



## Appendices

# Appendix K Noise and Vibration Impact Analysis



## Appendices

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# **NOISE AND VIBRATION IMPACT ANALYSIS**

**ONE METRO WEST PROJECT  
COSTA MESA, ORANGE COUNTY, CALIFORNIA**



January 2020

# **NOISE AND VIBRATION IMPACT ANALYSIS**

## **ONE METRO WEST PROJECT COSTA MESA, ORANGE COUNTY, CALIFORNIA**

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## TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS.....	iii
<b>INTRODUCTION .....</b>	<b>1</b>
Project Location and Description .....	1
Existing Land Uses in the project area .....	1
<b>NOISE AND VIBRATION FUNDAMENTALS .....</b>	<b>4</b>
Characteristics of Sound.....	4
Measurement of Sound.....	4
Physiological Effects of Noise .....	5
Fundamentals of Vibration.....	7
<b>REGULATORY SETTING .....</b>	<b>9</b>
Applicable Noise Standards.....	9
City of Costa Mesa .....	9
Federal Transit Administration.....	10
Applicable Vibration Standards.....	10
Federal Transit Administration.....	10
<b>OVERVIEW OF THE EXISTING NOISE ENVIRONMENT.....</b>	<b>11</b>
Existing Noise Level Measurements.....	11
Aircraft Noise.....	11
Existing Traffic Noise .....	11
<b>PROJECT IMPACTS .....</b>	<b>16</b>
Short-Term Construction Noise Impacts.....	16
Short-Term Construction Vibration Impacts .....	19
Construction Vibration Damage Potential.....	20
Long-Term Noise Impacts.....	20
Traffic Noise Impacts to Off-Site Receivers .....	20
Building Reflection.....	20
Heating, Ventilation and Air Conditioning Equipment .....	30
Loading Area Activities .....	30
Composite Noise Levels.....	31
Long-Term Vibration Impacts.....	31
Cumulative Noise and Vibration Impacts.....	31
Conclusion .....	31
Off-Site Construction Impacts .....	31
Off-Site Operations Impacts .....	32
Project Design Features.....	32
<b>REFERENCES .....</b>	<b>33</b>

## FIGURES AND TABLES

### FIGURES

Figure 1: Regional and Project Site Map .....	2
Figure 2: Ground Level Site Plan.....	3
Figure 3: Noise Monitoring Locations .....	13

### TABLES

Table A: Definitions of Acoustical Terms.....	6
Table B: Common Sound Levels and Their Noise Sources.....	7
Table C: City of Costa Mesa Maximum Noise Level Standards .....	9
Table D: General Assessment Construction Noise Criteria .....	10
Table E: Construction Vibration Damage Criteria .....	10
Table F: Existing Noise Level Measurements – Long Term .....	12
Table G: Short-Term Noise Level Measurements.....	12
Table H: Existing Traffic Noise Levels .....	14
Table I: Typical Construction Equipment Noise Levels.....	17
Table J: Potential Construction Noise Impacts at Nearest Receptor .....	18
Table K: Vibration Source Amplitudes for Construction Equipment.....	19
Table L: Existing Traffic Noise Levels Without and With Project.....	21
Table M: Future Short-Term Cumulative Year (2027) Pending Without and With Project .....	24
Table N: Build Out Year (2040) Without and With Project .....	27
Table O: Composite Noise Levels at Nearest Receptor .....	31

### APPENDICES

- A: LONG-TERM AND SHORT-TERM NOISE MEASUREMENT SHEETS
- B: FHWA TRAFFIC NOISE MODEL PRINTOUTS
- C: FHWA ROADWAY CONSTRUCTION NOISE MODEL PRINTOUTS
- D: SOUNDPLAN NOISE MODEL PRINTOUTS

## LIST OF ABBREVIATIONS AND ACRONYMS

$\mu\text{in}$	microinches
$\mu\text{in/sec}$	microinches per second
Caltrans	California Department of Transportation
City	City of Costa Mesa
CNEL	Community Noise Equivalent Level
dB	decibel(s)
dBA	A-weighted decibel(s)
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
ft	foot/feet
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
I-405	Interstate 405
in/sec	inch/inches per second
JWA	John Wayne Airport
$L_{dn}$	day-night average noise level
$L_{eq}$	equivalent continuous sound level
$L_{max}$	maximum instantaneous noise level
$L_v$	velocity in decibels
PeMS	Performance Measurement System
PPV	peak particle velocity
project	One Metro West Project
RCNM	Roadway Construction Noise Model
RMS	root-mean-square (velocity)
SOCO	South Coast Collection

## INTRODUCTION

This noise and vibration impact analysis has been prepared to evaluate the potential noise and vibration impacts and mitigation measures associated with the proposed One Metro West Project (project) in Costa Mesa, California. This report is intended to satisfy the City of Costa Mesa's (City) requirement for a project-specific noise and vibration impact analysis by examining the impacts of the proposed uses on the project site and identifies any necessary mitigation measures to reduce project noise impacts.

## PROJECT LOCATION AND DESCRIPTION

The 15.23-acre project site is at 1683 Sunflower Avenue in Costa Mesa. Figure 1 shows the project location. The site is bounded by Sunflower Avenue to the north, industrial and logistics uses to the west, Interstate 405 (I-405) to the south, and South Coast Collection (SOCO) retail center to the east. The project site is currently occupied by Sakura Paper factory, Robinson Pharma, and a bakery subtenant.

Regional access to the project site is provided by the San Diego Freeway (I-405), Veterans Memorial Freeway (State Route 73), and Costa Mesa Freeway (State Route 55). Harbor Boulevard and Sunflower Avenue are the major roadways that provide local access.

The proposed One Metro West community (project) is a mixed-use development that consists of residential, specialty retail, creative office, and recreation uses. The project's vision is to create a mixed-use community to provide housing near jobs in a campus-like setting with on-site amenities, a 1.7-acre open space area, and connections to bicycle trails. The project would develop 1,057 multi-family residential units, 25,000 square feet of commercial creative office use, a 1,500 square foot community center, and 6,000 square feet of specialty retail. Figure 2 depicts the proposed site plan. Construction would start in 2022 and conclude in 2027, lasting approximately 5 years.

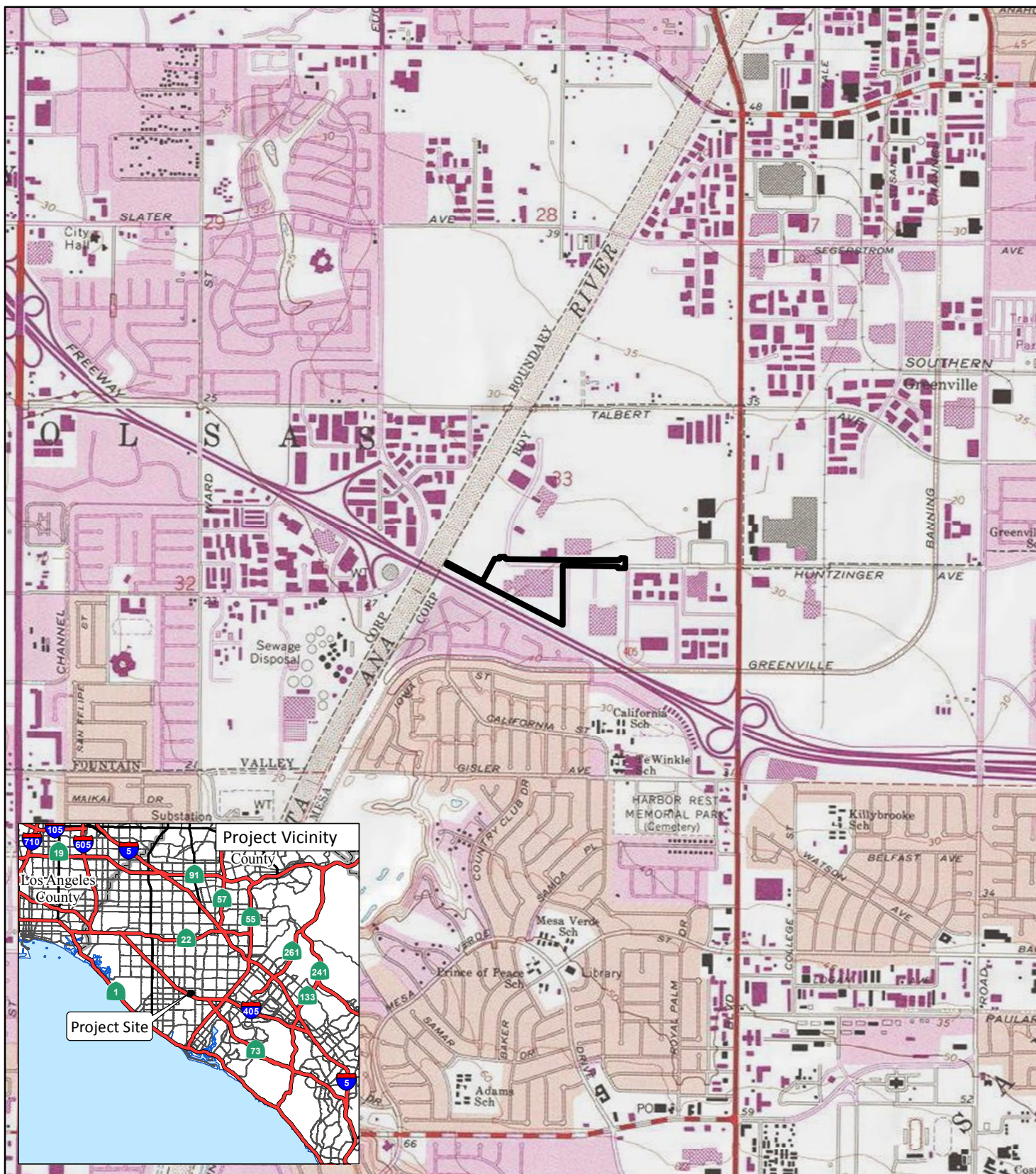
In order to redevelop the project site, the existing 345,000 square foot, two-story industrial building, associated parking areas, drive aisles, hardscape improvements, and landscaping would be demolished. The site would then be cleared and graded for development of the proposed project.

## EXISTING LAND USES IN THE PROJECT AREA

The project site is surrounded primarily by commercial and industrial development. The areas adjacent to the project site include the following uses:

- **North:** Light Industrial development
- **East:** SOCO Retail center
- **South:** I-405, single-family residences on southbound side of freeway
- **West:** Offices





LSA

LEGEND

 Project Site



0 1000 2000  
FEET

SOURCE: USGS 7.5' Quad - Newport Beach (1981), CA

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FIGURE 1

One Metro West  
Regional and Project Site Map



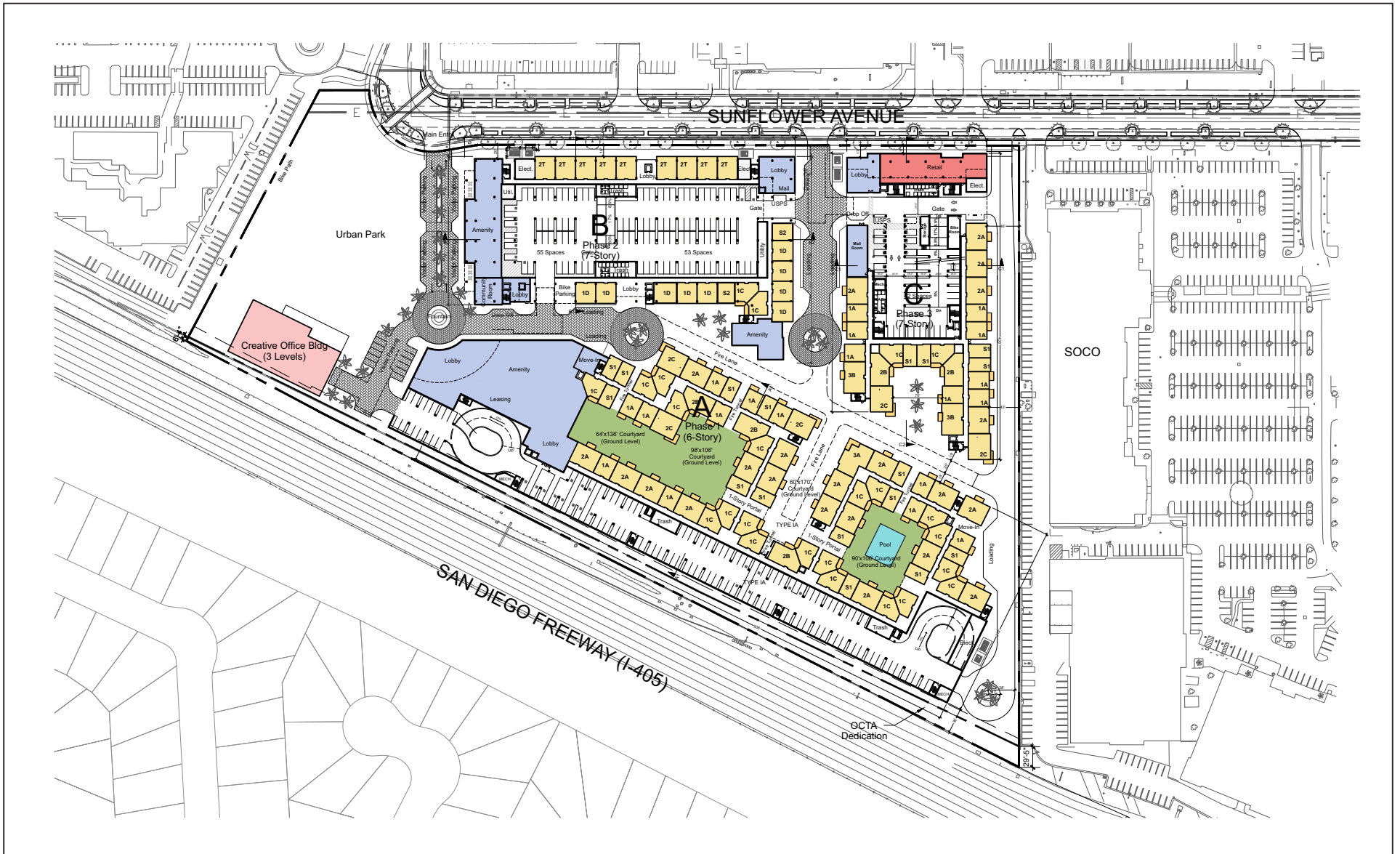
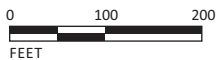


FIGURE 2

LSA



SOURCE: TSM Architects, May 2019

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One Metro West  
Ground Level Site Plan

## NOISE AND VIBRATION FUNDAMENTALS

### CHARACTERISTICS OF SOUND

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a sound wave, which results in the tone's range from high to low. Loudness is the strength of a sound, and it describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound wave combined with the reception characteristics of the human ear. Sound intensity refers to the power carried by sound waves per unit area in a direction perpendicular to that area. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound pressure level and its effect on adjacent sensitive land uses.

### Measurement of Sound

Sound pressure level is measured with the A-weighted decibel scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound, similar to the human ear's de-emphasis of these frequencies. Decibels, unlike linear units (e.g., inches or pounds), are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) is 10 times more intense than 1 dB, 20 dB is 100 times more intense than 1 dB, and 30 dB is 1,000 times more intense than 1 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the sound's loudness. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound levels dissipate exponentially with distance from their noise sources. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations) the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source sound levels decrease 4.5 dB for each doubling of distance in a relatively flat environment with absorptive vegetation.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous

sound level ( $L_{eq}$ ) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the  $L_{eq}$  and Community Noise Equivalent Level (CNEL) or the day-night average noise level ( $L_{dn}$ ) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly  $L_{eq}$  for noise occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours).  $L_{dn}$  is similar to the CNEL scale but without the adjustment for events occurring during the relaxation and sleeping hours. CNEL and  $L_{dn}$  are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level ( $L_{max}$ ), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by  $L_{max}$ , which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the  $L_{10}$  noise level represents the noise level exceeded 10 percent of the time during a stated period. The  $L_{50}$  noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The  $L_{90}$  noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the  $L_{eq}$  and  $L_{50}$  are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. Additionally, an increase of more than 5 dBA is typically considered readily perceptible in an exterior environment. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

### Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to sound levels higher than 85 dBA. Exposure to high sound levels affects the entire system, with prolonged sound exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of sound exposure above 90 dBA would result in permanent cell damage. When the sound level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of sound is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by a feeling of pain in the ear (i.e., the threshold of pain). A sound level of 160–165 dBA will result in dizziness or a loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas.



Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

**Table A: Definitions of Acoustical Terms**

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., the number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. (All sound levels in this report are A-weighted unless reported otherwise.)
L <sub>01</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub>	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period, respectively.
Equivalent Continuous Noise Level, L <sub>eq</sub>	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dBA to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dBA to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L <sub>dn</sub>	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L <sub>max</sub> , L <sub>min</sub>	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time. It is usually a composite of sound from many sources from many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

Source: *Handbook of Acoustical Measurements and Noise Control* (Harris 1991).

**Table B: Common Sound Levels and Their Noise Sources**

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

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

dBA = A-weighted decibels

ft = feet

mph = miles per hour

## FUNDAMENTALS OF VIBRATION

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items sitting on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile-driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with both ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) from the vibration source, although there are

examples of ground-borne vibration causing interference out to distances greater than 200 ft (Federal Transit Authority [FTA] 2018). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible.

Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path will usually be greater than ground-borne noise.

Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile-driving to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2018). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{\text{ref}}]$$

where “ $L_v$ ” is the vibration velocity in decibels (VdB), “ $V$ ” is the RMS velocity amplitude, and “ $V_{\text{ref}}$ ” is the reference velocity amplitude, or  $1 \times 10^{-6}$  inches/second (in/sec) used in the United States.

- **Vibration Source:** Vehicle suspension, wheel types and condition, railroad track/roadway surface, railroad track support system, speed, transit structure, and depth of vibration source.
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth.
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption.

