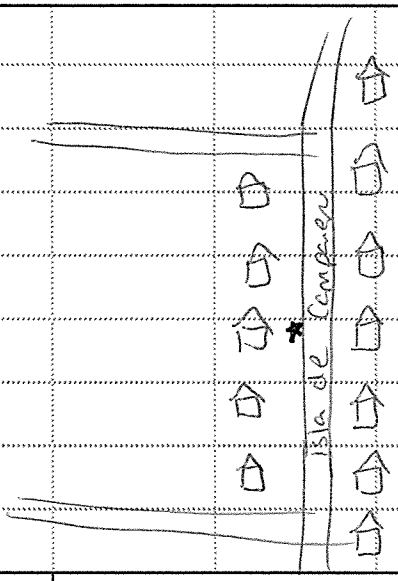
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20	Project Name: San Ysidro Community Plan Update		
Date: 7/1/2015	Site #: 9	Engineer: *Jason Runyan*	
Address: 1847 Isla de Campanero	32°33'45.68" N // 117°3'39.29" W		
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 25 mph. ~7:00 - plane overhead + car noises (not driving)
9:20 - car starts + idles for 2 mins., helicopter @ 14:30 - end.

Sketch:



Temp: 83 °F	Wind Spd: 4 mph	Humidity: %
Start of Measurement: 11:03 a	End of Measurement: 11:19 a	53.7 dBA L_{EQ}

Cars ~~(tally per 5 cars)~~	Medium Trucks (MT)	Heavy Trucks (HT)
1=1		
~~HHL~~ II		

Noise Measurement for Information Only

No Through Roadways

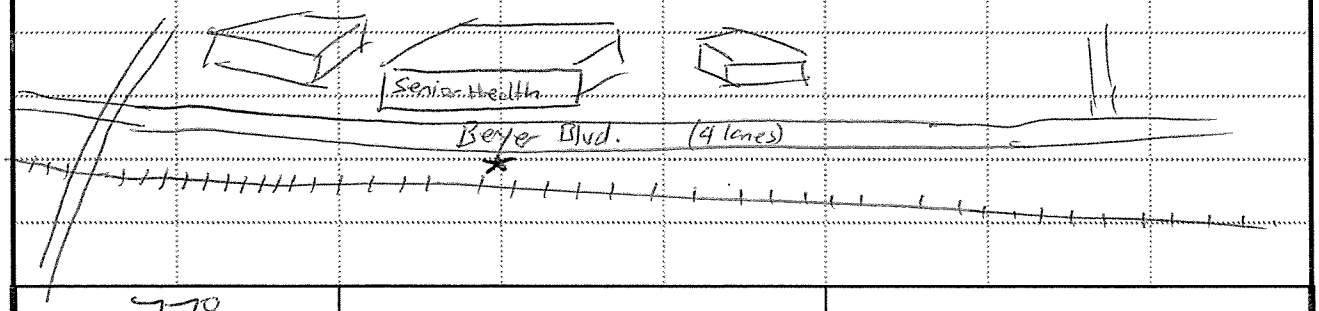
No Calibration Analysis Will Be Provided

Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/1/2015	Site #: 10	Engineer: *Jason Runyan*	
Address:	Beyer Blvd (industrial park)	32°33'58.20"N / 117°3'40.85"W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: 40 mph – 4:00 - bell trolley, 5:35 = trolley, 6:40 - trolley + horn.

Sketch:



Temp: 77° F	Wind Spd: mph	Humidity: %
Start of Measurement: 10:27a	End of Measurement: 10:42a	68.6 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