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration indicates: (1) vibration propagation is more efficient in stiff, clay soils than in loose, sandy soils; and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from a railroad track. Factors such as layering of the soil and the depth to the water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

## REGULATORY SETTING

### APPLICABLE NOISE STANDARDS

#### City of Costa Mesa

##### *Municipal Code*

Sections 13-280, 13-281, and 13-182 of the City's Municipal Code (City of Costa Mesa 2007, 1997a, 1997b) establish the maximum permissible noise level that may intrude into a neighbor's property. Sections 13-280 and 13-281 of the Noise Control Ordinance establish interior and exterior noise level standards for residential land uses categories affected by stationary noise sources. Section 13-282 applies the exterior noise standards from Section 13-280 to any school, hospital, or church while it is in use. Table C provides the City's residential maximum noise standard based on the land use, the location of the noise (exterior/interior), and the time period. It is unlawful for any person at any location within Costa Mesa to create any noise or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the noise level, when measured on any property within designated noise zones either within or without Costa Mesa, to exceed the applicable noise standards, shown in Table C (City of Costa Mesa 2007, 1997a, 1997b).

**Table C: City of Costa Mesa Maximum Noise Level Standards**

Land Use	Exterior/ Interior	Time Period	L <sub>50</sub> (30 mins)	L <sub>25</sub> (15 mins)	L <sub>8</sub> (5 mins)	L <sub>2</sub> (1 min)	L <sub>max</sub> (Anytime)
Residential	Exterior	7:00 a.m. to 11:00 p.m.	55	60	65	70	75
		11:00 p.m. to 7:00 a.m.	50	55	60	65	70
	Interior	7:00 a.m. to 11:00 p.m.	—	—	55	60	65
		11:00 p.m. to 7:00 a.m.	—	—	45	50	55
School, Hospital or Church <sup>1</sup>	Exterior	7:00 a.m. to 11:00 p.m.	55	60	65	70	75
		11:00 p.m. to 7:00 a.m.	50	55	60	65	70

Source: City of Costa Mesa Municipal Code, Sections 13-280, 13-281, and 13-282 (City of Costa Mesa 2007, 1997a, 1997b).

<sup>1</sup> The exterior noise standards are applicable to schools, hospitals, and churches while they are in use.

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

min/mins = minute/minutes

Each of the noise standards specified above shall be reduced by 5 dBA for impact, or predominant tone noise or for noises consisting of speech or music. In the event the ambient noise level exceeds any of the noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the last noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Construction noise is temporary and will stop after project construction is complete. Section 13-279 of the City's Municipal Code Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses (City of Costa Mesa 2010). The City's Municipal Code allows construction between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday. Construction is not permitted outside of these

hours or on Sunday or New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, unless a temporary waiver is granted by the development services director or his/her authorized representative or in emergencies, including maintenance work on the City rights-of-way. The limitations on construction activity also apply to vehicles and equipment involved with deliveries, loading or transferring materials, equipment service, or maintenance of any devices or appurtenances for or within a construction project.

### Federal Transit Administration

Because the City does not have construction noise level limits, construction noise was assessed using criteria from the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Table D shows the FTA's General Assessment Construction Noise Criteria based on the composite noise levels of the two noisiest pieces of equipment per construction phase.

**Table D: General Assessment Construction Noise Criteria**

Land Use	Daytime 1-hour $L_{eq}$ (dBA)	Nighttime 1-hour $L_{eq}$ (dBA)
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

dBA = A-weighted decibels

$L_{eq}$  = equivalent continuous sound level

## APPLICABLE VIBRATION STANDARDS

### Federal Transit Administration

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table E lists the potential vibration building damage criteria associated with construction activities, as suggested in the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

**Table E: Construction Vibration Damage Criteria**

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

FTA = Federal Transit Administration

PPV = peak particle velocity

in/sec = inch/inches per second

FTA guidelines shows that a vibration level of up to 0.5 in/sec in PPV (FTA 2018) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster) and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction building vibration damage criterion is 0.2 in/sec PPV.

## OVERVIEW OF THE EXISTING NOISE ENVIRONMENT

This section describes the existing noise environment in the project site vicinity. Noise monitoring and traffic noise modeling were used to quantify existing and future noise levels at the project site. The noise monitoring data were gathered at multiple locations at the project site for the purpose of calibrating the SoundPLAN noise model. This allowed for an accurate assessment of noise generated by I-405, which is the dominate source of noise at the residential uses on the opposite side of the freeway from the project site. In Costa Mesa, vehicle traffic is the primary source of noise. Other significant local noise sources include airport noise, industrial noise, construction noise, and mechanical equipment noise.

### EXISTING NOISE LEVEL MEASUREMENTS

To assess existing noise levels, LSA conducted four long-term noise measurements and two short-term noise measurements in the vicinity of the project site. The long-term noise measurements were recorded from March 29 through April 2, 2019. The long-term noise measurements captured data in order to calculate the hourly  $L_{eq}$  and CNEL at each location, which incorporate the nighttime hours. Sources that dominate the existing noise environment include traffic on I-405, light traffic on Sunflower Avenue, and occasional aircraft. The short-term noise measurements were recorded on April 1, 2019. The short-term noise measurements captured the major traffic noise sources listed above. Noise measurement data collected during the short-term and long-term noise monitoring are summarized in Tables F and G. Figure 3 shows the noise monitoring locations. Noise measurement sheets are provided in Appendix A.

### AIRCRAFT NOISE

Airport-related noise levels are primarily associated with aircraft engine noise made while aircraft are taking off, landing, or running their engines while still on the ground. The closest airport to the project site is John Wayne Airport (JWA), approximately 3.4 miles to the southeast. The project site is outside the 60 dBA CNEL noise contour of JWA based on the JWA Airport Impact Zones map in the Airport Environs Land Use Plan (Orange County Airport Land Use Commission 2008), and the 2018 annual CNEL noise contour (JWA 2019) for JWA.

### EXISTING TRAFFIC NOISE

The guidelines included in the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) were used to evaluate traffic-related noise conditions along local roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Traffic volumes on local roadways were obtained from the *Traffic Impact Analysis* (LSA 2019b). The hourly traffic vehicle mix for Orange County roadways taken from the *Land Use/Noise Compatibility Manual, County of Orange Amendment 93-1* (1993) was used for traffic on these roadway segments. A specific breakdown of the vehicle percentages based on type and time of day is provided in Appendix B.

**Table F: Existing Noise Level Measurements – Long Term**

Location	Description	Date	Daytime Noise Levels <sup>1</sup> (dBA L <sub>eq</sub> )	Nighttime Noise Levels <sup>2</sup> (dBA L <sub>eq</sub> )	Daily Noise Levels (dBA CNEL)	Highest Daily Noise Level (dBA CNEL)
LT-1	1683 Sunflower Avenue, at the southeast corner of the property.	3/29/2019	66.8–75.8	67.4–74.0	78.1	79.6
		3/30/2019	70.4–75.6	64.3–73.9	77.6	
		3/31/2019	75.3–76.0	66.6–75.8	79.6	
		4/1/2019	66.7–76.7	67.2–76.3	79.4	
LT-2	1683 Sunflower Avenue, south of the walkway to the entrance of Robinson Pharma. It is lower in elevation than I-405, resulting in shielding by terrain.	3/29/2019	63.6–69.8	58.7–66.8	70.6	72.5
		3/30/2019	65.6–70.0	57.9–67.3	70.7	
		3/31/2019	68.0–70.3	59.1–68.6	72.5	
		4/1/2019	62.5–69.1	58.0–68.6	71.7	
LT-3	1683 Sunflower Avenue, in a tree approximately 60 ft from Sunflower Avenue, near the northwestern portion of the property.	3/29/2019	55.7–62.5	50.5–58.0	61.9	63.7
		3/30/2019	56.3–62.0	51.1–58.9	62.7	
		3/31/2019	59.0–62.6	51.3–59.7	63.6	
		4/1/2018	58.3–64.2	50.2–60.6	63.7	
LT-4	1683 Sunflower Avenue, near the eastern property line, approximately 600 ft north of the southern property line.	3/29/2019	54.3–58.3	50.6–58.0	61.2	63.7
		3/30/2019	55.2–58.1	53.3–59.7	62.3	
		3/31/2019	55.7–59.4	50.1–59.1	62.0	
		4/1/2018	55.3–64.9	51.1–61.5	63.7	

Source: Compiled by LSA (March 29–April 2, 2019).

<sup>1</sup> Daytime Noise Levels = noise levels during the hours from 7:00 a.m. to 10:00 p.m.

<sup>2</sup> Nighttime Noise Levels = noise levels during the hours from 10:00 p.m. to 7:00 a.m.

CNEL = Community Noise Equivalent Level

ft = feet

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous sound level

**Table G: Short-Term Noise Level Measurements**

Location	Measured Noise Level (dBA L <sub>eq</sub> )	Daytime Noise Levels <sup>2</sup> (dBA L <sub>eq</sub> )	Evening Noise Levels <sup>3</sup> (dBA L <sub>eq</sub> )	Nighttime Noise Levels <sup>4</sup> (dBA L <sub>eq</sub> )	Average Daily Noise Level (dBA CNEL)
ST-1: 1683 Sunflower Avenue, south of the building	71.4	62.2 – 72.2	69.6 – 70.3	62.7 – 71.8	74.9
ST-2: 1683 Sunflower Avenue, northwest portion of the western parking lot	59.6	57.0 – 62.9	56.8 – 57.8	48.9 – 59.3	62.4

Source: Compiled by LSA (April 1, 2019).

<sup>1</sup> Hourly noise levels were calculated based on a 20-minute short-term measurement and then adjusting it to the pattern of the nearest acoustically equivalent long-term measurement on the corresponding day.

<sup>2</sup> Daytime Noise Levels = noise levels during the hours of 7:00 a.m. to 7:00 p.m.

<sup>3</sup> Evening Noise Levels = noise levels during the hours of 7:00 p.m. to 10:00 p.m.

<sup>4</sup> Nighttime Noise Levels = noise levels during the hours of 10:00 p.m. to 7:00 a.m.

dBA = A-weighted decibels

CNEL = Community Noise Equivalent Level

L<sub>eq</sub>=equivalent continuous sound level





FIGURE 3

LSA

LEGEND

- Project Location
- Long-Term Monitoring Location
- Short-Term Monitoring Location



0 125 250  
FEET

SOURCE: Google (2018)

I:\RSE1901\GIS\MXD\Noise\NoiseMonLoc.mxd (5/23/2019)

One Metro West  
Noise Monitoring Locations



Traffic noise levels on I-405 were modeled using the SoundPLAN model with traffic volumes obtained from the California Department of Transportation (Caltrans) Performance Measurement System (PeMS) (Caltrans 2019). The vehicle mix on I-405 was obtained from Annual Average Daily Truck Traffic on the California State Highway System (Caltrans 2018). Table H provides the existing traffic noise levels in the project vicinity. These traffic noise levels are representative of a worst-case scenario that assumes a flat terrain and no shielding between the traffic and the noise contours. The existing traffic noise levels at the residences to the south of the project site range from 63 to 72 dBA CNEL.

**Table H: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Talbert Avenue west of Euclid Street	32,620	85	167	353	69.7
Talbert Avenue from Euclid Street to Newhope Street	33,960	87	172	363	69.8
MacArthur Boulevard/ Talbert Avenue from Newhope Street to Mt. Washington Street	38,195	92	185	392	70.3
MacArthur Boulevard/ Talbert Avenue from Mt. Washington Street to Hyland Avenue	45,685	101	207	441	71.3
MacArthur Boulevard from Hyland Avenue to Harbor Boulevard	31,190	70	135	283	68.3
MacArthur Boulevard from Harbor Boulevard to Fairview Street	27,175	66	124	258	67.7
Euclid Street from Talbert Avenue to Newhope Street	16,065	< 50	108	222	66.7
Euclid Street from Newhope Street to Ellis Avenue	19,505	65	121	252	67.6
West Lake Center Drive/Scenic Avenue west of Harbor Boulevard	4,740	< 50	< 50	69	59.4
West Lake Center Drive /Scenic Avenue east of Harbor Boulevard	5,850	< 50	< 50	75	61.3
Sunflower Avenue west of Project Driveway 1	2,480	< 50	< 50	< 50	49.8
Sunflower Avenue from Project Driveway 1 to Project Driveway 2	2,500	< 50	< 50	57	58.1
Sunflower Avenue from Project Driveway 2 to Project Driveway 3	2,565	< 50	< 50	58	58.2
Sunflower Avenue from Project Driveway 3 to Hyland Avenue	4,830	< 50	< 50	84	60.9
Sunflower Avenue from Hyland Avenue to Harbor Boulevard	10,480	< 50	67	138	64.3
Sunflower Avenue from Harbor Boulevard to Susan Street	15,635	< 50	86	179	66.1
Sunflower Avenue from Susan Street to Fairview Road	14,590	< 50	82	171	65.8
Hyland Avenue from MacArthur Boulevard to Sunflower Avenue	13,560	< 50	79	163	65.4
Hyland Avenue from Sunflower Avenue and South Coast Drive	13,350	< 50	78	161	65.4
Harbor Boulevard north of Segerstrom Avenue	32,090	84	166	349	69.6
Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard	31,500	83	164	345	69.5
Harbor Boulevard from MacArthur Boulevard to Westlake Center Drive/Scenic Avenue	34,255	87	173	365	69.9

**Table H: Existing Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Harbor Boulevard from Westlake Center Drive/Scenic Avenue to Sunflower Avenue	34,450	75	144	302	68.6
Harbor Boulevard from Sunflower Avenue to South Coast Drive	39,850	86	160	333	68.8
Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp	49,665	95	184	385	69.8
Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp	36,170	80	150	312	68.6
Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue	50,120	94	184	387	70.0
Harbor Boulevard south of Gisler Avenue	43,680	87	169	353	69.4
Susan Street from Sunflower Avenue to South Coast Drive	12,950	< 50	63	128	63.8
I-405 NB On-Ramp from Hyland Avenue	7,850	55	118	254	69.9
South Coast Drive from Hyland Avenue/I-405 NB Ramps to Harbor Boulevard	16,155	< 50	105	221	67.5
South Coast Drive from Harbor Boulevard to Susan Street	17,130	< 50	109	230	67.7
South Coast Drive from Susan Street to Fairview Street	17,245	< 50	84	175	65.9
Fairview Street north of MacArthur Boulevard	34,480	89	174	367	69.7
Fairview Street/Fairview Road from MacArthur Boulevard to Sunflower Avenue	33,470	88	171	359	69.6
Fairview Road from Sunflower Avenue to South Coast Drive	36,500	92	181	381	70.0
Fairview Road from South Coast Drive to I-405 NB Ramps	46,800	105	211	448	71.1
Fairview Road from I-405 NB Ramps to I-405 SB Ramps	43,430	106	204	428	70.2
Fairview Road south of I-405 SB Ramps	37,410	76	151	318	69.2

Source: Source: Compiled by LSA (2020).

Notes: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

I-405 = Interstate 405

NB = northbound

SB = southbound

## PROJECT IMPACTS

### SHORT-TERM CONSTRUCTION NOISE IMPACTS

Two types of short-term noise impacts would occur during project construction: 1) equipment delivery and construction worker commutes; and 2) project construction operations.

The first type of short-term construction noise would result from transport of construction equipment and materials to the project site and construction worker commutes. The project would generate an estimated total of 1,561 hauling truck trips over a 100-day demolition phase (156 trips per day) and an estimated total of 24,250 hauling truck trips over a 400-day grading and excavation phase (61 trips per day) based on the California Emission Estimator Model (Version 2016.3.2) output, shown in Appendix C of the *Air Quality and Greenhouse Gas Impact Analysis* for the One Metro West Project (LSA 2019a). These transportation activities would incrementally raise noise levels on access roads leading to the site. It is expected that larger trucks used in equipment delivery would generate higher noise impacts than trucks associated with worker commutes. The single-event noise from equipment trucks passing at a distance of 50 feet from a sensitive noise receptor would reach a maximum level of 84 dBA  $L_{max}$ . However, the pieces of heavy equipment for grading and construction activities would be moved on site just one time and would remain on site for the duration of each construction phase. This one-time trip, when heavy construction equipment is moved on and off site, would not add to the daily traffic noise in the project vicinity. The total number of daily vehicle trips would be minimal when compared to existing traffic volumes on the affected streets, and the long-term noise level change associated with these trips would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short term and would not result in a significant off-site noise impact.

The second type of short-term noise impact is related to noise generated during site preparation, grading, building construction, architectural coating, and paving on the project site. Construction is undertaken in discrete steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table I lists the maximum noise levels recommended for noise impact assessments for the project specific construction equipment list based on a distance of 50 ft between the equipment and a noise receptor.

Typical operating cycles for these types of construction equipment may involve 1 to 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

**Table I: Typical Construction Equipment Noise Levels**

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level ( $L_{max}$ ) at 50 Feet <sup>1</sup>
Compressor	40	80
Cranes	16	85
Dozers	40	85
Drill Rig	20	84
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Generator	50	82
Man-lift	20	85
Impact Pile Driver	20	95
Rollers	20	85
Water Truck	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).

Note: Noise levels reported in this table are rounded to the nearest whole number.

<sup>1</sup> Maximum noise levels were developed based on Specification 721.560 from the Central Artery/Tunnel program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.

$L_{max}$  = maximum instantaneous sound level

In addition to the reference maximum noise level, the usage factor provided in Table I is used to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10 \log(U.F.) - 20 \log\left(\frac{D}{50}\right)$$

where:  $L_{eq}(equip)$  =  $L_{eq}$  at a receiver resulting from the operation of a single piece of equipment over a specified time period.

E.L. = noise emission level of the particular piece of equipment at a reference distance of 50 ft.

U.F. = usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time.

D = distance from the receiver to the piece of equipment.

Each piece of construction equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq (composite) = 10 * \log_{10} \left( \sum_{1}^n 10^{\frac{Ln}{10}} \right)$$

Using the equations from the methodology above, the reference information in Table I, and the construction equipment list within the *Air Quality and Greenhouse Gas Impact Analysis* (LSA 2019), the composite noise level of each construction phase was calculated.

Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Leq \text{ (at distance } X) = Leq \text{ (at 50 feet)} - 20 * \log_{10} \left( \frac{X}{50} \right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA.

Table J shows the nearest uses to the project site, their distance from the construction activities, and noise levels expected during construction when site preparation occurs at the nearest edge of construction and when pile driving activities occur for the nearest on-site building. These noise level projections do not take into account intervening topography or barriers. Appendix C provides the construction information in developing the construction noise levels and the model printouts from the FHWA Roadway Construction Noise Model version 1.1.

**Table J: Potential Construction Noise Impacts at Nearest Receptor**

Receptor (Location)	Construction Phase	Composite Noise Level (dBA $L_{eq}$ ) at 50 feet	Distance (feet)	Composite Noise Level (dBA $L_{eq}$ )
Residential (South)	Paving	86.5	240	72.9
	Building Construction With Pile Driving	94.7	260	80.4
Commercial (East)	Paving	86.5	45	87.4
	Building Construction With Pile Driving	94.7	85	90.1

Source: Compiled by LSA (2019).

dBA  $L_{eq}$  = average A-weighted hourly noise level

It is expected that composite noise levels during construction at the nearest residential land uses to the south would reach 72.9 dBA  $L_{eq}$  and 80.4 dBA  $L_{eq}$  during the paving and building construction with pile driving phases, respectively. It is expected that composite noise levels during construction at the nearest commercial land uses to the east would reach 87.4 dBA  $L_{eq}$  and 90.1 dBA  $L_{eq}$  during the paving and building construction with pile driving phases, respectively. These predicted noise levels would only occur when all construction equipment is operating simultaneously at the closest point of construction and therefore, are assuming to be rather conservative in nature.

While construction-related short-term noise levels have the potential to be higher than existing ambient noise levels in the project area under existing conditions, the noise impacts would no longer occur once project construction is completed. At receptors near I-405, hourly average construction noise levels during the grading phase would be louder than or similar to existing ambient daytime (7:00 a.m. to 7:00 p.m.) hourly average noise levels of 66.7 to 76.7 dBA  $L_{eq}$  measured at LT-1. Meanwhile, at receptors farther away from I-405, hourly average construction

noise levels during the grading phase would at times be louder than the existing ambient daytime hourly average noise levels of 54.3 to 64.9 dBA  $L_{eq}$  measured at LT-4.

As stated above, noise impacts associated with construction activities are regulated by the City's noise ordinance. The proposed project will be required to comply with the construction hours specified in the City's Noise Ordinance, which states that construction activities are allowed between 7:00 a.m. and 7:00 p.m., Monday through Friday and from 9:00 a.m. to 6:00 p.m. on Saturday. No construction is permitted outside of these hours or on Sundays and specified federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. In addition, construction-related noise impacts would remain below the 90 dBA  $L_{eq}$  and 100 dBA  $L_{eq}$  1-hour construction noise level criteria as established by the FTA for residential and commercial land uses, respectively, and therefore would be less than significant.

### SHORT-TERM CONSTRUCTION VIBRATION IMPACTS

Ground-borne noise and vibration from construction activity would be mostly low to moderate. While there is currently limited information regarding vibration source levels, to provide a comparison of vibration levels expected for a project of this size, as shown in Table K, a large bulldozer would generate approximately 0.089 PPV in/sec of ground borne vibration and a typical impact pile driver would generate 0.644 PPV in/sec of ground-borne vibration when measured at 25 feet, based on the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

**Table K: Vibration Source Amplitudes for Construction Equipment**

Equipment		Reference PPV (in/sec) at 25 feet
Pile Driver	(impact, upper range)	1.518
	(impact, typical)	0.644
Hoe Ram		0.089
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

FTA = Federal Transit Administration

in/sec = inches per second

PPV = peak particle velocity

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$$

## Construction Vibration Damage Potential

As shown above in Table E, it would take a minimum of 0.12 in/sec PPV to cause any potential building damage for extremely susceptible buildings, a minimum of 0.2 in/sec PPV for a non-engineered timber and masonry building, and a minimum of 0.3 in/sec PPV for an engineered concrete or masonry building.

The closest structures to the project site are the existing commercial buildings to the east, approximately 85 ft from the proposed pile driving activities. These buildings are assumed to be engineered concrete and masonry. Using the equations above, the operation of a large bulldozer would generate ground-borne vibration levels of 0.014 in/sec PPV and a typical pile driver would generate ground-borne vibration levels of 0.242 in/sec PPV; however, those levels would not exceed the 0.3 in/sec PPV guideline that is considered safe for an engineered concrete or masonry building and therefore would be less than significant.

## LONG-TERM NOISE IMPACTS

### Traffic Noise Impacts to Off-Site Receivers

The guidelines included in the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) were used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Tables L, M, and N provide the traffic noise levels for the existing with and without project, future short-term cumulative year (2027) with and without project, and buildout-year (2040) with and without project scenarios, respectively. These noise levels represent the worst-case scenario, which assumes no shielding is provided between the traffic and the location where the noise contours are drawn. The without and with project scenario traffic volumes were obtained from the *Traffic Impact Analysis* (LSA 2019b). Appendix B provides the specific assumptions used in developing these noise levels and model printouts.

Tables L, M, and N show that the increase in project-related traffic noise would be no greater than 0.3 dBA, except for increases of up to 4.1 dBA along Sunflower Avenue. Noise level increases above 3.0 dBA may be perceptible to some people in an outdoor environment, but the expected increase is less than the readily perceptible threshold of 5.0 dBA. Additionally, all uses along Sunflower Avenue are commercial in nature and do not have noise-sensitive exterior areas. Therefore, traffic noise impacts from project-related traffic on off-site sensitive receptors would be less than significant, and no mitigation measures are required.

### Building Reflection

The project would remove existing buildings and place taller buildings in their place. The taller buildings would potentially expose the residences to the south, across I-405, to higher traffic noise levels due to reflection of noise off the new building façade. To determine the future noise impacts from building reflection to the noise sensitive uses, a 3-D noise model, SoundPLAN, was used to incorporate the site topography, future traffic volumes, and reduction provided by the existing noise

**Table L: Existing Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Talbert Avenue west of Euclid Street	32,620	85	167	353	69.7	32,930	85	168	355	69.7	0.0
Talbert Avenue from Euclid Street to Newhope Street	33,960	87	172	363	69.8	34,650	88	174	367	69.9	0.1
MacArthur Boulevard/ Talbert Avenue from Newhope Street to Mt. Washington Street	38,195	92	185	392	70.3	38,960	93	187	397	70.4	0.1
MacArthur Boulevard/ Talbert Avenue from Mt. Washington Street to Hyland Avenue	45,685	101	207	441	71.3	46,455	102	209	446	71.3	0.0
MacArthur Boulevard from Hyland Avenue to Harbor Boulevard	31,190	70	135	283	68.3	31,190	70	135	283	68.3	0.0
MacArthur Boulevard from Harbor Boulevard to Fairview Street	27,175	66	124	258	67.7	27,175	66	124	258	67.7	0.0
Euclid Street from Talbert Avenue to Newhope Street	16,065	< 50	108	222	66.7	16,095	< 50	108	222	66.7	0.0
Euclid Street from Newhope Street to Ellis Avenue	19,505	65	121	252	67.6	19,545	65	121	252	67.6	0.0
West Lake Center Drive/Scenic Avenue west of Harbor Boulevard	4,740	< 50	< 50	69	59.4	4,710	< 50	< 50	68	59.4	0.0
West Lake Center Drive /Scenic Avenue east of Harbor Boulevard	5,850	< 50	< 50	75	61.3	5,850	< 50	< 50	75	61.3	0.0
Sunflower Avenue west of Project Driveway 1	2,480	< 50	< 50	< 50	49.8	2,440	< 50	< 50	< 50	49.7	-0.1
Sunflower Avenue from Project Driveway 1 to Project Driveway 2	2,500	< 50	< 50	57	58.1	4,660	< 50	< 50	83	60.8	2.7
Sunflower Avenue from Project Driveway 2 to Project Driveway 3	2,565	< 50	< 50	58	58.2	6,910	< 50	< 50	106	62.5	4.3
Sunflower Avenue from Project Driveway 3 to Hyland Avenue	4,830	< 50	< 50	84	60.9	11,425	< 50	71	146	64.7	3.8
Sunflower Avenue from Hyland Avenue to Harbor Boulevard	10,480	< 50	67	138	64.3	14,585	< 50	82	171	65.7	1.4
Sunflower Avenue from Harbor Boulevard to Susan Street	15,635	< 50	86	179	66.1	16,695	< 50	89	187	66.3	0.2



**Table L: Existing Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Sunflower Avenue from Susan Street to Fairview Road	14,590	< 50	82	171	65.8	15,395	< 50	85	177	66.0	0.2
Hyland Avenue from MacArthur Boulevard to Sunflower Avenue	13,560	< 50	79	163	65.4	14,430	< 50	82	170	65.7	0.3
Hyland Avenue from Sunflower Avenue and South Coast Drive	13,350	< 50	78	161	65.4	14,570	< 50	82	171	65.7	0.3
Harbor Boulevard north of Segerstrom Avenue	32,090	84	166	349	69.6	32,440	85	167	352	69.6	0.0
Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard	31,500	83	164	345	69.5	31,850	84	165	348	69.6	0.1
Harbor Boulevard from MacArthur Boulevard to Westlake Center Drive/Scenic Avenue	34,255	87	173	365	69.9	34,640	88	174	367	69.9	0.0
Harbor Boulevard from Westlake Center Drive/Scenic Avenue to Sunflower Avenue	34,450	75	144	302	68.6	34,865	76	145	304	68.7	0.1
Harbor Boulevard from Sunflower Avenue to South Coast Drive	39,850	86	160	333	68.8	42,120	88	166	346	69.0	0.2
Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp	49,665	95	184	385	69.8	51,935	97	189	396	70.0	0.2
Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp	36,170	80	150	312	68.6	37,345	81	153	319	68.7	0.1
Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue	50,120	94	184	387	70.0	50,885	95	186	391	70.0	0.0
Harbor Boulevard south of Gisler Avenue	43,680	87	169	353	69.4	44,360	88	170	357	69.5	0.1
Susan Street from Sunflower Avenue to South Coast Drive	12,950	< 50	63	128	63.8	13,035	< 50	63	128	63.8	0.0
I-405 NB On-Ramp from Hyland Avenue	7,850	55	118	254	69.9	8,090	56	121	259	70.0	0.1
South Coast Drive from Hyland Avenue/I-405 NB Ramps to Harbor Boulevard	16,155	< 50	105	221	67.5	17,135	< 50	109	230	67.7	0.2

**Table L: Existing Traffic Noise Levels Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
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South Coast Drive from Harbor Boulevard to Susan Street	17,130	< 50	109	230	67.7	17,985	56	112	238	67.9	0.2
South Coast Drive from Susan Street to Fairview Street	17,245	< 50	84	175	65.9	17,830	< 50	86	179	66.1	0.2
Fairview Street north of MacArthur Boulevard	34,480	89	174	367	69.7	34,740	89	175	368	69.8	0.1
Fairview Street/Fairview Road from MacArthur Boulevard to Sunflower Avenue	33,470	88	171	359	69.6	33,740	88	172	361	69.6	0.0
Fairview Road from Sunflower Avenue to South Coast Drive	36,500	92	181	381	70.0	36,500	92	181	381	70.0	0.0
Fairview Road from South Coast Drive to I-405 NB Ramps	46,800	105	211	448	71.1	46,920	105	212	449	71.1	0.0
Fairview Road from I-405 NB Ramps to I-405 SB Ramps	43,430	106	204	428	70.2	43,550	106	205	428	70.2	0.0
Fairview Road south of I-405 SB Ramps	37,410	76	151	318	69.2	37,530	76	151	319	69.2	0.0

Source: Compiled by LSA (2020).

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

I-405 = Interstate 405

NB = northbound

SB = southbound

**Table M: Future Short-Term Cumulative Year (2027) Pending Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Talbert Avenue west of Euclid Street	35,800	89	178	375	70.1	36,110	90	179	378	70.1	0.0
Talbert Avenue from Euclid Street to Newhope Street	37,235	91	182	385	70.2	37,910	92	184	390	70.3	0.1
MacArthur Boulevard/ Talbert Avenue from Newhope Street to Mt. Washington Street	42,359	98	198	420	70.8	43,119	99	200	424	70.9	0.1
MacArthur Boulevard/ Talbert Avenue from Mt. Washington Street to Hyland Avenue	50,000	107	220	468	71.6	50,765	108	222	473	71.7	0.1
MacArthur Boulevard from Hyland Avenue to Harbor Boulevard	34,585	74	144	302	68.8	34,585	74	144	302	68.8	0.0
MacArthur Boulevard from Harbor Boulevard to Fairview Street	29,600	69	131	273	68.1	29,600	69	131	273	68.1	0.0
Euclid Street from Talbert Avenue to Newhope Street	17,370	< 50	113	233	67.1	17,400	< 50	113	234	67.1	0.0
Euclid Street from Newhope Street to Ellis Avenue	21,080	67	127	265	67.9	21,120	67	127	265	67.9	0.0
West Lake Center Drive/Scenic Avenue west of Harbor Boulevard	5,170	< 50	< 50	72	59.8	5,140	< 50	< 50	72	59.8	0.0
West Lake Center Drive /Scenic Avenue east of Harbor Boulevard	6,370	< 50	< 50	79	61.7	6,370	< 50	< 50	79	61.7	0.0
Sunflower Avenue west of Project Driveway 1	2,680	< 50	< 50	< 50	50.1	2,640	< 50	< 50	< 50	50.0	-0.1
Sunflower Avenue from Project Driveway 1 to Project Driveway 2	2,700	< 50	< 50	60	58.4	4,870	< 50	< 50	85	61.0	2.6
Sunflower Avenue from Project Driveway 2 to Project Driveway 3	2,760	< 50	< 50	61	58.5	7,130	< 50	< 50	108	62.6	4.1
Sunflower Avenue from Project Driveway 3 to Hyland Avenue	5,250	< 50	< 50	89	61.3	11,890	< 50	73	150	64.9	3.6
Sunflower Avenue from Hyland Avenue to Harbor Boulevard	11,725	< 50	72	148	64.8	15,850	< 50	86	180	66.1	1.3
Sunflower Avenue from Harbor Boulevard to Susan Street	19,320	< 50	98	205	67.0	20,385	< 50	101	213	67.2	0.2

**Table M: Future Short-Term Cumulative Year (2027) Pending Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Sunflower Avenue from Susan Street to Fairview Road	17,670	< 50	92	194	66.6	18,480	< 50	95	199	66.8	0.2
Hyland Avenue from MacArthur Boulevard to Sunflower Avenue	14,840	< 50	83	173	65.8	15,710	< 50	86	179	66.1	0.3
Hyland Avenue from Sunflower Avenue and South Coast Drive	14,975	< 50	83	174	65.9	16,210	< 50	88	183	66.2	0.3
Harbor Boulevard north of Segerstrom Avenue	35,360	89	176	372	70.0	35,710	89	177	375	70.1	0.1
Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard	34,800	88	174	368	69.9	35,150	88	176	371	70.0	0.1
Harbor Boulevard from MacArthur Boulevard to Westlake Center Drive/Scenic Avenue	38,570	93	186	394	70.4	38,955	93	187	397	70.4	0.0
Harbor Boulevard from Westlake Center Drive/Scenic Avenue to Sunflower Avenue	38,870	80	156	327	69.2	39,285	80	157	329	69.2	0.0
Harbor Boulevard from Sunflower Avenue to South Coast Drive	45,875	92	175	365	69.4	48,155	94	180	377	69.6	0.2
Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp	58,440	104	203	428	70.5	60,725	106	208	439	70.6	0.1
Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp	41,220	85	163	340	69.1	42,400	86	166	347	69.3	0.2
Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue	56,310	100	198	418	70.5	57,080	100	199	421	70.5	0.0
Harbor Boulevard south of Gisler Avenue	48,595	92	180	379	69.8	49,280	93	182	383	69.9	0.1
Susan Street from Sunflower Avenue to South Coast Drive	13,985	< 50	66	134	64.1	14,070	< 50	66	135	64.2	0.1
I-405 NB On-Ramp from Hyland Avenue	10,500	67	143	309	71.2	10,740	68	146	313	71.3	0.1
South Coast Drive from Hyland Avenue/I-405 NB Ramps to Harbor Boulevard	19,345	59	118	249	68.2	20,335	60	121	258	68.5	0.3
South Coast Drive from Harbor Boulevard to Susan Street	20,170	60	121	256	68.4	21,035	61	124	263	68.6	0.2
South Coast Drive from Susan Street to Fairview Street	18,805	< 50	89	186	66.3	19,395	< 50	91	190	66.4	0.1

**Table M: Future Short-Term Cumulative Year (2027) Pending Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Fairview Street north of MacArthur Boulevard	38,550	94	187	394	70.2	38,820	95	188	396	70.2	0.0
Fairview Street/Fairview Road from MacArthur Boulevard to Sunflower Avenue	37,535	93	184	388	70.1	37,810	93	185	389	70.1	0.0
Fairview Road from Sunflower Avenue to South Coast Drive	41,195	98	195	412	70.5	41,195	98	195	412	70.5	0.0
Fairview Road from South Coast Drive to I-405 NB Ramps	52,370	112	227	483	71.5	52,490	112	228	484	71.6	0.1
Fairview Road from I-405 NB Ramps to I-405 SB Ramps	48,660	112	219	461	70.7	48,780	113	220	462	70.7	0.0
Fairview Road south of I-405 SB Ramps	41,840	81	162	343	69.7	41,960	81	162	343	69.7	0.0

Source: Compiled by LSA (2020).