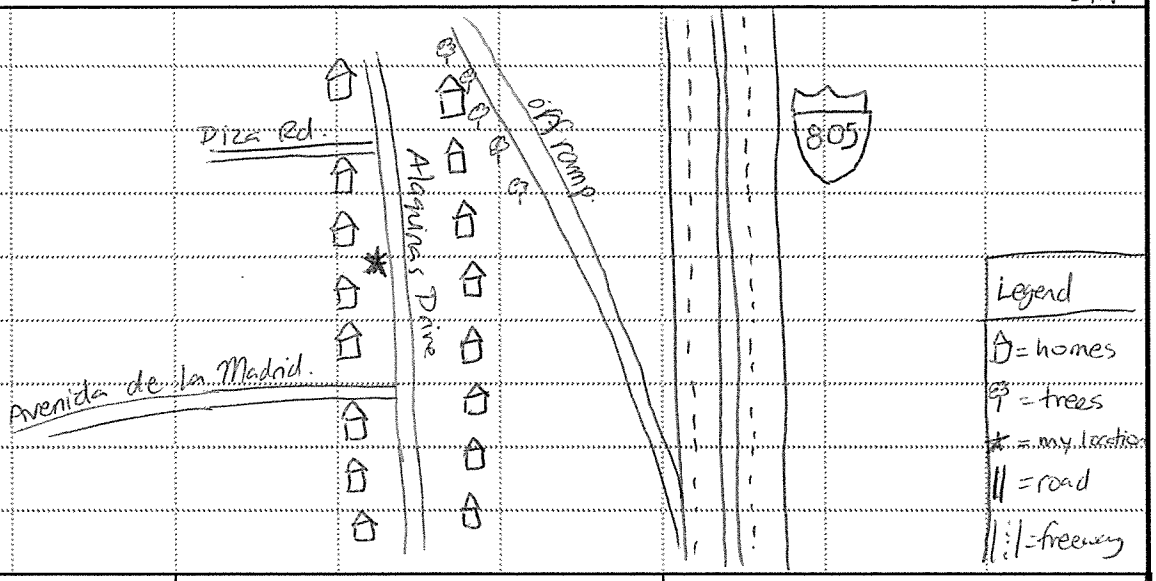
Site Survey

Job # SDD-20		Project Name: San Ysidro Community Plan Update	
Date: 7/1/2015	Site #: 11	Engineer: *Jason Runyan*	
Address: 1776 Alaquinas Dr.		32° 33' 50.32" N / 117° 2' 33.88" W	
Meter: LD-LxT	Serial #: 1741	Calibrator: CAL150	Serial #: 3688

Notes: Plane @ 5:00, car starts @ 5:30, mailman @ 13:50.

25 mph

Sketch:



Temp: 77° F	Wind Spd: 1-3 mph	Humidity: %
Start of Measurement: 9:25 a	End of Measurement: 9:39 a	56.4 dBA L_{EQ}

Cars (~~tally per 5 cars~~) 1=1 car	Medium Trucks (MT)	Heavy Trucks (HT)
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Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