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

I-405 = Interstate 405

NB = northbound

SB = southbound

**Table N: Build Out Year (2040) Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Talbert Avenue west of Euclid Street	37,460	91	183	387	70.3	37,770	92	184	389	70.3	0.0
Talbert Avenue from Euclid Street to Newhope Street	39,422	94	189	400	70.5	40,097	95	191	405	70.6	0.1
MacArthur Boulevard/Talbert Avenue from Newhope Street to Mt. Washington Street	45,327	102	207	439	71.1	46,087	103	209	444	71.2	0.1
MacArthur Boulevard/ Talbert Avenue from Mt. Washington Street to Hyland Avenue	53,828	112	230	492	72.0	54,593	113	233	496	72.0	0.0
MacArthur Boulevard from Hyland Avenue to Harbor Boulevard	36,313	76	148	312	69.0	36,313	76	148	312	69.0	0.0
MacArthur Boulevard from Harbor Boulevard to Fairview Street	31,080	70	135	282	68.3	31,080	70	135	282	68.3	0.0
Euclid Street from Talbert Avenue to Newhope Street	19,733	65	122	254	67.6	19,763	65	122	254	67.6	0.0
Euclid Street from Newhope Street to Ellis Avenue	23,760	71	137	286	68.4	23,800	71	137	287	68.4	0.0
West Lake Center Drive/Scenic Avenue west of Harbor Boulevard	5,453	< 50	< 50	75	60.1	5,423	< 50	< 50	74	60.0	-0.1
West Lake Center Drive /Scenic Avenue east of Harbor Boulevard	6,689	< 50	< 50	82	61.9	6,689	< 50	< 50	82	61.9	0.0
Sunflower Avenue west of Project Driveway 1	2,891	< 50	< 50	< 50	50.4	2,851	< 50	< 50	< 50	50.4	0.0
Sunflower Avenue from Project Driveway 1 to Project Driveway 2	2,912	< 50	< 50	63	58.8	5,082	< 50	< 50	87	61.2	2.4
Sunflower Avenue from Project Driveway 2 to Project Driveway 3	2,973	< 50	< 50	63	58.8	7,343	< 50	< 50	110	62.8	4.0
Sunflower Avenue from Project Driveway 3 to Hyland Avenue	5,584	< 50	< 50	92	61.6	12,224	< 50	74	152	65.0	3.4
Sunflower Avenue from Hyland Avenue to Harbor Boulevard	12,286	< 50	74	153	65.0	16,411	< 50	88	185	66.3	1.3
Sunflower Avenue from Harbor Boulevard to Susan Street	20,453	< 50	101	213	67.2	21,518	< 50	105	220	67.4	0.2

**Table N: Build Out Year (2040) Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
Sunflower Avenue from Susan Street to Fairview Road	18,571	< 50	95	200	66.8	19,381	< 50	98	206	67.0	0.2
Hyland Avenue from MacArthur Boulevard to Sunflower Avenue	15,580	< 50	85	178	66.0	16,450	< 50	88	185	66.3	0.3
Hyland Avenue from Sunflower Avenue and South Coast Drive	15,783	< 50	86	180	66.1	17,018	< 50	90	189	66.4	0.3
Harbor Boulevard north of Segerstrom Avenue	37,128	91	182	385	70.2	37,478	91	183	387	70.3	0.1
Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard	36,614	90	180	381	70.2	36,964	91	181	383	70.2	0.0
Harbor Boulevard from MacArthur Boulevard to Westlake Center Drive/ Scenic Avenue	40,498	95	192	407	70.6	40,883	96	193	410	70.6	0.0
Harbor Boulevard from Westlake Center Drive/Scenic Avenue to Sunflower Avenue	40,825	82	160	338	69.4	41,240	82	161	340	69.4	0.0
Harbor Boulevard from Sunflower Avenue to South Coast Drive	48,167	94	180	377	69.6	50,447	96	185	389	69.8	0.2
Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp	62,077	107	211	446	70.7	64,362	109	216	456	70.9	0.2
Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp	43,281	87	168	351	69.3	44,461	88	171	358	69.5	0.2
Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue	59,125	102	204	431	70.7	59,895	103	206	435	70.8	0.1
Harbor Boulevard south of Gisler Avenue	51,024	95	186	391	70.1	51,709	95	187	395	70.1	0.0
Susan Street from Sunflower Avenue to South Coast Drive	15,209	< 50	69	142	64.5	15,294	< 50	69	142	64.5	0.0
I-405 NB On-Ramp from Hyland Avenue	11,025	69	148	319	71.4	11,265	70	150	323	71.5	0.1
South Coast Drive from Hyland Avenue/ I-405 NB Ramps to Harbor Boulevard	20,312	60	121	257	68.5	21,302	62	125	266	68.7	0.2
South Coast Drive from Harbor Boulevard to Susan Street	22,289	63	129	274	68.9	23,154	65	132	281	69.0	0.1

**Table N: Build Out Year (2040) Without and With Project**

Roadway Segment	Without Project Traffic Conditions					With Project Traffic Conditions					
	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	ADT	Centerline to 70 dBA CNEL (ft)	Centerline to 65 dBA CNEL (ft)	Centerline to 60 dBA CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase from Baseline Conditions
South Coast Drive from Susan Street to Fairview Street	20,139	< 50	93	194	66.6	20,729	< 50	94	198	66.7	0.1
Fairview Street north of MacArthur Boulevard	40,478	97	193	407	70.4	40,748	97	194	409	70.5	0.1
Fairview Street/Fairview Road from MacArthur Boulevard to Sunflower Avenue	39,412	96	190	400	70.3	39,687	96	190	402	70.3	0.0
Fairview Road from Sunflower Avenue to South Coast Drive	43,267	100	201	426	70.7	43,267	100	201	426	70.7	0.0
Fairview Road from South Coast Drive to I-405 NB Ramps	54,989	115	235	499	71.8	55,109	115	235	499	71.8	0.0
Fairview Road from I-405 NB Ramps to I-405 SB Ramps	51,093	115	226	476	70.9	51,213	115	226	477	70.9	0.0
Fairview Road south of I-405 SB Ramps	46,907	86	174	370	70.2	47,027	86	174	370	70.2	0.0

Source: Compiled by LSA (2020).

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

I-405 = Interstate 405

NB = northbound

SB = southbound



barrier on the southbound side of I-405. Traffic volumes for I-405 were obtained from the Caltrans PeMS (Caltrans 2019). The vehicle mix on I-405 was obtained from *Annual Average Daily Truck Traffic on the California State Highway System* (Caltrans 2018). Appendix D shows that the increase in traffic noise levels due to increased reflection of traffic noise from I-405 would be no greater than 0.6 dBA at the residences to the south. A noise level increase of 3 dBA is considered barely perceptible in an outdoor environment, and an increase of 1 dBA cannot be perceived except in carefully controlled interior setting during laboratory experiments. Therefore, traffic noise impacts from the project-related increase in noise reflection would be less than significant, and no mitigation measures are required.

### Heating, Ventilation and Air Conditioning Equipment

The project would have rooftop heating, ventilation, and air conditioning (HVAC) units. The HVAC equipment could operate 24 hours per day. Rooftop HVAC equipment would generate a noise level of 71.2 dBA  $L_{eq}$  at 5 ft.

The closest off-site uses are the residences on the southbound side of I-405, 350 ft from the nearest location where HVAC would potentially be located. In addition, on-site HVAC equipment would be shielded by 4 ft parapets and rooflines that would provide a noise level reduction. SoundPLAN modeling demonstrates that, at the nearest off-site residential land uses, noise levels from HVAC would approach 30 dBA  $L_{eq}$ , as shown in Appendix B. This noise level would not exceed the City's exterior daytime (7:00 a.m. to 11:00 p.m.) and nighttime (11:00 p.m. to 7:00 a.m.) noise standards of 55 dBA  $L_{eq}$  and 50 dBA  $L_{eq}$ , respectively. In addition, these noise levels would be well below the typical nighttime hourly noise level of up to 58 dBA  $L_{eq}$  generated by traffic on I-405, which would overshadow any project-related HVAC noise at the nearest residences.

### Loading Area Activities

The project would have truck loading area interior to the project as well as one on the southeastern portion of the project site. To be conservative, the analysis assumes that loading activities could occur during any hour of the day and could for a period of up to 30 minutes. Truck loading activities would generate a noise level of 95 dBA  $L_{max}$  at 5 ft.

The closest off-site uses are the residences on the southbound side of I-405, 480 ft from the nearest loading area location. SoundPLAN modeling demonstrates that, at the nearest off-site residential land uses, noise levels from loading activities would approach 47 dBA  $L_{eq}$ , as shown in Appendix D. It is assumed that loading area activities would only occur during daytime hours; therefore, this noise level would not exceed the City's exterior daytime (7:00 a.m. to 11:00 p.m.) noise standard of 55 dBA  $L_{eq}$ . Although nighttime loading is not expected to occur, the analysis indicates that this noise level would also not exceed the City's nighttime (11:00 p.m. to 7:00 a.m.) noise standards 50 dBA  $L_{eq}$ . In addition, these noise levels would be well below the measured typical nighttime hour noise level of up to 58 dBA  $L_{eq}$  generated by traffic on I-405, which would overshadow loading area noise at the nearest residences.

## Composite Noise Levels

Table O presents a summary of the composite noise levels at the residential uses to the south. The results show that noise impacts associated with the proposed project would not cause an increase in noise experienced at the residential uses to the south assuming a conservative scenario in which both HVAC and loading area operations would occur during nighttime hours.

**Table O: Composite Noise Levels at Nearest Receptor**

Receptor Location	Stationary Noise Sources		Traffic Noise <sup>1</sup> (dBA L <sub>eq</sub> )	Composite Noise Level (dBA L <sub>eq</sub> )
	HVAC Equipment (dBA L <sub>eq</sub> )	Loading Area (dBA L <sub>eq</sub> )		
Residential Uses south of the I-405 Freeway	30.0	47.0	58.0	58.0

Source: Compiled by LSA (2020).

<sup>1</sup> Typical nighttime noise levels from I-405 as modeled at the residential uses to the south as measured at the center of the rear yards as shown in Appendix D.

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous sound level

## LONG-TERM VIBRATION IMPACTS

The streets surrounding the project area are paved, smooth, and unlikely to cause significant ground-borne vibration. In addition, the rubber tires and suspension systems of buses and other on-road vehicles make it unusual for on-road vehicles to cause ground-borne noise or vibration problems. It is therefore assumed that no such vehicular vibration impacts would occur and no vibration impact analysis of on-road vehicles is necessary. Additionally, once constructed, the proposed project would not contain uses that would generate ground borne vibration.

## CUMULATIVE NOISE AND VIBRATION IMPACTS

As shown in Figure 4-2 of the Traffic Impact Analysis, 20 planned or reasonably foreseeable projects were considered in the cumulative analysis for the proposed project. The closest project to the proposed project would be the Harbor Gateway Industrial Building located at 1585 MacArthur Boulevard, over 2,000 ft away to the north. At this distance, it is expected that short-term construction and long-term operational noise impacts related to the Harbor Gateway Industrial Building would not be audible at the sensitive receptors potentially affected by the proposed project; therefore, there would be no cumulative impacts.

## CONCLUSION

### Off-Site Construction Impacts

As described in the analysis above, construction of the proposed project would not result in short-term noise and vibration impacts on adjacent land uses. Construction activities would be short-term and would be less than significant. Therefore, no mitigation measures are required.

### Off-Site Operations Impacts

The proposed project would not result in a substantial increase in traffic volumes or reflection of traffic noise; therefore, the proposed project would not result in or generate a substantial long-term traffic noise level increase. Implementation of the proposed project would also generate on-site stationary noise from HVAC equipment. However, potential stationary source noise impacts would be less than significant.

### Project Design Features

For consistency with city standards, the project contractor shall implement the following measures during construction of the project:

- Prior to issuance of grading permits, the project Applicant shall incorporate the following measures as noted on the grading plan cover sheet to ensure the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.
  - Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturers' standards.
  - Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
  - The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the proposed project site whenever feasible.
- Consistent with Section 13-279 of the City's Municipal Code, all noise-producing construction activities shall be limited to the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday. No construction shall be permitted outside of these hours or on Sundays and the following specified federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, unless a temporary waiver is granted by the development services director or his/her authorized representative.

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## **APPENDIX A**

### **LONG-TERM AND SHORT-TERM NOISE MEASUREMENT SHEETS**

## Noise Measurement Survey – 24 HR

Project Number: RSE1901

Project Name: One Metro West

Test Personnel: Daniel Kaufman

Equipment: Larson Davis Spark 706RC

Site Number: LT-1 Date: 3/29-4/2/2019

Time: From 10:00 AM To 4:00 PM

Site Location: 1683 Sunflower Avenue, at the southeast corner of the property.

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Primary Noise Sources: Traffic on I-405.

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Comments:

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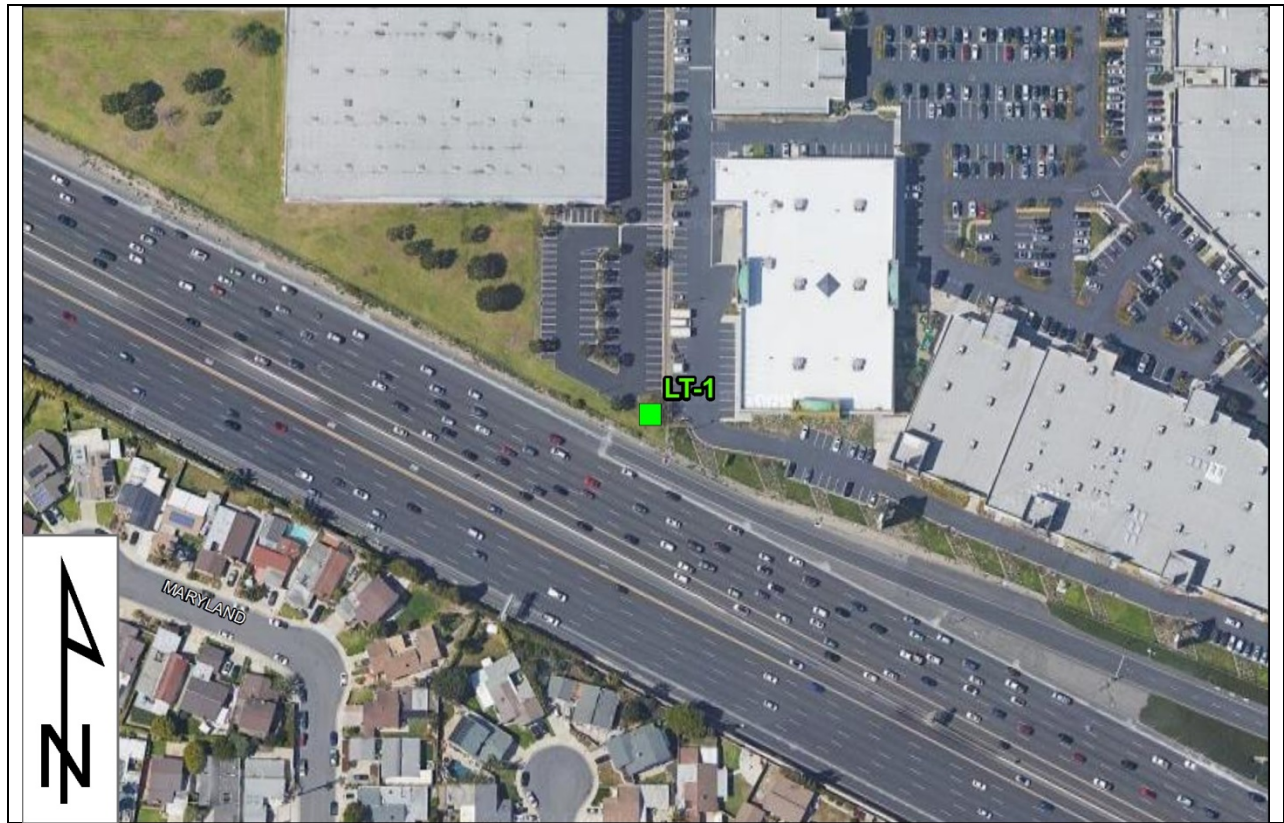
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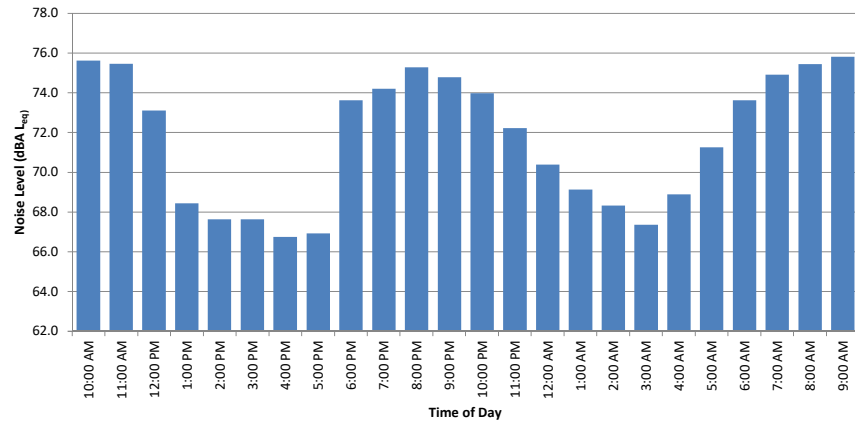
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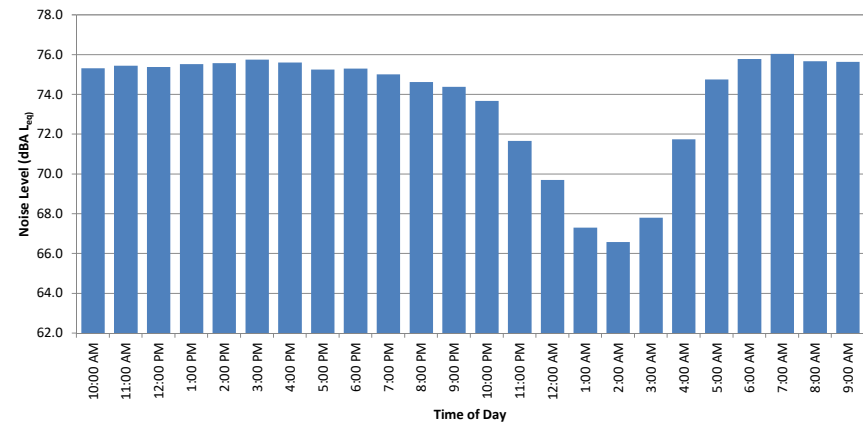
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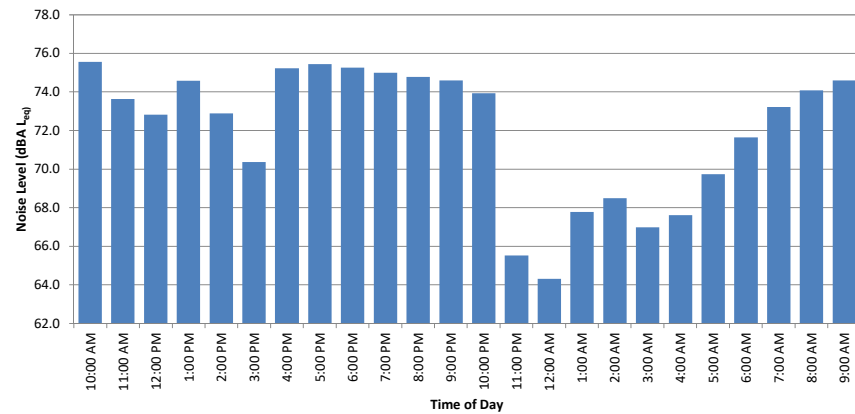
Long-Term 24-Hour Noise Monitoring Location: LT-1 - Day 1



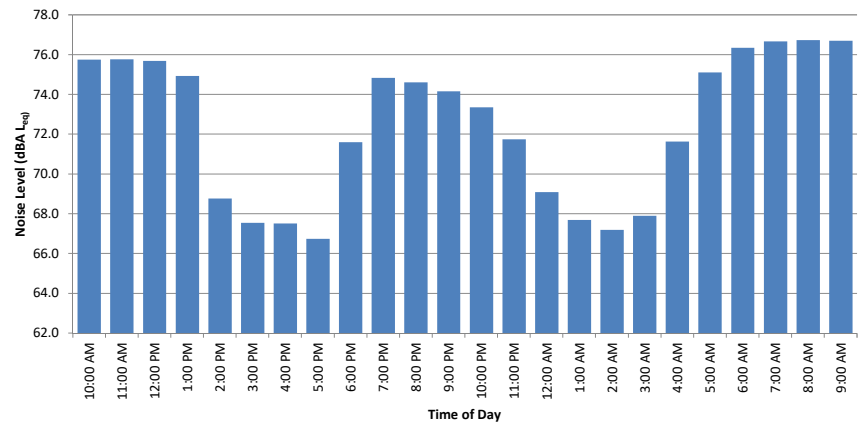
Long-Term 24-Hour Noise Monitoring Location: LT-1 - Day 3



Long-Term 24-Hour Noise Monitoring Location: LT-1 - Day 2



Long-Term 24-Hour Noise Monitoring Location: LT-1 - Day 4





## Noise Measurement Survey – 24 HR

Project Number: RSE1901

Project Name: One Metro West

Test Personnel: Daniel Kaufman

Equipment: Larson Davis Spark 706RC

Site Number: LT-2 Date: 3/29-4/2/2019

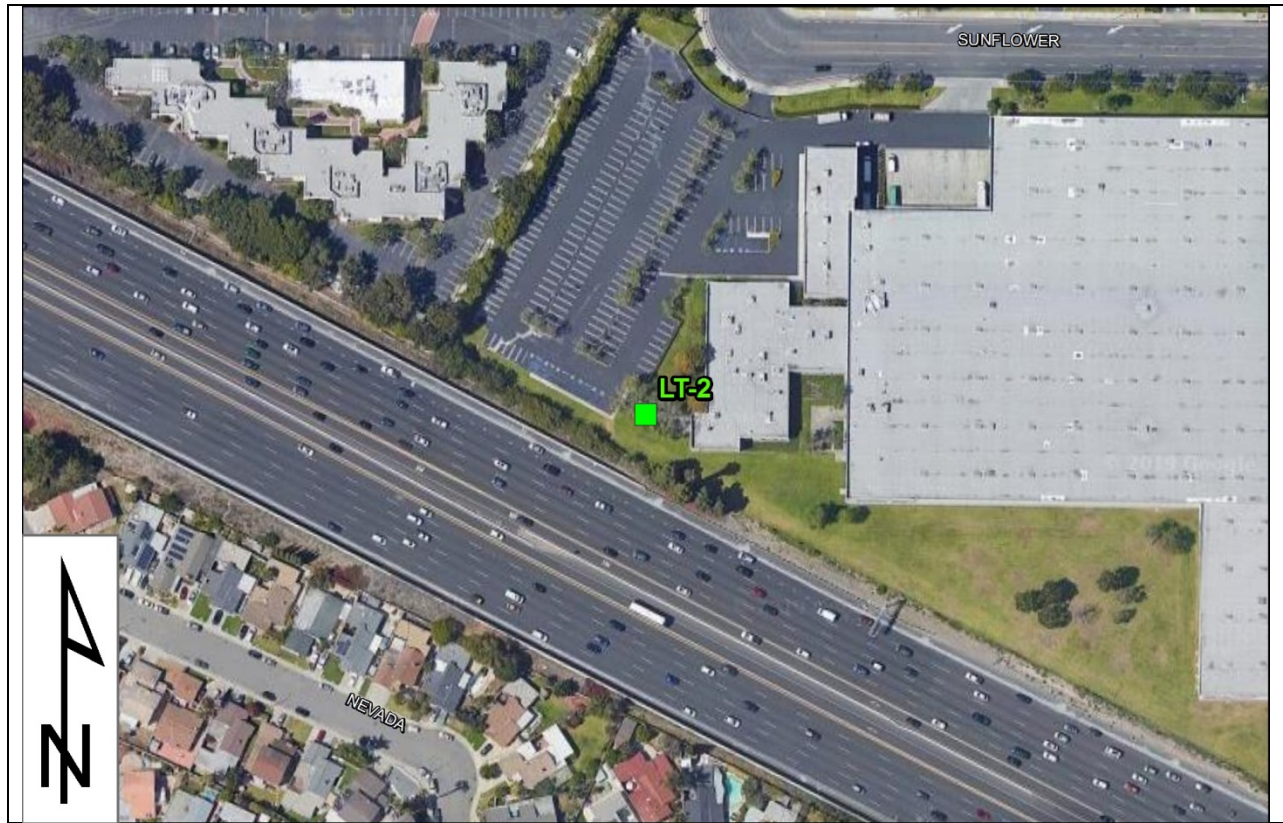
Time: From 10:00 AM To 4:00 PM

Site Location: 1683 Sunflower Avenue, south of the walkway to the entrance of Robinson  
Pharma., Inc.

Primary Noise Sources: Traffic on I-405.

Comments: Lower in elevation than I-405, resulting in shielding by terrain.

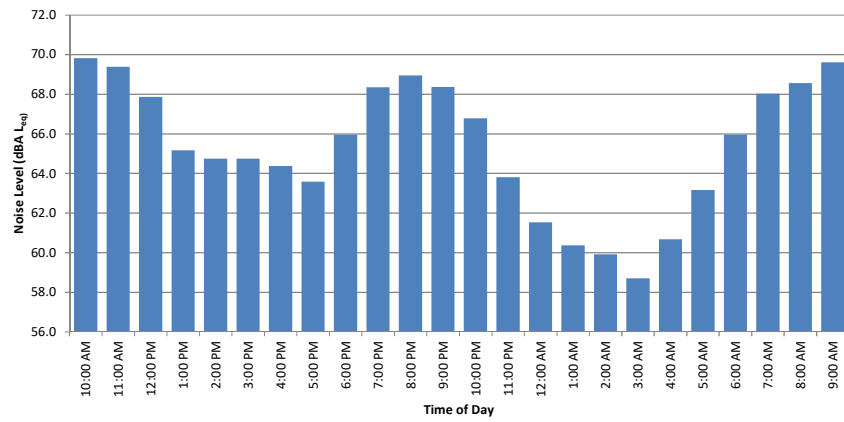
Sketch:



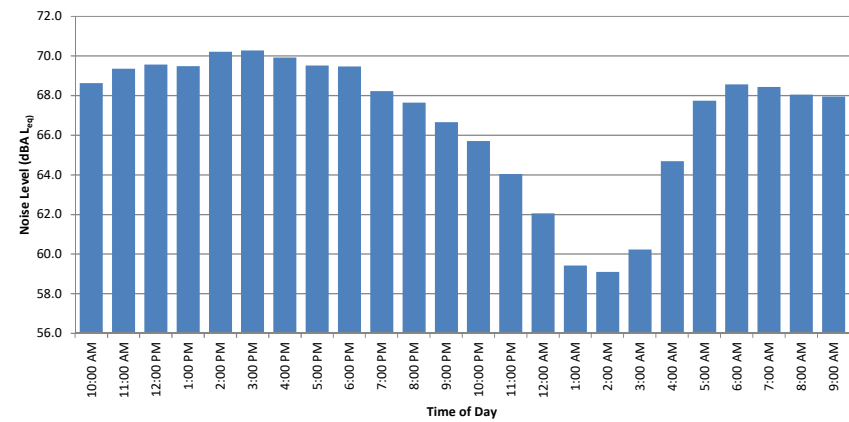
Location Photo:



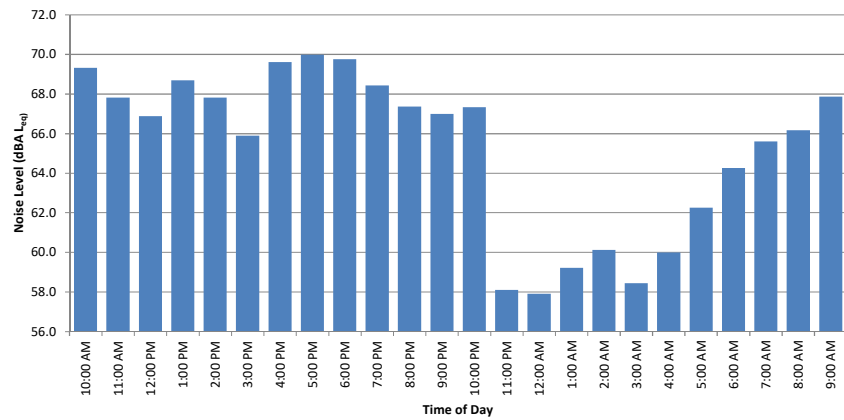
Long-Term 24-Hour Noise Monitoring Location: LT-2 - Day 1



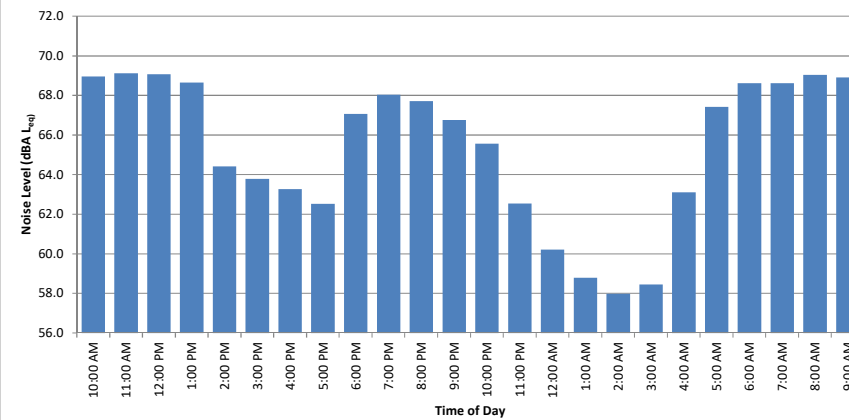
Long-Term 24-Hour Noise Monitoring Location: LT-2 - Day 3



Long-Term 24-Hour Noise Monitoring Location: LT-2 - Day 2



Long-Term 24-Hour Noise Monitoring Location: LT-2 - Day 4



## Noise Measurement Survey – 24 HR

Project Number: RSE1901

Test Personnel: Daniel Kaufman

Project Name: One Metro West

Equipment: Larson Davis Spark 706RC

Site Number: LT-3 Date: 3/29-4/2/2019

Time: From 9:00 AM To 4:00 PM

Site Location: 1683 Sunflower Avenue, in a tree approximately 60 feet from Sunflower Avenue,  
near the northwestern portion of the property.

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Primary Noise Sources: Distant traffic on I-405 and occasional vehicles on Sunflower Avenue.

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Comments: \_\_\_\_\_

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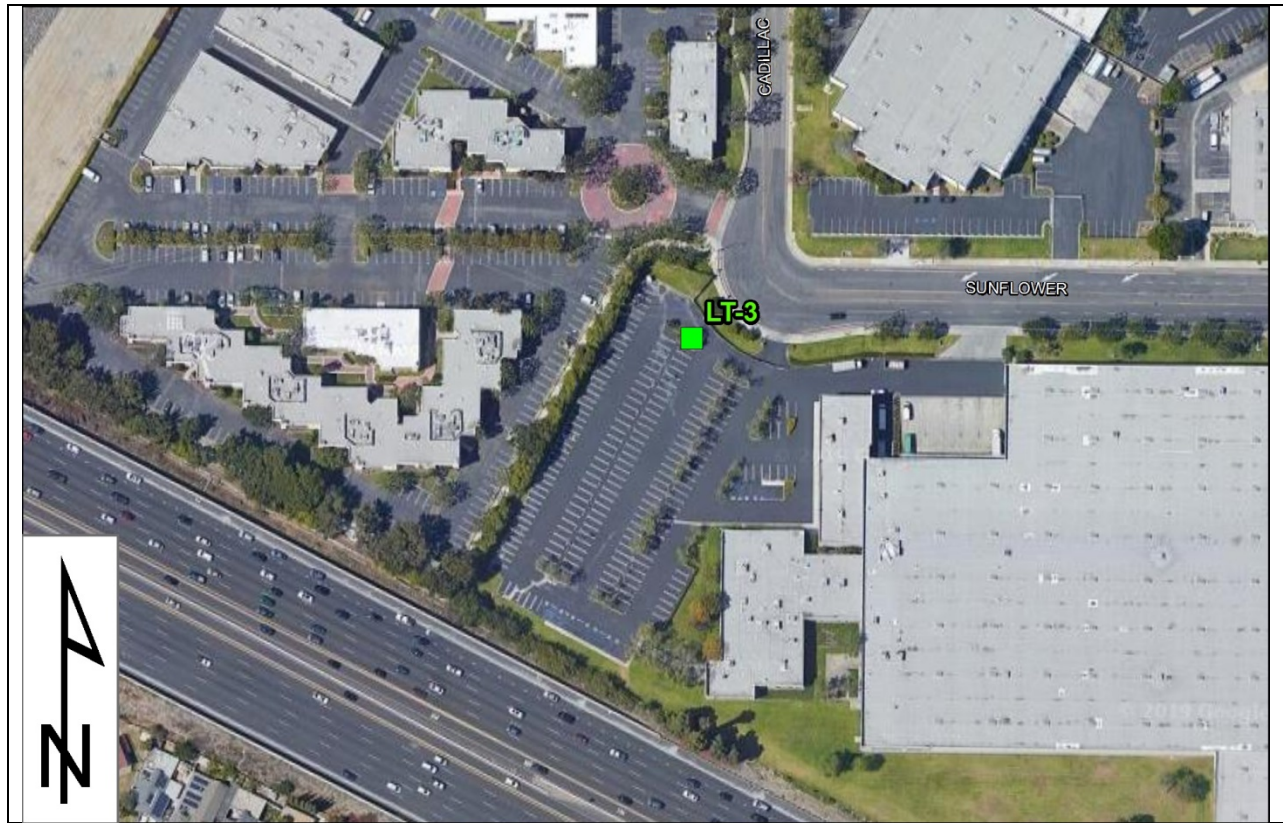
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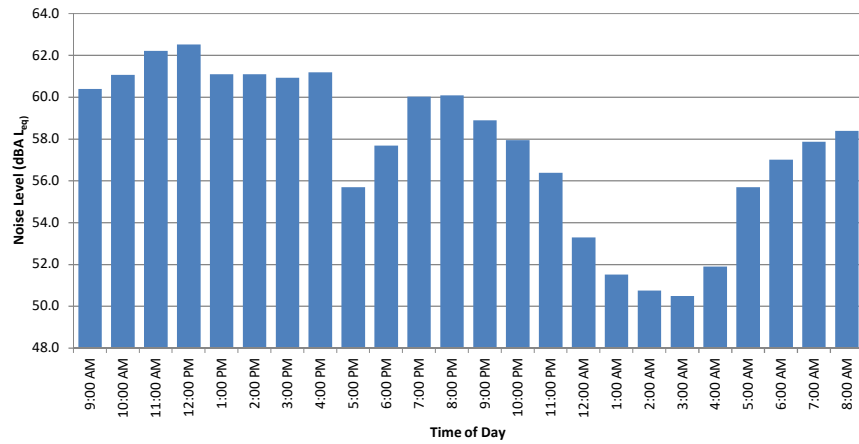
Sketch:



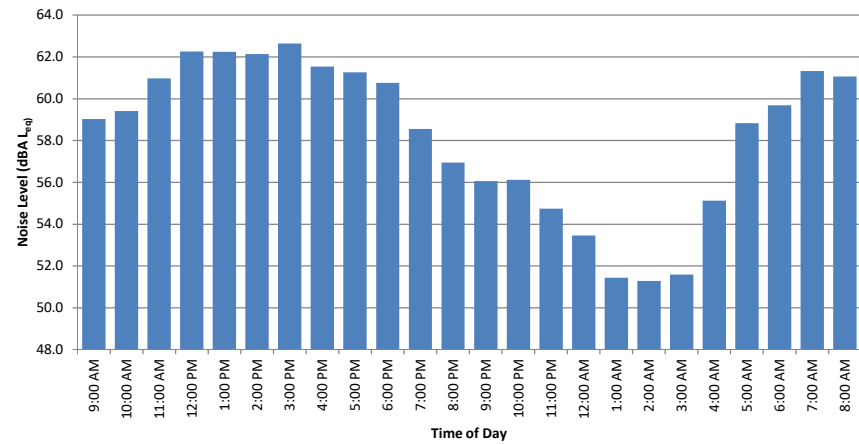
Location Photo:



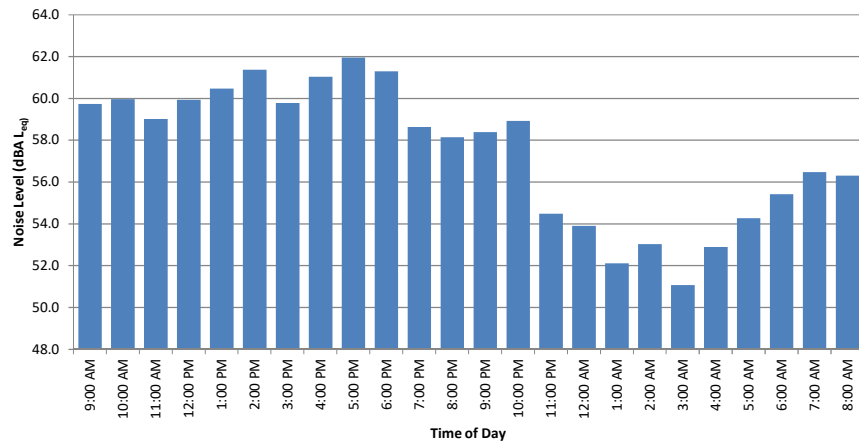
Long-Term 24-Hour Noise Monitoring Location: LT-3 - Day 1



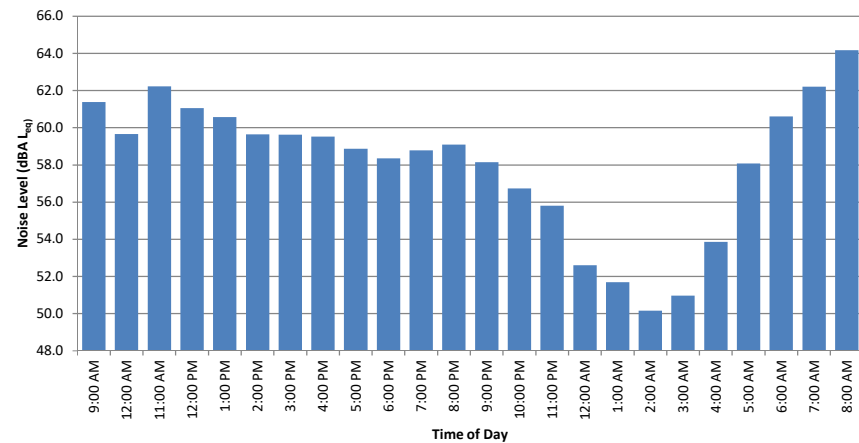
Long-Term 24-Hour Noise Monitoring Location: LT-3 - Day 3



Long-Term 24-Hour Noise Monitoring Location: LT-3 - Day 2



Long-Term 24-Hour Noise Monitoring Location: LT-3 - Day 4



## Noise Measurement Survey – 24 HR

Project Number: RSE1901

Test Personnel: Daniel Kaufman

Project Name: One Metro West

Equipment: Larson Davis Spark 706RC

Site Number: LT-4 Date: 3/29-4/2/2019

Time: From 11:00 AM To 4:00 PM

Site Location: 1683 Sunflower Avenue, near the eastern property line, approximately 600 feet north of the southern property line.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Primary Noise Sources: Distant traffic on I-405 and occasional vehicles on Sunflower Avenue.