Appendix B

NOISE MODELING TABLES

Existing and 2035 Buildout Traffic

Roadway	Segment	Existing					Preferred Land Use Alternative					
		ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			Posted Speed
				Cars	MT	HT			Cars	MT	HT	
Beyer Boulevard				97.5%	2%	0.5%			97.5%	2%	0.5%	
	SR-905 WB Off-Ramp to Dairy Mart Rd.	16,371	1637	1596	33	8	21,100	2110	2057	42	11	40
	Dairy Mart Rd. to Del Sur Blvd.	8,260	826	805	17	4	16,000	1600	1560	32	8	40
	Del Sur Blvd. to Cottonwood Rd	7,560	756	737	15	4	11,700	1170	1141	23	6	35
	Cottonwood Rd. to W. Park Ave.	10,046	1005	979	20	5	28,800	2880	2808	58	14	35
	W. Park Ave. to E. Beyer Blvd.	7,511	751	732	15	4	28,400	2840	2769	57	14	35
Otay Mesa Rd.												
	North of Beyer Blvd.	5,440	544	530	11	3	12,000	1200	1170	24	6	35
E. Beyer Blvd.												
	Beyer Blvd. to Center St.	2,734	273	267	5	1	17,300	1730	1687	35	9	30
	Center St. to E. San Ysidro Blvd. north of Bolton Hall Rd.	2,734	273	267	5	1	9,700	970	946	19	5	30
	Center St. to E. San Ysidro Blvd. south of Bolton Hall Rd.						9,700	970	946	19	5	40
Del Sur Blvd.												
	SR-905 EB Ramps to Beyer Blvd.	1,441	144	140	3	1	4,700	470	458	9	2	25
Smythe Ave.												
	SR-905 EB Ramps to Beyer Blvd.	7,256	726	707	15	4	13,300	1330	1297	27	7	35
	S. Vista Ave. to Sunset Ln.	4,345	435	424	9	2	8,100	810	790	16	4	25
	Sunset Ln. to W. San Ysidro Blvd.	840	84	82	2	0	2,200	220	215	4	1	25
Dairy Mart Rd.												
	Beyer Blvd to S. Vista Ln	8,630	863	841	17	4	11,800	1180	1151	24	6	30
	S. Vista Ln. to W. San Ysidro Blvd.	11,246	1125	1096	22	6	14,800	1480	1443	30	7	30
	W. San Ysidro Blvd. to I-5 SB Ramps	17,283	1728	1685	35	9	14,800	1480	1443	30	7	30
	I-5 SB Ramps to Servando Ave.	14,609	1461	1424	29	7	17,700	1770	1726	35	9	30
	Servando Ave. to Camino de la Plaza	8,771	877	855	18	4	11,600	1160	1131	23	6	40
W. San Ysidro Blvd.												
	Howard Ave. to Dairy Mart Rd.	5,813	581	567	12	3	7,400	740	722	15	4	30
	Dairy Mart Rd. to Sunset Ln.	14,301	1430	1394	29	7	14,400	1440	1404	29	7	35
	Sunset Ln. to Averil Rd.	12,674	1267	1236	25	6	13,300	1330	1297	27	7	35
	Averil Rd. to Smythe Ave.	11,519	1152	1123	23	6	12,500	1250	1219	25	6	25
	Smythe Ave. to Cottonwood Rd.	14,440	1444	1408	29	7	14,500	1450	1414	29	7	25
	Cottonwood Rd. to Via de San Ysidro	14,440	1444	1408	29	7	20,900	2090	2038	42	10	25
	Via de San Ysidro to W. Park Ave	16,756	1676	1634	34	8	23,200	2320	2262	46	12	25
E. San Ysidro Blvd.												
	W. Park Ave. to I-805 SB Ramps	23,764	2376	2317	48	12	32,900	3290	3208	66	16	25
	I-805 SB Ramps to I-805 NB Ramps	22,139	2214	2159	44	11	32,000	3200	3120	64	16	25
	I-805 NB Ramps to Border Village Rd. (west)	22,509	2251	2195	45	11	39,700	3970	3871	79	20	25
	Border Village Rd. (west) to Border Village Rd (east)	12,615	1262	1230	25	6	25,100	2510	2447	50	13	25
	Border Village Rd. (south) to E. Beyer Blvd./Camino de la Plaza	15,820	1582	1542	32	8	37,500	3750	3656	75	19	25
	E. Beyer Blvd./Camino de la Plaza to I-5 SB Ramps	10,740	1074	1047	21	5	16,700	1670	1628	33	8	25
Border Village Rd .												
	San Ysidro Blvd. to San Ysidro Blvd.	3,228	323	315	6	2	10,300	1030	1004	21	5	25
Via de San Ysidro												
	W. San Ysidro Blvd. to I-5 NB Ramps	17,064	1706	1664	34	9	24,500	2450	2389	49	12	25

	I-5 NB Ramps to Calle Primera	19,619	1962	1913	39	10	26,100	2610	2545	52	13	25
Calle Primera												
	West of Rancho del Rio Estates	3,224	322	314	6	2	9,000	900	878	18	5	25
	Rancho del Rio Estates to Via de San Ysidro	3,224	322	314	6	2	9,000	900	878	18	5	25
	Via de San Ysidro to Willow Rd	10,853	1085	1058	22	5	14,900	1490	1453	30	7	25
Willow Rd.												
	Calle Primera to Camino De La Plaza	10,053	1005	980	20	5	18,100	1810	1765	36	9	25
Bibler Dr.												
	East of Camino De La Plaza	4,332	433	422	9	2	4,400	440	429	9	2	25
Camino De La Plaza.												
	Dairy Mart Rd. to Bibler Dr.	8,166	817	796	16	4	11,000	1100	1073	22	6	45
	Bibler Dr. to Willow Rd.	4,431	443	432	9	2	7,200	720	702	14	4	45
	Willow Rd. to I-5 SB Ramp	9,796	980	955	20	5	18,800	1880	1833	38	9	30
	I-5 SB Ramp to E. San Ysidro Blvd.	17,300	1730	1687	35	9	26,100	2610	2545	52	13	30
Vista Ln.												
	Dairy Mart Rd. to Averil Rd.	2,371	237	231	5	1	8,400	840	819	17	4	25
	Averil Rd. to Smythe Ave.	3,660	366	357	7	2	4,700	470	458	9	2	25
Sunset Ln.												
	W. San Ysidro Blvd. to Averil Rd.	2,695	270	263	5	1	4,700	470	458	9	2	25
	Averil Rd. to Smythe Ave.	2,410	241	235	5	1	4,600	460	449	9	2	25
Cottonwood Rd.												
	Sunset Ln. to W San Ysidro Blvd.	3,787	379	369	8	2	8,800	880	858	18	4	25
W. Park Ave.												
	Beyer Blvd. to Seaward Ave.	5,301	530	517	11	3	8,000	800	780	16	4	25
	Seaward Ave. to W. San Ysidro Blvd.	3,129	313	305	6	2	3,900	390	380	8	2	25
E. Park Ave.												
	Seaward Ave. to W. San Ysidro Blvd.	2,172	217	212	4	1	3,300	330	322	7	2	25
Seaward Ave.												
	W. Park Ave. to E. Park Ave.	2,469	247	241	5	1	4,100	410	400	8	2	25
Howard Ave.												
	North of W. San Ysidro Blvd.	4,113	411	401	8	2	5,800	580	566	12	3	25
Avenida de la Madrid												
	Smythe Ave. to Alaquinas Dr.	2,003	200	195	4	1	2,300	230	224	5	1	25
Alaquinas Dr.												
	Beyer Blvd. to Avenida de la Madrid.	1,495	150	146	3	1	1,700	170	166	3	1	25

Existing and 2035 Buildout Freeway Traffic

			Existing					Preferred Land Use Alternative				
Roadway	Segment	NB/SB	ADT	Peak Hour	Traffic Breakdown			ADT	Peak Hour	Traffic Breakdown		
					Cars	MT	HT			Cars	MT	HT
Interstate 5												
	Iris Ave to SR-905 Connection	NB	105000	10500	9870	420	210	149600	14960	14062	598	299
		SB										
	SR-905 Connection to Dairy Mart Rd	NB	70000	7000	6580	280	140	83200	8320	7821	333	166
		SB										
	Dairy Mart Rd to Via de San Ysidro	NB	53000	5300	4982	212	106	70900	7090	6665	284	142
		SB										
	Via de San Ysidro to I-805 Connection	NB	40000	4000	3760	160	80	50300	5030	4728	201	101
		SB										
	I-805 Connection to Camino de la Plaza	NB	76000	7600	7144	304	152	80800	8080	7595	323	162
		SB										
Interstate 805												
	SR-905 Connection to San Ysidro Blvd	NB	58000	5800	5278	348	174	112400	11240	10228	674	337
		SB										
	San Ysidro Blvd to I-5 Connection	NB	48000	4800	4368	288	144	50900	5090	4632	305	153
		SB										
SR-905												
	I-805 Connection to Picador Blvd	NB	52000	5200	4732	312	156	93700	9370	8527	562	281
		SB										
	Picador Blvd to Beyer Blvd	NB	53000	5300	4823	318	159	94700	9470	8618	568	284
		SB										
	Beyer Blvd to I-5 Connection	NB	48000	4800	4368	288	144	70100	7010	6379	421	210
		SB										

Bridge Options - Potential Traffic 2035 Buildout							
Bridge Options	Segment	ADT	Peak Hour Traffic (PM)	Traffic Breakdown			
				Cars	MT	HT	Posted Speed
Bridge Option 1				97.50%	2%	0.50%	
	Bibler Drive	11,400	1140	1112	23	6	35
Bridge Option 2				97.50%	2%	0.50%	
	Camino de la Plaza to Calle Primera	7,000	700	683	14	4	35
Bridge Option 3				97.50%	2%	0.50%	
	Camino de la Plaza to Via Tercero	7,000	700	683	14	4	35