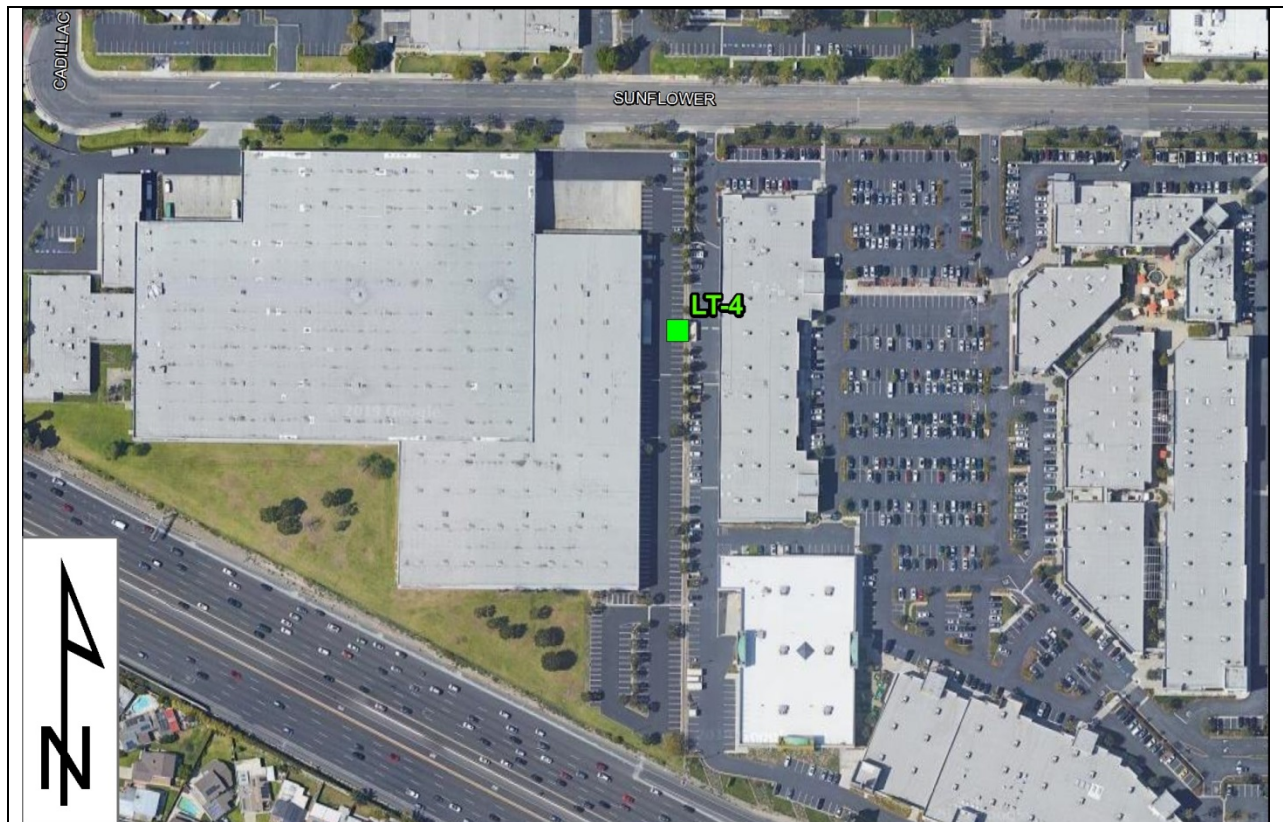
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Sketch:

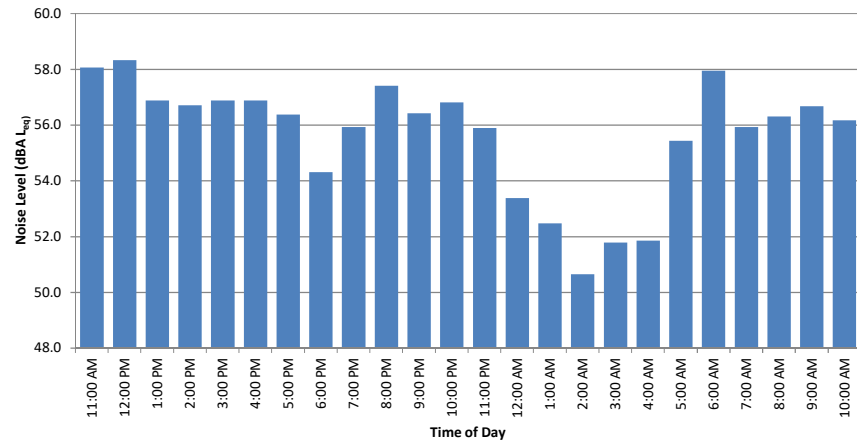


Location Photo:

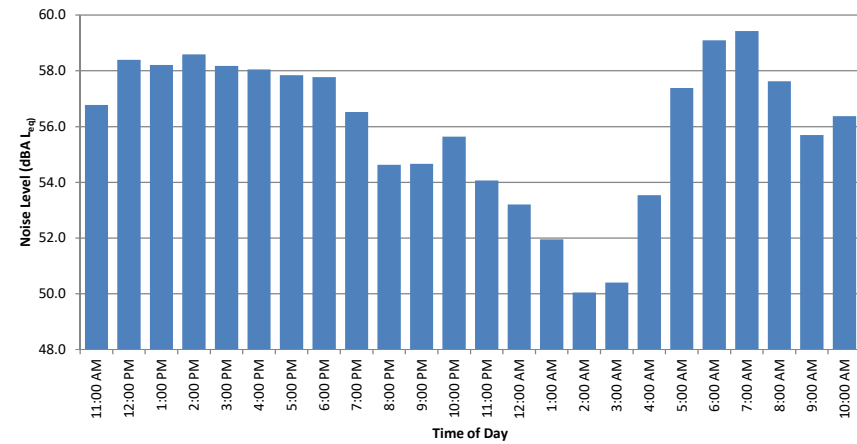




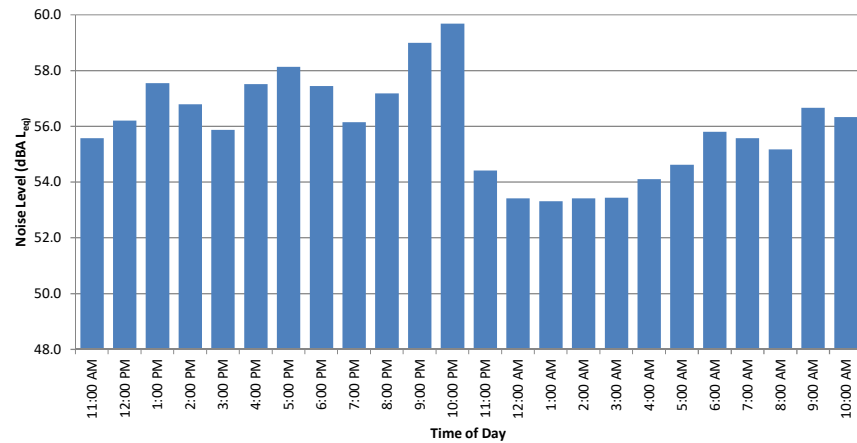
Long-Term 24-Hour Noise Monitoring Location: LT-4 - Day 1



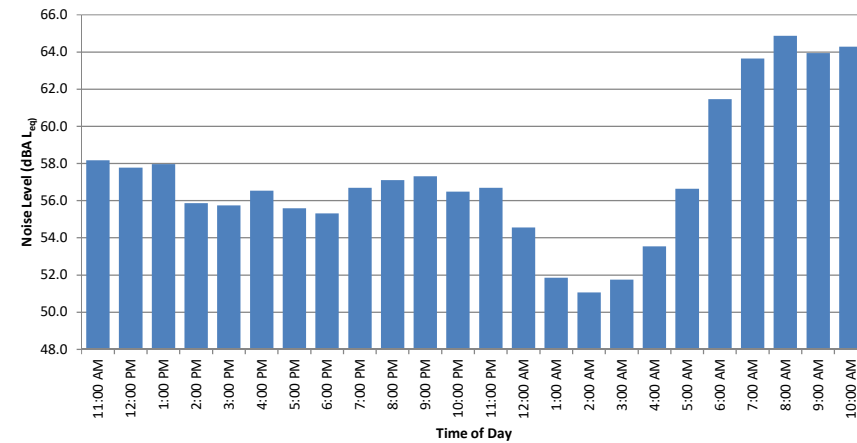
Long-Term 24-Hour Noise Monitoring Location: LT-4 - Day 3



Long-Term 24-Hour Noise Monitoring Location: LT-4 - Day 2



Long-Term 24-Hour Noise Monitoring Location: LT-4 - Day 4



# Noise Measurement Survey

Project Number: RSE1901

Project Name: One Metro West

Test Personnel: Daniel Kaufman

Equipment: Larson Davis 824

Site Number: ST-1 Date: 4/1/2019

Time: From 11:34 AM To 11:54 AM

Site Location: 1683 Sunflower Avenue. South of the building.

Primary Noise Sources: Traffic on I-405.

Comments: \_\_\_\_\_

Adjacent Roadways: I-405.

## Measurement Results

	dba
L <sub>eq</sub>	71.4
L <sub>max</sub>	84.2
L <sub>min</sub>	67.0
L <sub>peak</sub>	99.8
L <sub>2</sub>	44.1
L <sub>8</sub>	72.8
L <sub>25</sub>	71.9
L <sub>50</sub>	71.0
L <sub>90</sub>	69.6
L <sub>99</sub>	68.4

## Atmospheric Conditions:

Maximum Wind Velocity (mph)	7.2
Average Wind Velocity (mph)	3.3
Temperature (F)	77.1
Relative Humidity (%)	31.4
Comments:	

Map:



Location Photo:



# Noise Measurement Survey

Project Number: RSE1901  
Project Name: One Metro West

Test Personnel: Daniel Kaufman  
Equipment: Larson Davis 824

Site Number: ST-2 Date: 4/1/2019 Time: From 11:03 AM To 11:23 AM

Site Location: 1683 Sunflower Avenue. Northwest portion of western parking lot.

Primary Noise Sources: Distant traffic on I-405 and occasional vehicle on Sunflower Avenue.

Comments: \_\_\_\_\_

Adjacent Roadways: I-405 and Sunflower Avenue.

## Measurement Results

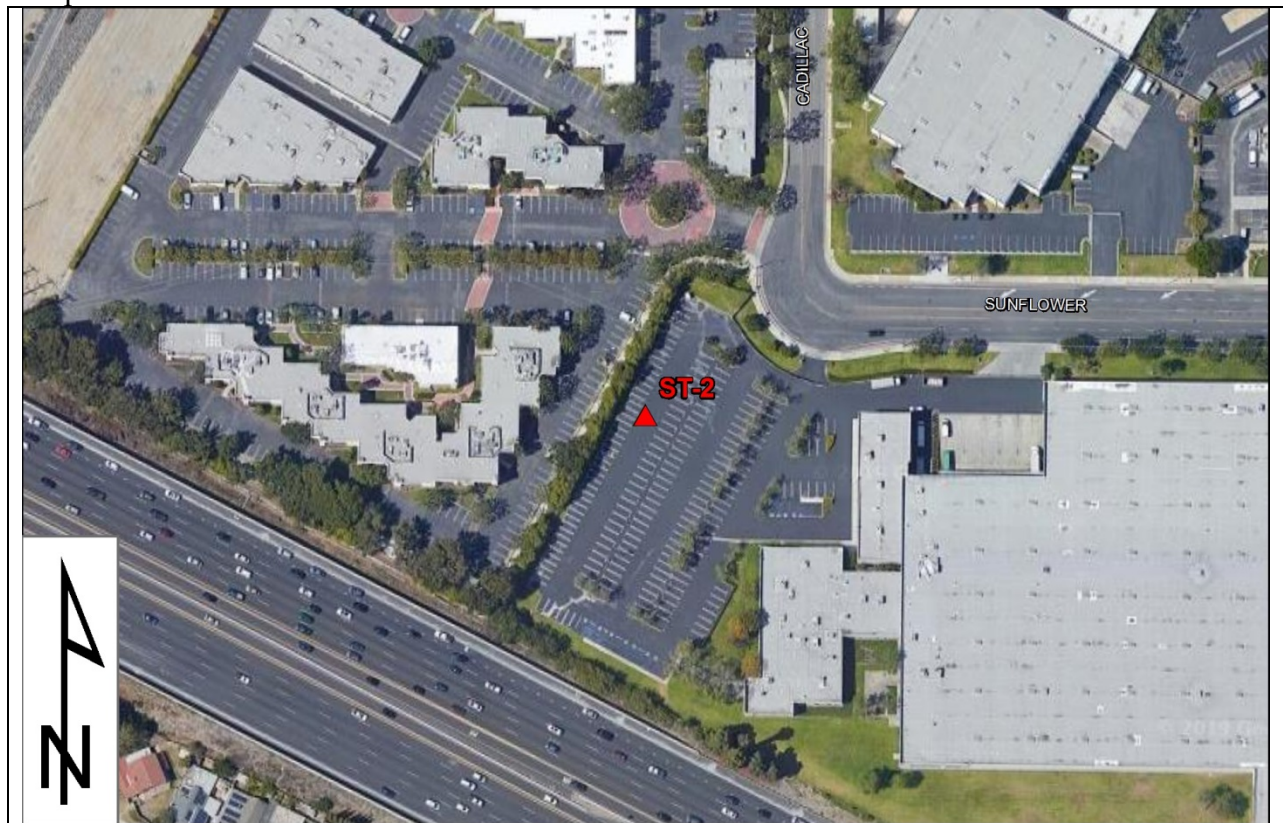
	dBA
L <sub>eq</sub>	59.6
L <sub>max</sub>	66.4
L <sub>min</sub>	54.7
L <sub>peak</sub>	82.1
L <sub>2</sub>	62.7
L <sub>8</sub>	61.2
L <sub>25</sub>	60.1
L <sub>50</sub>	59.2
L <sub>90</sub>	57.6
L <sub>99</sub>	56.2

## Atmospheric Conditions:

Maximum Wind Velocity (mph)	7.4
Average Wind Velocity (mph)	3.1
Temperature (F)	80.1
Relative Humidity (%)	38.7
Comments:	



Map:



Location Photo:



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## **APPENDIX B**

### **FHWA TRAFFIC NOISE MODEL PRINTOUTS**

TABLE Existing (2019)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019  
ROADWAY SEGMENT: Talbert Avenue west of Euclid Street  
NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 32620      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
84.9	167.4	353.1	757.0

---



TABLE Existing (2019)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue from Euclid Street to Newhope Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 33960      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
86.7	171.7	362.6	777.5

---

TABLE Existing (2019)-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Newhope Street  
to Mt. Washington Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38195      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
92.4	185.1	391.8	840.8

---

TABLE Existing (2019)-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Mt. Washington  
Street to Hyland Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 45685      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
101.3	207.2	440.9	947.2

---

TABLE Existing (2019)-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Hyland Avenue to Harbor  
Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31190      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
70.3	135.0	282.6	604.9

---

TABLE Existing (2019)-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Harbor Boulevard to Fairview Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27175      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.8	124.1	258.2	552.0

---

TABLE Existing (2019)-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Talbert Avenue to Newhope Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16065      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	107.8	221.9	473.0

---

TABLE Existing (2019)-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Newhope Street to Ellis Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19505      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.6	121.1	251.8	537.9



TABLE Existing (2019)-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive/Scenic Avenue west of Harbor  
Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4740      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	68.6	140.5

---

TABLE Existing (2019)-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive /Scenic Avenue east of Harbor  
Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5850      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	75.0	160.0

---

TABLE Existing (2019)-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue west of Project Driveway 1

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2480      SPEED (MPH): 15      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing (2019)-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 1 to Project Driveway 2

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2500      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	57.4	115.0

---

TABLE Existing (2019)-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 2 to Project Driveway 3

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2565      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	58.3	116.9

---

TABLE Existing (2019)-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 3 to Hyland Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4830      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	84.4	176.0

---

TABLE Existing (2019)-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10480      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	67.4	137.8	293.2

---



TABLE Existing (2019)-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Harbor Boulevard to Susan Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15635      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	85.7	178.7	382.3