Street Contour Distances Distance to Noise Contour Lines from the Centerlines of Roadways (No Topographical Consideration)									
	Existing Noise Contour Distances				2035 Buildout Noise Contour Distances				
Roadway/Segment	CNEL @ 100 ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ 100 ft. (dBA)	Change at 100 (ft) (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
Beyer Boulevard									
SR-905 WB Off-Ramp to Dairy Mart Rd. (40 mph)	61.5	15	50	125	62.6	1.1	22	65	160
Dairy Mart Rd. to Del Sur Blvd. (40 mph)	58.5	-	27	75	61.4	2.9	15	50	125
Del Sur Blvd. to Cottonwood Rd (35 mph)	56.6	-	15	50	58.4	1.8	N/A	27	75
Cottonwood Rd. to W. Park Ave. (35 mph)	57.8	-	23	65	62.4	4.6	20	60	155
W. Park Ave. to E. Beyer Blvd. (35 mph)	56.5	-	15	50	62.3	5.8	20	60	153
Otay Mesa Rd.									
North of Beyer Blvd. (35 mph)	55.2	-	11	38	58.6	3.4	-	28	75
E. Beyer Blvd.									
Beyer Blvd. to Center St. (30 mph)	50.3	-	-	11	58.5	8.2	-	26	75
Center St. to E. San Ysidro Blvd. - North of Bolton Hall Rd (30 mph)*	50.3	-	-	11	56.0	5.7	-	13	45
Center St. to E. San Ysidro Blvd. - South of Bolton Hall Rd (40 mph)*	53.6	-	-	28	59.2	5.6	8	32	85
Del Sur Blvd.									
SR-905 EB Ramps to Beyer Blvd. (25 mph)	46.3	-	-	N/A	51.0		-	-	13
Smythe Ave.									
SR-905 EB Ramps to Beyer Blvd. (35 mph)	56.4	-	15	50	59.0	2.6	10	30	85
S. Vista Ave. to Sunset Ln. (25 mph)	50.8	-	-	13	53.5	2.7	-	-	26
Sunset Ln. to W. San Ysidro Blvd. (25 mph)	43.2	-	-	N/A	47.7	4.5	-	-	-
Dairy Mart Rd.									
Beyer Blvd to S. Vista Ln (30 mph)	55.4	-	12	40	56.8	1.4	-	17	55
S. Vista Ln. to W. San Ysidro Blvd. (30 mph)	56.6	-	15	50	57.8	1.2	-	22	65
W. San Ysidro Blvd. to I-5 SB Ramps (30 mph)	58.5	-	27	75	57.8	-0.7	-	22	65
I-5 SB Ramps to Servando Ave. (30 mph)	57.7	-	22	65	58.6	0.9	-	27	75
Servando Ave. to Camino de la Plaza (40 mph)	58.8	7	29	80	60.0	1.2	10	32	100
Howard Ave. to Dairy Mart Rd. (30 mph)	53.8	-	7	28	54.8	1.0	-	10	35
Dairy Mart Rd. to Sunset Ln. (35 mph)	59.3	8	32	90	59.3	0.0	8	32	90
Sunset Ln. to Averil Rd. (35 mph)	58.8	7	28	80	59.0	0.2	7	30	85
Averil Rd. to Smythe Ave. (25 mph)	55.1	-	10	36	55.4	0.3	-	11	40
Smythe Ave. to Cottonwood Rd. (25 mph)	56.8	-	16	53	56.0	-0.8	-	13	45
Cottonwood Rd. to Via de San Ysidro (25 mph)	56.0	-	13	45	57.6	1.6	-	20	60
Via de San Ysidro to W. Park Ave (25 mph)	56.7	-	16	51	58.1	1.4	-	24	70
E. San Ysidro Blvd.									
W. Park Ave. to I-805 SB Ramps (25 mph)	58.2	-	25	70	59.6	1.4	9	33	90
I-805 SB Ramps to I-805 NB Ramps (25 mph)	57.9	-	23	65	59.5	1.6	9	32	90
I-805 NB Ramps to Border Village Rd. (west) (25 mph)	57.9	-	23	65	58.5	0.6	-	26	75
Border Village Rd. (west) to Border Village Rd (east) (25 mph)	55.4	-	12	40	58.5	3.1	-	26	75