---

TABLE Existing (2019)-17  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Susan Street to Fairview Road

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14590      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	82.1	170.8	365.1

---

TABLE Existing (2019)-18  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from MacArthur Boulevard to Sunflower Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13560      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	78.5	162.9	347.8

---

TABLE Existing (2019)-19  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from Sunflower Avenue and South Coast Drive

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13350      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	77.8	161.2	344.2

---

TABLE Existing (2019)-20  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard north of Segerstrom Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 32090      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
84.1	165.7	349.3	748.8

---

TABLE Existing (2019)-21  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31500      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
83.3	163.8	345.1	739.6

---



TABLE Existing (2019)-22  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from MacArthur Boulevard to Westlake  
Center Drive/Scenic Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34255      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
87.1	172.7	364.7	782.0

---

TABLE Existing (2019)-23  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Westlake Center Drive/Scenic  
Avenue to Sunflower Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34450      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.2	144.3	301.9	646.2

---

TABLE Existing (2019)-24  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 39850      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
85.8	160.4	333.2	711.9

---

TABLE Existing (2019)-25  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 49665      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.3	183.7	384.9	824.0

---

TABLE Existing (2019)-26  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36170      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
79.9	150.1	312.3	667.5

---

TABLE Existing (2019)-27  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 50120      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
93.8	183.8	386.8	829.0

---



TABLE Existing (2019)-28  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard south of Gisler Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43680      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
87.4	168.6	353.4	756.6

---

TABLE Existing (2019)-29  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Susan Street from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 12950      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	63.1	127.9	271.6

---

TABLE Existing (2019)-30  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019  
ROADWAY SEGMENT: I-405 NB On-Ramp from Hyland Avenue  
NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 7850      SPEED (MPH): 65      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
55.1	118.2	254.3	547.6

---

TABLE Existing (2019)-31  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Hyland Avenue/I-405 NB Ramps to Harbor Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16155      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	104.9	221.3	474.5

---

TABLE Existing (2019)-32  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Harbor Boulevard to Susan Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17130      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	108.9	230.0	493.4

---

TABLE Existing (2019)-33  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Susan Street to Fairview Street

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17245      SPEED (MPH): 38      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	84.2	175.5	375.2

---



TABLE Existing (2019)-34  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street north of MacArthur Boulevard

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34480      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
89.0	174.2	366.5	785.4

---

TABLE Existing (2019)-35  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street/Fairview Road from MacArthur Boulevard  
to Sunflower Avenue

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 33470      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
87.6	171.0	359.4	770.0

---

TABLE Existing (2019)-36  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36500      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.7	180.5	380.5	815.7

---

TABLE Existing (2019)-37  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from South Coast Drive to I-405 NB Ramps

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 46800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
105.0	211.4	448.3	962.3

---

TABLE Existing (2019)-38  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from I-405 NB Ramps to I-405 SB Ramps

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43430      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 54      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
106.2	204.2	427.7	915.4

---

TABLE Existing (2019)-39  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road south of I-405 SB Ramps

NOTES: One Metro West - Existing (2019)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37410      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.2	150.8	318.3	682.6

---

TABLE Existing (2019) With Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue west of Euclid Street

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 32930      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
85.3	168.4	355.3	761.8

---



TABLE Existing (2019) With Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue from Euclid Street to Newhope Street

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34650      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
87.7	173.9	367.4	788.0

---

TABLE Existing (2019) With Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Newhope Street  
to Mt. Washington Street

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38960      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
93.5	187.4	397.0	851.9

---

TABLE Existing (2019) With Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Mt. Washington  
Street to Hyland Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 46455      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
102.3	209.4	445.8	957.8

---

TABLE Existing (2019) With Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Hyland Avenue to Harbor  
Boulevard

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31190      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
70.3	135.0	282.6	604.9

---

TABLE Existing (2019) With Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Harbor Boulevard to Fairview Street

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27175      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.8	124.1	258.2	552.0

---

TABLE Existing (2019) With Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Talbert Avenue to Newhope Street

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16095      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	108.0	222.2	473.6

---

TABLE Existing (2019) With Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Newhope Street to Ellis Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19545      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.7	121.3	252.1	538.6

---



TABLE Existing (2019) With Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive/Scenic Avenue west of Harbor  
Boulevard

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4710      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	68.4	140.0

---

TABLE Existing (2019) With Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive /Scenic Avenue east of Harbor  
Boulevard

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5850      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	75.0	160.0

---

TABLE Existing (2019) With Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue west of Project Driveway 1

NOTES: One Metro West - Existing (2019) With Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2440      SPEED (MPH): 15      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 49.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing (2019) With Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 1 to Project Driveway 2

NOTES: One Metro West - Existing (2019) With Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4660      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	82.6	172.0

TABLE Existing (2019) With Project-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 2 to Project Driveway 3

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 6910      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	105.6	222.7

---

TABLE Existing (2019) With Project-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 3 to Hyland Avenue

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11425      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	70.9	145.7	310.5

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TABLE Existing (2019) With Project-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14585      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	82.1	170.8	365.0

TABLE Existing (2019) With Project-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Harbor Boulevard to Susan Street

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16695      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	89.2	186.6	399.3

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TABLE Existing (2019) With Project-17  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Susan Street to Fairview Road

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15395      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	84.8	176.9	378.4

---

TABLE Existing (2019) With Project-18  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from MacArthur Boulevard to Sunflower Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14430      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	81.6	169.6	362.5

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TABLE Existing (2019) With Project-19  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from Sunflower Avenue and South Coast Drive

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14570      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	82.0	170.7	364.8

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TABLE Existing (2019) With Project-20  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard north of Segerstrom Avenue

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 32440      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
84.6	166.8	351.8	754.2

TABLE Existing (2019) With Project-21  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31850      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
83.8	164.9	347.6	745.1

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TABLE Existing (2019) With Project-22  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from MacArthur Boulevard to Westlake  
Center Drive/Scenic Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34640      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
87.6	173.9	367.3	787.9

---

TABLE Existing (2019) With Project-23  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Westlake Center Drive/Scenic  
Avenue to Sunflower Avenue

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34865      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.6	145.3	304.3	651.4

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TABLE Existing (2019) With Project-24  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 42120      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
88.0	165.9	345.5	738.6

---



TABLE Existing (2019) With Project-25  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 51935      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
97.4	188.9	396.4	848.8

---

TABLE Existing (2019) With Project-26  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37345      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
81.1	153.1	318.9	681.8

---

TABLE Existing (2019) With Project-27  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 50885      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
94.5	185.5	390.7	837.4

---

TABLE Existing (2019) With Project-28  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard south of Gisler Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 44360      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
88.1	170.3	357.0	764.4

TABLE Existing (2019) With Project-29  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Susan Street from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13035      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	63.3	128.4	272.8

---

TABLE Existing (2019) With Project-30  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: I-405 NB On-Ramp from Hyland Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 8090      SPEED (MPH): 65      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
56.2	120.6	259.4	558.7

---

TABLE Existing (2019) With Project-31  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Hyland Avenue/I-405 NB Ramps to  
Harbor Boulevard

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17135      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	108.9	230.1	493.5

---

TABLE Existing (2019) With Project-32  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Harbor Boulevard to Susan Street

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17985      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
56.3	112.3	237.5	509.5

---



TABLE Existing (2019) With Project-33  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Susan Street to Fairview Street

NOTES: One Metro West - Existing (2019) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17830      SPEED (MPH): 38      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	85.9	179.3	383.6

---

TABLE Existing (2019) With Project-34  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street north of MacArthur Boulevard

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34740      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
89.3	175.0	368.3	789.3

---

TABLE Existing (2019) With Project-35  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street/Fairview Road from MacArthur Boulevard  
to Sunflower Avenue

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 33740      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
88.0	171.8	361.3	774.1

---

TABLE Existing (2019) With Project-36  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36500      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.7	180.5	380.5	815.7

---

TABLE Existing (2019) With Project-37  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from South Coast Drive to I-405 NB Ramps

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 46920      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
105.1	211.8	449.1	964.0

---

TABLE Existing (2019) With Project-38  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from I-405 NB Ramps to I-405 SB Ramps

NOTES: One Metro West - Existing (2019) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43550      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 54      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
106.3	204.6	428.5	917.1

---

TABLE Existing (2019) With Project-39  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road south of I-405 SB Ramps

NOTES: One Metro West - Existing (2019) With Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37530      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.3	151.1	319.0	684.1

TABLE Future Cumulative (2027)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue west of Euclid Street

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 35750      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
89.1	177.4	375.1	804.6

---



TABLE Future Cumulative (2027)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue from Euclid Street to Newhope Street

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37185      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.1	181.9	384.9	825.9

---

TABLE Future Cumulative (2027)-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Newhope Street  
to Mt. Washington Street

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 42309      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
97.9	197.6	419.2	900.0

---

TABLE Future Cumulative (2027)-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Mt. Washington  
Street to Hyland Avenue

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 49950      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
106.8	219.5	467.8	1005.2

---

TABLE Future Cumulative (2027)-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Hyland Avenue to Harbor  
Boulevard

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34535      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
74.0	143.9	302.2	647.3

---

TABLE Future Cumulative (2027)-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Harbor Boulevard to Fairview Street

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29600      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
68.6	130.7	273.1	584.2

---

TABLE Future Cumulative (2027)-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Talbert Avenue to Newhope Street

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17370      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	113.0	233.5	498.2

---

TABLE Future Cumulative (2027)-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Newhope Street to Ellis Avenue

NOTES: One Metro West - Future Cumulative (2027)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21080      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
67.0	127.0	264.9	566.4

---

TABLE Future Cumulative (2027)-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive/Scenic Avenue west of Harbor  
Boulevard

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5170      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	72.2	148.7



TABLE Future Cumulative (2027)-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive /Scenic Avenue east of Harbor  
Boulevard

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 6370      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	79.3	169.3

---

TABLE Future Cumulative (2027)-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue west of Project Driveway 1

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2680      SPEED (MPH): 15      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

---

TABLE Future Cumulative (2027)-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 1 to Project Driveway 2

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2700      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DAY ---	DISTRIBUTION EVENING -----	PERCENTAGES NIGHT -----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL -----	65 CNEL -----	60 CNEL -----	55 CNEL -----
0.0	0.0	60.0	120.7

---

TABLE Future Cumulative (2027)-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 2 to Project Driveway 3

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2765      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	60.8	122.6

---

TABLE Future Cumulative (2027)-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 3 to Hyland Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5250      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	88.9	185.9

---

TABLE Future Cumulative (2027)-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11725      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	72.0	148.2	315.8

---

TABLE Future Cumulative (2027)-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Harbor Boulevard to Susan Street

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19320      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	97.7	205.4	440.0

---

TABLE Future Cumulative (2027)-17  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Susan Street to Fairview Road

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17670      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	92.4	193.7	414.6

---



TABLE Future Cumulative (2027)-18  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from MacArthur Boulevard to Sunflower Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14840      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	83.0	172.7	369.3

---

TABLE Future Cumulative (2027)-19  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from Sunflower Avenue and South Coast Drive

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14975      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	83.4	173.8	371.5

---

TABLE Future Cumulative (2027)-20  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard north of Segerstrom Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 35360      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
88.6	176.2	372.4	798.7

TABLE Future Cumulative (2027)-21  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34750      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
87.8	174.3	368.1	789.5

---

TABLE Future Cumulative (2027)-22  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from MacArthur Boulevard to Westlake  
Center Drive/Scenic Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38465      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
92.8	185.9	393.6	844.7

---

TABLE Future Cumulative (2027)-23  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Westlake Center Drive/Scenic  
Avenue to Sunflower Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38760      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
79.7	155.2	326.2	698.9

---

TABLE Future Cumulative (2027)-24  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 45765      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.5	174.6	364.8	780.4

---

TABLE Future Cumulative (2027)-25  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 57985      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
103.1	202.3	426.1	913.3

---



TABLE Future Cumulative (2027)-26  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40970      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
84.7	162.1	338.9	725.1

---

TABLE Future Cumulative (2027)-27  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 56100      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
99.5	197.3	416.7	893.5

---

TABLE Future Cumulative (2027)-28  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard south of Gisler Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 48385      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
92.1	179.8	378.0	809.8

---

TABLE Future Cumulative (2027)-29  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Susan Street from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Future Cumulative (2027)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 13985      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	65.9	134.4	285.8

TABLE Future Cumulative (2027)-30  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019  
ROADWAY SEGMENT: I-405 NB On-Ramp from Hyland Avenue  
NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10280      SPEED (MPH): 65      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.9	141.4	304.3	655.4

---

TABLE Future Cumulative (2027)-31  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Hyland Avenue/I-405 NB Ramps to Harbor Boulevard

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18825      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.7	115.6	244.8	525.3

---

TABLE Future Cumulative (2027)-32  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Harbor Boulevard to Susan Street

NOTES: One Metro West - Future Cumulative (2027)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19910      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
59.5	119.8	254.0	545.2

TABLE Future Cumulative (2027)-33  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Susan Street to Fairview Street

NOTES: One Metro West - Future Cumulative (2027)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18620      SPEED (MPH): 38      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	88.3	184.5	394.8



TABLE Future Cumulative (2027)-34  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street north of MacArthur Boulevard

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38460      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
94.3	186.6	393.8	844.6

---

TABLE Future Cumulative (2027)-35  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street/Fairview Road from MacArthur Boulevard  
to Sunflower Avenue

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37445      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
92.9	183.5	387.0	829.7

---

TABLE Future Cumulative (2027)-36  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Future Cumulative (2027)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 41105      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
97.7	194.6	411.5	882.8

TABLE Future Cumulative (2027)-37  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from South Coast Drive to I-405 NB Ramps

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 52220      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
111.7	226.8	482.0	1035.1

---

TABLE Future Cumulative (2027)-38  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from I-405 NB Ramps to I-405 SB Ramps

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 48510      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 54      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
112.3	218.8	459.9	985.3

---

TABLE Future Cumulative (2027)-39  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road south of I-405 SB Ramps

NOTES: One Metro West - Future Cumulative (2027)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 41690      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
80.8	161.6	341.9	733.6

---

01

TABLE Future Cumulative (2027) With Project-

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue west of Euclid Street

NOTES: One Metro West - Future Cumulative (2027) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36060      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
89.6	178.4	377.2	809.2

---

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue from Euclid Street to Newhope Street

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37875      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
92.0	184.1	389.6	836.1



## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Newhope Street  
to Mt. Washington Street

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43074      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
98.9	199.9	424.2	910.8

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Mt. Washington  
Street to Hyland Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 50720      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
107.7	221.7	472.5	1015.5

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Hyland Avenue to Harbor  
Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34535      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
74.0	143.9	302.2	647.3

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Harbor Boulevard to Fairview Street

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29600      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
68.6	130.7	273.1	584.2

07

TABLE Future Cumulative (2027) With Project-

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Talbert Avenue to Newhope Street

NOTES: One Metro West - Future Cumulative (2027) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17400      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	113.1	233.7	498.8

---

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Newhope Street to Ellis Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21120      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
67.1	127.2	265.2	567.1

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive/Scenic Avenue west of Harbor  
Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5140      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	72.0	148.1

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive /Scenic Avenue east of Harbor  
Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 6370      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	79.3	169.3



## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue west of Project Driveway 1

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2640      SPEED (MPH): 15      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 1 to Project Driveway 2

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 4860      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	84.8	176.7

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 2 to Project Driveway 3

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 7110      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	107.5	226.9

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 3 to Hyland Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11845      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	72.4	149.1	318.0

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15830      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	86.3	180.2	385.4

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Harbor Boulevard to Susan Street

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20380      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	101.0	212.7	455.9

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Susan Street to Fairview Road

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18475      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	95.0	199.4	427.1

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from MacArthur Boulevard to Sunflower Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15710      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	85.9	179.3	383.5



## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from Sunflower Avenue and South Coast Drive

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16195      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	87.5	182.9	391.3

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard north of Segerstrom Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 35710      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
89.1	177.3	374.8	804.0

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 35100      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
88.3	175.4	370.6	794.8

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from MacArthur Boulevard to Westlake  
Center Drive/Scenic Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38850      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
93.3	187.1	396.2	850.3

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Westlake Center Drive/Scenic Avenue to Sunflower Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 39175      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
80.2	156.3	328.5	703.8

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 48035      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
93.7	179.9	376.6	805.9

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 60255      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
105.2	207.3	437.0	936.9

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 42145      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
85.9	164.9	345.2	738.8



## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 56865      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
100.3	199.0	420.4	901.6

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard south of Gisler Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 49065      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
92.8	181.3	381.5	817.4

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Susan Street from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 14070      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	66.1	134.9	287.0

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: I-405 NB On-Ramp from Hyland Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10520      SPEED (MPH): 65      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.9	143.6	309.1	665.6

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Hyland Avenue/I-405 NB Ramps to Harbor Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19805      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
59.4	119.4	253.1	543.3

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Harbor Boulevard to Susan Street

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20765      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.0	123.1	261.2	560.7

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Susan Street to Fairview Street

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19205      SPEED (MPH): 38      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	90.0	188.3	403.0

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street north of MacArthur Boulevard

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38720      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
94.6	187.4	395.6	848.3



## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street/Fairview Road from MacArthur Boulevard  
to Sunflower Avenue

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37715      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
93.3	184.3	388.8	833.6

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 41105      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
97.7	194.6	411.5	882.8

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from South Coast Drive to I-405 NB Ramps

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 52340      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
111.8	227.2	482.7	1036.7

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from I-405 NB Ramps to I-405 SB Ramps

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 48630      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 54      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
112.4	219.1	460.7	986.9

## TABLE Future Cumulative (2027) With Project-

## FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road south of I-405 SB Ramps

NOTES: One Metro West - Future Cumulative (2027) With Project

## \* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 41810      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

## \* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
80.9	161.9	342.6	735.0

TABLE Build Out (2040)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue west of Euclid Street

NOTES: One Metro West - Build Out (2040)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37408      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.4	182.6	386.5	829.2

---

TABLE Build Out (2040)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue from Euclid Street to Newhope Street

NOTES: One Metro West - Build Out (2040)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 39370      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
94.0	188.7	399.7	857.9

---

TABLE Build Out (2040)-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Newhope Street  
to Mt. Washington Street

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 45274      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
101.7	206.4	438.4	941.5

---



TABLE Build Out (2040)-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Mt. Washington  
Street to Hyland Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 53775      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
111.6	230.3	491.2	1055.8