Border Village Rd. (south) to E. Beyer Blvd./Camino de la Plaza (25 mph)	56.4	-	15	50	60.2	3.8	11	37	105
E. Beyer Blvd./Camino de la Plaza to I-5 SB Ramps (25 mph)	54.7	-	9	34	56.6	1.9	-	16	50
Border Village Rd .									
San Ysidro Blvd. to San Ysidro Blvd. (25 mph)	49.6	-	-	9	54.6	5.0	-	-	33
Via de San Ysidro									
W. San Ysidro Blvd. to I-5 NB Ramps (25 mph)	56.8	-	17	53	58.3	1.5	-	25	70
I-5 NB Ramps to Calle Primera (25 mph)	57.4	-	20	60	58.6	1.2	-	27	75
Calle Primera									
West of Rancho del Rio Estates (25 mph)	49.6	-	-	9	54.0	4.4	-	7	30
Rancho del Rio Estates to Via de San Ysidro (25 mph)	49.6	-	-	9	54.0	4.4	-	7	30
Via de San Ysidro to Willow Rd (25 mph)	54.8	-	10	35	56.2	1.4	-	14	47
Willow Rd.									
Calle Primera to Camino De La Plaza (25 mph)	54.5	-	8	32	57.0	2.5	-	17	55
Bibler Dr.									
East of Camino De La Plaza (25 mph)	50.8	-		13	50.8	0.0	-	-	13
Camino De La Plaza.									
Dairy Mart Rd. to Bibler Dr. (45 mph)	59.9		37	100	61.2	1.3	15	50	125
Bibler Dr. to Willow Rd. (45 mph)	57.2	-	20	60	59.4	2.2	8	33	90
Willow Rd. to I-5 SB Ramp (30 mph)	56.0	-	14	45	58.8	2.8	7	28	80
I-5 SB Ramp to E. San Ysidro Blvd. (30 mph)	58.5	-	26	75	60.3	1.8	11	40	105
Vista Ln.									
Dairy Mart Rd. to Averil Rd. (25 mph)	48.1	-	-	-	53.7	5.6	-	-	27
Averil Rd. to Smythe Ave. (25 mph)	50.1	-	-	10	51.0	0.9	-	-	13
Sunset Ln.									
W. San Ysidro Blvd. to Averil Rd. 25 mph	48.5	-	-	-	51.0	2.5	-	-	13
Averil Rd. to Smythe Ave. 25 mph	48.2	-	-	-	51.0	2.8	-	-	13
Cottonwood Rd.									
Sunset Ln. to W San Ysidro Blvd. 25 mph	50.3	-	-	11	53.8	3.5	-	7	28
W. Park Ave.									
Beyer Blvd. to Seaward Ave. 25 mph	51.8	-	-	16	53.5	1.7	-	-	26
Seaward Ave. to W. San Ysidro Blvd. 25 mph	49.5	-	-	9	50.4	0.9	-	-	11
E. Park Ave.									
Seaward Ave. to W. San Ysidro Blvd. 25 mph	47.7	-	-	-	49.8	2.1	-	-	10
Seaward Ave.									
W. Park Ave. to E. Park Ave. 25 mph	48.3	-	-	-	50.5	2.2	-	-	12
Howard Ave.									
North of W. San Ysidro Blvd. 25 mph	50.5	-	-	12	52.1	1.6	-	-	18
Avenida de la Madrid									
Smythe Ave. to Alaquinas Dr. 25 mph	47.4	-	-	-	48.1	0.7	-	-	-
Alaquinas Dr.									
Beyer Blvd. to Avenida de la Madrid. 25 mph	46.4	-		-	46.9	0.5	-	-	-

Note: Contour distances do not consider topographic variation, which could reduce noise levels relative to stated levels
Note: sensitive receptors; information provided for general area planning only
* Speed changes along this segment due to land use change

Freeway Noise Contour Distances									
Distance to Noise Contour Lines from the Centerlines of Roadways (No Topographical Consideration)									
	Existing Noise Contour				2035 Buildout Noise Contour Distances				
Roadway + Segment	CNEL @ 100 ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ 100 ft. (dBA)	Change at 100 (ft) (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
Interstate 5									
Camino de la Plaza to I805 Connection	75.0	230	500	700	75.3	0.3	200	500	930
I-805 Connection to Via de San Ysidro	72.2	150	330	650	73.2	1.0	175	390	725
Via de San Ysidro to Dairy Mart Rd	73.4	180	400	750	74.7	1.3	225	475	875
Dairy Mart Rd to SR-905 Connection	74.7	220	475	850	75.4	0.7	250	525	950
SR-905 Connection to Iris Ave	73.4	290	600	1050	78	4.6	370	700	1225
Interstate 805									
I-5 Connection to San Ysidro Blvd	73.5	175	400	750	73.7	0.2	190	415	800
San Ysidro Blvd to SR-905 Connection	74.3	210	450	850	77.2	2.9	330	650	1150
SR-905									
I-5 to Beyer Blvd	73.5	180	400	775	75.1	1.6	240	500	920
Beyer Blvd to Picador Blvd	73.9	200	425	800	76.4	2.5	300	600	1050
Picador Blvd to I-805	73.8	190	420	790	76.4	2.6	300	600	1050

Trolley and Freight Noise Contours								
	Existing Conditions				Build-out 2035			
Train	CNEL @ 100 ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ 100 ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
Trolley	-	-	8	30	-	-	10	35
Freight	56	11	22	50	56	11	22	50
Combined	57	12	25	55	57	12	26	56

Bridge Options - Noise Contours					
		CNEL @ 100 ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
Bridge Option 1					
	Bibler Drive	58.4	-	27	75
Bridge Option 2					
	Camino de la Plaza to Calle Primera	56.3	-	15	50
Bridge Option 3					
	Camino de la Plaza to Via Tercero	56.3	-	15	50

Change in CNEL at 100 feet					
Roadway		Existing Conditio	2035 Buildout Conditions		
	Segment	CNEL @ 100 ft. (dBA)	CNEL @ 100 ft. (dBA)	Change at 100 (ft) (dBA)	Significant Change?
Beyer Boulevard					
	SR-905 WB Off-Ramp to Dairy Mart Rd. (40 mph)	61.5	62.6	1.1	No
	Dairy Mart Rd. to Del Sur Blvd. (40 mph)	58.5	61.4	2.9	No
	Del Sur Blvd. to Cottonwood Rd (35 mph)	56.6	58.4	1.8	No
	Cottonwood Rd. to W. Park Ave. (35 mph)	57.8	62.4	4.6	Yes
	W. Park Ave. to E. Beyer Blvd. (35 mph)	56.5	62.3	5.8	Yes
Otay Mesa Rd.					
	North of Beyer Blvd. (35 mph)	55.2	58.6	3.4	Yes
E. Beyer Blvd.					
	Beyer Blvd. to Center St. (30 mph)	50.3	58.5	8.2	Yes
	Center St. to E. San Ysidro Blvd. (30 mph) - North of Bolton Hall Rd	50.3	56.0	5.7	Yes
	Center St. to E. San Ysidro Blvd. (40 mph) - South of Bolton Hall Rd	53.6	59.2	5.6	Yes
Del Sur Blvd.					
	SR-905 EB Ramps to Beyer Blvd. (25 mph)	46.3	51.0		No
Smythe Ave.					
	SR-905 EB Ramps to Beyer Blvd. (35 mph)	56.4	59.0	2.6	No
	S. Vista Ave. to Sunset Ln. (25 mph)	50.8	53.5	2.7	No
	Sunset Ln. to W. San Ysidro Blvd. (25 mph)	43.2	47.7	4.5	Yes
Dairy Mart Rd.					
	Beyer Blvd to S. Vista Ln (30 mph)	55.4	56.8	1.4	No
	S. Vista Ln. to W. San Ysidro Blvd. (30 mph)	56.6	57.8	1.2	No
	W. San Ysidro Blvd. to I-5 SB Ramps (30 mph)	58.5	57.8	-0.7	No
	I-5 SB Ramps to Servando Ave. (30 mph)	57.7	58.6	0.9	No
	Servando Ave. to Camino de la Plaza (40 mph)	58.8	60.0	1.2	No
W. San Ysidro Blvd.					
	Howard Ave. to Dairy Mart Rd. (30 mph)	53.8	54.8	1.0	No
	Dairy Mart Rd. to Sunset Ln. (35 mph)	59.3	59.3	0.0	No
	Sunset Ln. to Averil Rd. (35 mph)	58.8	59.0	0.2	No
	Averil Rd. to Smythe Ave. (25 mph)	55.1	55.4	0.3	No
	Smythe Ave. to Cottonwood Rd. (25 mph)	56.8	56.0	-0.8	No
	Cottonwood Rd. to Via de San Ysidro (25 mph)	56.0	57.6	1.6	No
	Via de San Ysidro to W. Park Ave (25 mph)	56.7	58.1	1.4	No
E. San Ysidro Blvd.					
	W. Park Ave. to I-805 SB Ramps (25 mph)	58.2	59.6	1.4	No
	I-805 SB Ramps to I-805 NB Ramps (25 mph)	57.9	59.5	1.6	No
	I-805 NB Ramps to Border Village Rd. (west) (25 mph)	57.9	58.5	0.6	No
	Border Village Rd. (west) to Border Village Rd (east) (25 mph)	55.4	58.5	3.1	Yes
	Border Village Rd. (south) to E. Beyer Blvd./Camino de la Plaza (25 mph)	56.4	60.2	3.8	Yes