---

TABLE Build Out (2040)-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36261      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.9	148.3	312.0	668.6

---

TABLE Build Out (2040)-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Harbor Boulevard to Fairview Street

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31080      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
70.2	134.7	282.0	603.5

---

TABLE Build Out (2040)-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Talbert Avenue to Newhope Street

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19733      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.0	122.0	253.7	542.1

---

TABLE Build Out (2040)-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Newhope Street to Ellis Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23760      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
71.0	136.8	286.5	613.2

---

TABLE Build Out (2040)-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive/Scenic Avenue west of Harbor  
Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5453      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	74.6	153.9

---

TABLE Build Out (2040)-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive /Scenic Avenue east of Harbor  
Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 6689      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	81.9	174.9

TABLE Build Out (2040)-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue west of Project Driveway 1

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2891      SPEED (MPH): 15      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0



TABLE Build Out (2040)-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 1 to Project Driveway 2

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2912      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	62.6	126.7

---

TABLE Build Out (2040)-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 2 to Project Driveway 3

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2977      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	63.4	128.6

TABLE Build Out (2040)-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 3 to Hyland Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5584      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	92.4	193.6

---

TABLE Build Out (2040)-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 12286      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	74.0	152.7	325.8

---

TABLE Build Out (2040)-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Harbor Boulevard to Susan Street

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20453      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	101.2	213.2	457.0

---

TABLE Build Out (2040)-17  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Susan Street to Fairview Road

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18571      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	95.3	200.1	428.6

---

TABLE Build Out (2040)-18  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from MacArthur Boulevard to Sunflower Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15580      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	85.5	178.3	381.4

---

TABLE Build Out (2040)-19  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from Sunflower Avenue and South Coast Drive

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15783      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	86.2	179.8	384.7

---



TABLE Build Out (2040)-20  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard north of Segerstrom Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37128      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.0	181.8	384.5	825.1

---

TABLE Build Out (2040)-21  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36566      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
90.3	180.0	380.7	816.7

---

TABLE Build Out (2040)-22  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from MacArthur Boulevard to Westlake  
Center Drive/Scenic Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40388      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.3	191.8	406.5	872.6

---

TABLE Build Out (2040)-23  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Westlake Center Drive/Scenic  
Avenue to Sunflower Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40710      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
81.8	160.1	336.9	722.0

---

TABLE Build Out (2040)-24  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 48051      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
93.7	179.9	376.6	806.1

---

TABLE Build Out (2040)-25  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 61599      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
106.4	210.2	443.4	950.8

---

TABLE Build Out (2040)-26  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43018      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
86.8	167.0	349.9	749.0

---

TABLE Build Out (2040)-27  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 58905      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
102.2	203.5	430.3	923.0

---



TABLE Build Out (2040)-28  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard south of Gisler Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 50804      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
94.5	185.3	390.3	836.5

---

TABLE Build Out (2040)-29  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Susan Street from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15209      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	69.2	141.9	302.2

---

TABLE Build Out (2040)-30  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019  
ROADWAY SEGMENT: I-405 NB On-Ramp from Hyland Avenue  
NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10794      SPEED (MPH): 65      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
68.0	146.1	314.4	677.1

---

TABLE Build Out (2040)-31  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Hyland Avenue/I-405 NB Ramps to  
Harbor Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19766      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
59.3	119.3	252.8	542.6

---

TABLE Build Out (2040)-32  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Harbor Boulevard to Susan Street

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22016      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
63.0	127.8	271.5	582.9

---

TABLE Build Out (2040)-33  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Susan Street to Fairview Street

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19945      SPEED (MPH): 38      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	92.1	193.0	413.2

---

TABLE Build Out (2040)-34  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street north of MacArthur Boulevard

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40383      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
96.8	192.4	406.7	872.4

---

TABLE Build Out (2040)-35  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street/Fairview Road from MacArthur Boulevard  
to Sunflower Avenue

NOTES: One Metro West - Build Out (2040)

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 39317      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.4	189.2	399.6	857.0

---



TABLE Build Out (2040)-36  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Build Out (2040)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43177      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
100.4	200.8	425.1	912.1

---

TABLE Build Out (2040)-37  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from South Coast Drive to I-405 NB Ramps

NOTES: One Metro West - Build Out (2040)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 54831      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
114.9	234.1	497.8	1069.3

---

TABLE Build Out (2040)-38  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from I-405 NB Ramps to I-405 SB Ramps

NOTES: One Metro West - Build Out (2040)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 50936      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 54      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
115.1	225.6	474.9	1017.8

---

TABLE Build Out (2040)-39  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road south of I-405 SB Ramps

NOTES: One Metro West - Build Out (2040)

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 46750      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
86.1	173.8	368.8	791.7

---

TABLE Build Out (2040) With Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue west of Euclid Street

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37718      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.8	183.6	388.6	833.8

TABLE Build Out (2040) With Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Talbert Avenue from Euclid Street to Newhope Street

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40060      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
94.9	190.8	404.3	867.8

---

TABLE Build Out (2040) With Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Newhope Street  
to Mt. Washington Street

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 46039      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
102.7	208.6	443.3	952.0

---

TABLE Build Out (2040) With Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard/ Talbert Avenue from Mt. Washington  
Street to Hyland Avenue

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 54545      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
112.5	232.4	495.9	1065.9

---



TABLE Build Out (2040) With Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Hyland Avenue to Harbor  
Boulevard

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36261      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.9	148.3	312.0	668.6

---

TABLE Build Out (2040) With Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: MacArthur Boulevard from Harbor Boulevard to Fairview Street

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 31080      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
70.2	134.7	282.0	603.5

---

TABLE Build Out (2040) With Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Talbert Avenue to Newhope Street

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19763      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.0	122.1	253.9	542.6

---

TABLE Build Out (2040) With Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Euclid Street from Newhope Street to Ellis Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
71.1	136.9	286.8	613.9

---

TABLE Build Out (2040) With Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive/Scenic Avenue west of Harbor  
Boulevard

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5423      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	74.3	153.4

---

TABLE Build Out (2040) With Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: West Lake Center Drive /Scenic Avenue east of Harbor  
Boulevard

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 6689      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	81.9	174.9

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TABLE Build Out (2040) With Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue west of Project Driveway 1

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2851      SPEED (MPH): 15      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 50.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Build Out (2040) With Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 1 to Project Driveway 2

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 5072      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	87.0	181.8

---



TABLE Build Out (2040) With Project-13  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 2 to Project Driveway 3

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 7322      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	109.5	231.4

---

TABLE Build Out (2040) With Project-14  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Project Driveway 3 to Hyland Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 12179      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	73.6	151.9	323.9

---

TABLE Build Out (2040) With Project-15  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Hyland Avenue to Harbor Boulevard

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16391      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	88.2	184.4	394.5

---

TABLE Build Out (2040) With Project-16  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Harbor Boulevard to Susan Street

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21513      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	104.5	220.4	472.6

---

TABLE Build Out (2040) With Project-17  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Sunflower Avenue from Susan Street to Fairview Road

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19376      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	97.9	205.8	440.8

---

TABLE Build Out (2040) With Project-18  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from MacArthur Boulevard to Sunflower Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16450      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	88.4	184.8	395.4

---

TABLE Build Out (2040) With Project-19  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Hyland Avenue from Sunflower Avenue and South Coast Drive

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17003      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	90.2	188.8	404.2

---

TABLE Build Out (2040) With Project-20  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard north of Segerstrom Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 37478      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
91.5	182.8	386.9	830.2

---



TABLE Build Out (2040) With Project-21  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Segerstrom Avenue to MacArthur Boulevard

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36916      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
90.7	181.1	383.1	821.9

---

TABLE Build Out (2040) With Project-22  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from MacArthur Boulevard to Westlake  
Center Drive/Scenic Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40773      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.8	193.0	409.1	878.1

---

TABLE Build Out (2040) With Project-23  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Westlake Center Drive/Scenic  
Avenue to Sunflower Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 41125      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 38.5      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
82.2	161.1	339.2	726.9

---

TABLE Build Out (2040) With Project-24  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 50321      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.9	185.2	388.2	831.2

---

TABLE Build Out (2040) With Project-25  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from South Coast Drive to I-405 NB Off-ramp

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 63869      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
108.5	215.1	454.1	973.9

---

TABLE Build Out (2040) With Project-26  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 NB Off-ramp to I-405 SB Off-ramp

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 44193      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
88.0	169.9	356.1	762.5

---

TABLE Build Out (2040) With Project-27  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard from I-405 SB Off-ramp to Gisler Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 59670      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
102.9	205.2	434.0	931.0

---

TABLE Build Out (2040) With Project-28  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Harbor Boulevard south of Gisler Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 51484      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 44      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.1	186.9	393.7	844.0

---



TABLE Build Out (2040) With Project-29  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Susan Street from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 15294      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	69.4	142.4	303.3

---

TABLE Build Out (2040) With Project-30  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: I-405 NB On-Ramp from Hyland Avenue

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 11034      SPEED (MPH): 65      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
69.0	148.2	319.0	687.1

---

TABLE Build Out (2040) With Project-31  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Hyland Avenue/I-405 NB Ramps to  
Harbor Boulevard

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20746      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
60.9	123.0	261.0	560.3

---

TABLE Build Out (2040) With Project-32  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Harbor Boulevard to Susan Street

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22871      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.4	131.0	278.4	597.9

---

TABLE Build Out (2040) With Project-33  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: South Coast Drive from Susan Street to Fairview Street

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20530      SPEED (MPH): 38      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	93.8	196.7	421.2

---

TABLE Build Out (2040) With Project-34  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street north of MacArthur Boulevard

NOTES: One Metro West - Build Out (2040) With Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 40643      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
97.1	193.2	408.4	876.1

---

TABLE Build Out (2040) With Project-35  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Street/Fairview Road from MacArthur Boulevard  
to Sunflower Avenue

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 39587      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
95.7	190.0	401.4	860.9

---

TABLE Build Out (2040) With Project-36  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from Sunflower Avenue to South Coast Drive

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 43177      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
100.4	200.8	425.1	912.1

---



TABLE Build Out (2040) With Project-37  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from South Coast Drive to I-405 NB Ramps

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 54951      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
115.0	234.4	498.5	1070.9

---

TABLE Build Out (2040) With Project-38  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road from I-405 NB Ramps to I-405 SB Ramps

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 51056      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 54      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
115.3	225.9	475.6	1019.3

---

TABLE Build Out (2040) With Project-39  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 09/27/2019

ROADWAY SEGMENT: Fairview Road south of I-405 SB Ramps

NOTES: One Metro West - Build Out (2040) With Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 46870      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 34      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
86.3	174.1	369.4	793.1

---

---

## **APPENDIX C**

### **FHWA ROADWAY CONSTRUCTION NOISE MODEL PRINTOUTS**

# Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/3/2019

Case Description: Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential			

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Pavement Scarifier	No	20		89.5	240	0
Pavement Scarifier	No	20		89.5	240	0
Paver	No	50		77.2	240	0
Roller	No	20		80	240	0
Paver	No	50		77.2	240	0
Roller	No	20		80	240	0

Results  
Calculated (dBA)

Equipment	*Lmax	Leq
Pavement Scarifier	75.9	68.9
Pavement Scarifier	75.9	68.9
Paver	63.6	60.6
Roller	66.4	59.4
Paver	63.6	60.6
Roller	66.4	59.4
Total	75.9	72.9

\*Calculated Lmax is the Loudest value.

# Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/3/2019

Case Description: Paving

## ---- Receptor #2 ----

### Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Commercial	Commercial			

### Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pavement Scarifier	No	20		89.5	45	0
Pavement Scarifier	No	20		89.5	45	0
Paver	No	50		77.2	45	0
Roller	No	20		80	45	0
Paver	No	50		77.2	45	0
Roller	No	20		80	45	0

### Results

#### Calculated (dBA)

Equipment	*Lmax	Leq
Pavement Scarifier	90.4	83.4
Pavement Scarifier	90.4	83.4
Paver	78.1	75.1
Roller	80.9	73.9
Paver	78.1	75.1
Roller	80.9	73.9
<b>Total</b>	<b>90.4</b>	<b>87.4</b>

\*Calculated Lmax is the Loudest value.

# Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/3/2019

Case Descr Building with Pile Driving

---- Receptor #1 ----

Baselines (dBA)

Description Land Use Daytime Evening Night

Residential Residential

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Crane	No	16		80.6	260	0
Crane	No	16		80.6	260	0
Front End Loader	No	40		79.1	260	0
Front End Loader	No	40		79.1	260	0
Front End Loader	No	40		79.1	260	0
Generator	No	50		80.6	260	0
Impact Pile Driver	Yes	20		101.3	260	0
Backhoe	No	40		77.6	260	0
Backhoe	No	40		77.6	260	0
Backhoe	No	40		77.6	260	0
Welder / Torch	No	40		74	260	0

Results

Calculated (dBA)

Equipment	*Lmax	Leq
Crane	66.2	58.3
Crane	66.2	58.3
Front End Loader	64.8	60.8
Front End Loader	64.8	60.8
Front End Loader	64.8	60.8
Generator	66.3	63.3
Impact Pile Driver	86.9	80
Backhoe	63.2	59.3
Backhoe	63.2	59.3
Backhoe	63.2	59.3
Welder / Torch	59.7	55.7
Total	86.9	80.4

\*Calculated Lmax is the Loudest value.

# Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/3/2019

Case Description: Building with Pile Driving

---- Receptor #2 ----

Baselines (dBA)

Description Land Use Daytime Evening Night

Commercial Commercial

Equipment

Description	Impact Device	Usage(%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Crane	No	16		80.6	85	0
Crane	No	16		80.6	85	0
Front End Loader	No	40		79.1	85	0
Front End Loader	No	40		79.1	85	0
Front End Loader	No	40		79.1	85	0
Generator	No	50		80.6	85	0
Impact Pile Driver	Yes	20		101.3	85	0
Backhoe	No	40		77.6	85	0
Backhoe	No	40		77.6	85	0
Backhoe	No	40		77.6	85	0
Welder / Torch	No	40		74	85	0

Results

Results

Calculated (dBA)

Day

Equipment	*Lmax	Leq	Lmax
Crane	75.9	68	N/A
Crane	75.9	68	N/A
Front End Loader	74.5	70.5	N/A
Front End Loader	74.5	70.5	N/A
Front End Loader	74.5	70.5	N/A
Generator	76	73	N/A
Impact Pile Driver	96.7	89.7	N/A
Backhoe	73	69	N/A
Backhoe	73	69	N/A
Backhoe	73	69	N/A
Welder / Torch	69.4	65.4	N/A
Total	96.7	90.1	N/A

\*Calculated Lmax is the Loudest value.



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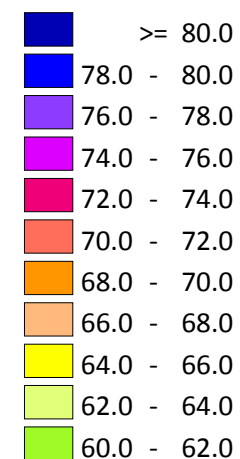
## **APPENDIX D**

### **SOUNDPLAN NOISE MODEL PRINTOUTS**

## Existing Traffic Noise

Calculated in SoundPlan with  
FHWA TNM 2.5 Standard

Noise Level Increase  
dB(A) CNEL



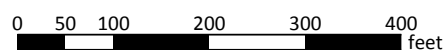
## Legend

- Proposed Building
- Elevation Line
- Existing Wall



LSA Associates, Inc.  
20 Executive Park Suite 200  
Irvine, CA 92614

Scale 1:200

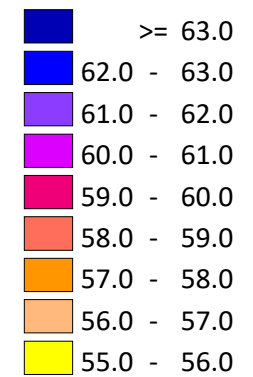







## Existing Traffic Noise - Night

Calculated in SoundPlan with  
FHWA TNM 2.5 Standard

Noise Level  
dB(A) Leq



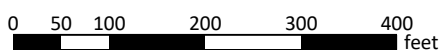
### Legend

-  Proposed Building
-  Elevation Line
-  Existing Wall



LSA Associates, Inc.  
20 Executive Park Suite 200  
Irvine, CA 92614

Scale 1:200

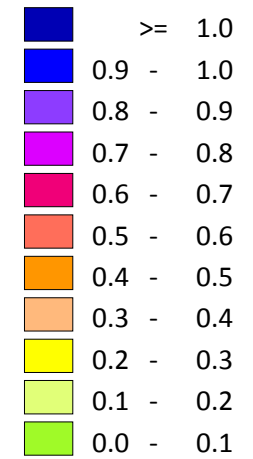




# Reflected Traffic Noise Increase (2040 With Project)

Calculated in SoundPlan with  
FHWA TNM 2.5 Standard

Noise Level Increase  
dB(A) CNEL



## Legend

- Proposed Building
- Elevation Line
- Existing Wall



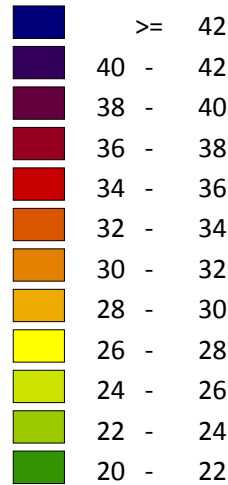
LSA Associates, Inc.  
20 Executive Park Suite 200  
Irvine, CA 92614









Rooftop HVAC Noise

Noise level  
in dB(A)  $L_{eq}$



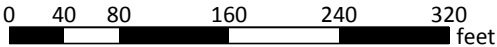
Legend

-  Project Building
-  Elevation line
-  Roof Parapet
-  Rooftop HVAC



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20 Executive Park, Suite 200  
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Scale 1:140

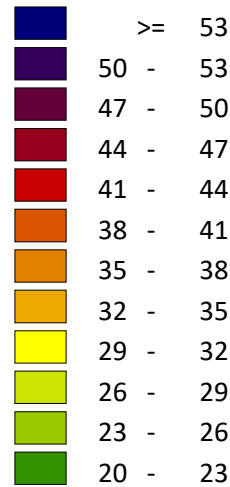




Loading Area Noise

Date: 8/30/2019

Noise level  
in dB(A)  $L_{eq}$



- Legend
- Project Building
  - Elevation line
  - Loading Area



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