	E. Beyer Blvd./Camino de la Plaza to I-5 SB Ramps (25 mph)	54.7	56.6	1.9	No
Border Village Rd .					
	San Ysidro Blvd. to San Ysidro Blvd. (25 mph)	49.6	54.6	5.0	Yes
Via de San Ysidro					
	W. San Ysidro Blvd. to I-5 NB Ramps (25 mph)	56.8	58.3	1.5	No
	I-5 NB Ramps to Calle Primera (25 mph)	57.4	58.6	1.2	No
Calle Primera					
	West of Rancho del Rio Estates (25 mph)	49.6	54.0	4.4	Yes
	Rancho del Rio Estates to Via de San Ysidro (25 mph)	49.6	54.0	4.4	Yes
	Via de San Ysidro to Willow Rd (25 mph)	54.8	56.2	1.4	No
Willow Rd.					
	Calle Primera to Camino De La Plaza (25 mph)	54.5	57.0	2.5	No
Bibler Dr.					
	East of Camino De La Plaza (25 mph)	50.8	50.8	0.0	No
Camino De La Plaza.					
	Dairy Mart Rd. to Bibler Dr. (45 mph)	59.9	61.2	1.3	No
	Bibler Dr. to Willow Rd. (45 mph)	57.2	59.4	2.2	No
	Willow Rd. to I-5 SB Ramp (30 mph)	56.0	58.8	2.8	No
	I-5 SB Ramp to E. San Ysidro Blvd. (30 mph)	58.5	60.3	1.8	No
Vista Ln.					
	Dairy Mart Rd. to Averil Rd. (25 mph)	48.1	53.7	5.6	Yes
	Averil Rd. to Smythe Ave. (25 mph)	50.1	51.0	0.9	No
Sunset Ln.					
	W. San Ysidro Blvd. to Averil Rd. 25 mph	48.5	51.0	2.5	No
	Averil Rd. to Smythe Ave. 25 mph	48.2	51.0	2.8	No
Cottonwood Rd.					
	Sunset Ln. to W San Ysidro Blvd. 25 mph	50.3	53.8	3.5	Yes
W. Park Ave.					
	Beyer Blvd. to Seaward Ave. 25 mph	51.8	53.5	1.7	No
	Seaward Ave. to W. San Ysidro Blvd. 25 mph	49.5	50.4	0.9	No
E. Park Ave.					
	Seaward Ave. to W. San Ysidro Blvd. 25 mph	47.7	49.8	2.1	No
Seaward Ave.					
	W. Park Ave. to E. Park Ave. 25 mph	48.3	50.5	2.2	No
Howard Ave.					
	North of W. San Ysidro Blvd. 25 mph	50.5	52.1	1.6	No
Avenida de la Madrid					
	Smythe Ave. to Alaquinas Dr. 25 mph	47.4	48.1	0.7	No
Alaquinas Dr.					
	Beyer Blvd. to Avenida de la Madrid. 25 mph	46.4	46.9	0.5	No