

Appendix E:

Noise Analysis

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Noise Analysis for the
Southeastern San Diego
and Encanto
Neighborhoods Community
Plan Updates
Project No. 386029
SCH No. 2014051075

Prepared for

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Acronyms

ALUCP	Airport Land Use Compatibility Plan
BNSF	Burlington Northern Santa Fe
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
CPU	Community Plan Update
CREATE	Chicago Rail Efficiency and Transportation Efficiency
dB	Decibel
dB(A)	A-weighted decibel level
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	Hertz
I-805; I-5; I-15	Interstate 805; Interstate 5, Interstate 15
L _{eq}	average-equivalent noise level
mph	miles per hour
PEIR	Program Environmental Impact Report
PPV	peak particle velocity
SANDAG	San Diego Association of Governments
SDCRAA	San Diego County Regional Airport Authority
SDIY	San Diego and Imperial Valley Railroad
SDMTS	San Diego Metropolitan Transit System
SR-94	State Route 94
STC	sound transmission class
VdB	vibration decibel

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Executive Summary

This report evaluates potential local and regional noise impacts associated with the proposed Community Plan Updates (CPUs) for the Southeastern San Diego and Encanto Neighborhoods communities. The existing Southeastern San Diego Community Plan, which includes both the Southeastern San Diego and Encanto Neighborhoods CPU areas, was originally adopted in 1969 and comprehensively updated in 1987. In order to facilitate greater focus on each community, separate community plans are being prepared through this update process and are collectively referred to as the “CPUs” or “Plans” or “draft Plans.” This update will ensure consistency of the CPUs with the City of San Diego General Plan (General Plan) and incorporate relevant policies from it, as well as provide a long-range, comprehensive policy framework for growth and development in the two communities through 2035.

The proposed CPUs provide detailed neighborhood-specific land use, development regulations (zoning) that are consistent with city-wide zoning classifications, development design guidelines, and numerous other mobility and public realm guidelines, incentives, and programs to revitalize the urban core in accordance with the general goals stated in the General Plan. The proposed CPUs would additionally serve as the basis for guiding a variety of other actions, such as parkland acquisitions and transportation improvements.

Construction activities related to implementation of the proposed CPUs would potentially generate short-term noise levels in excess of 75 A-weighted decibel (dB) average sound level (dB(A) L_{eq}) at adjacent properties, which could therefore be potentially significant. The City regulates noise associated with construction equipment and activities through enforcement of noise ordinance standards (e.g., days of the week and hours of operation) and imposition of conditions of approval for building or grading permits. However, as the degree of success of these measures cannot be adequately known for each specific project at this program-level analysis, mitigation would be required.

Based on traffic noise modeling, noise levels at existing and proposed residential use located adjacent to freeways and heavily traveled roadways would exceed the City's compatible thresholds for residential land uses. Therefore, mitigation measures have been developed to require future land uses to develop project-level analyses that would demonstrate conformance with City standards. However, because the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level analysis, program-level exterior and interior noise impacts remains significant and unavoidable, even with adherence to the Mitigation Framework.

Based on the available airport noise contours and the CPU land use plans, the CPUs would not expose people residing or working in the planning areas to excessive noise levels due to airport operations. Additionally, it is not anticipated that noise impacts due to trolley operations would expose people to excessive noise levels.

The juxtaposition of other residential/commercial/industrial land uses would potentially result in a noise incompatibility of adjacent land uses. Compliance with regulations and policies would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in the General Plan or Noise Ordinance. However, no project-level site plans have been considered as part of the environmental review of the CPUs. Without detailed operational data it cannot be verified that future projects would be capable of reducing noise levels to comply with City standards, thus additional analyses would be required to provide verification that City standards have been met. While the identified mitigation would verify compliance with appropriate standards, it cannot assure that potential noise levels associated with development implemented in accordance with the CPUs would be reduced to below a level of significance.

1.0 Introduction

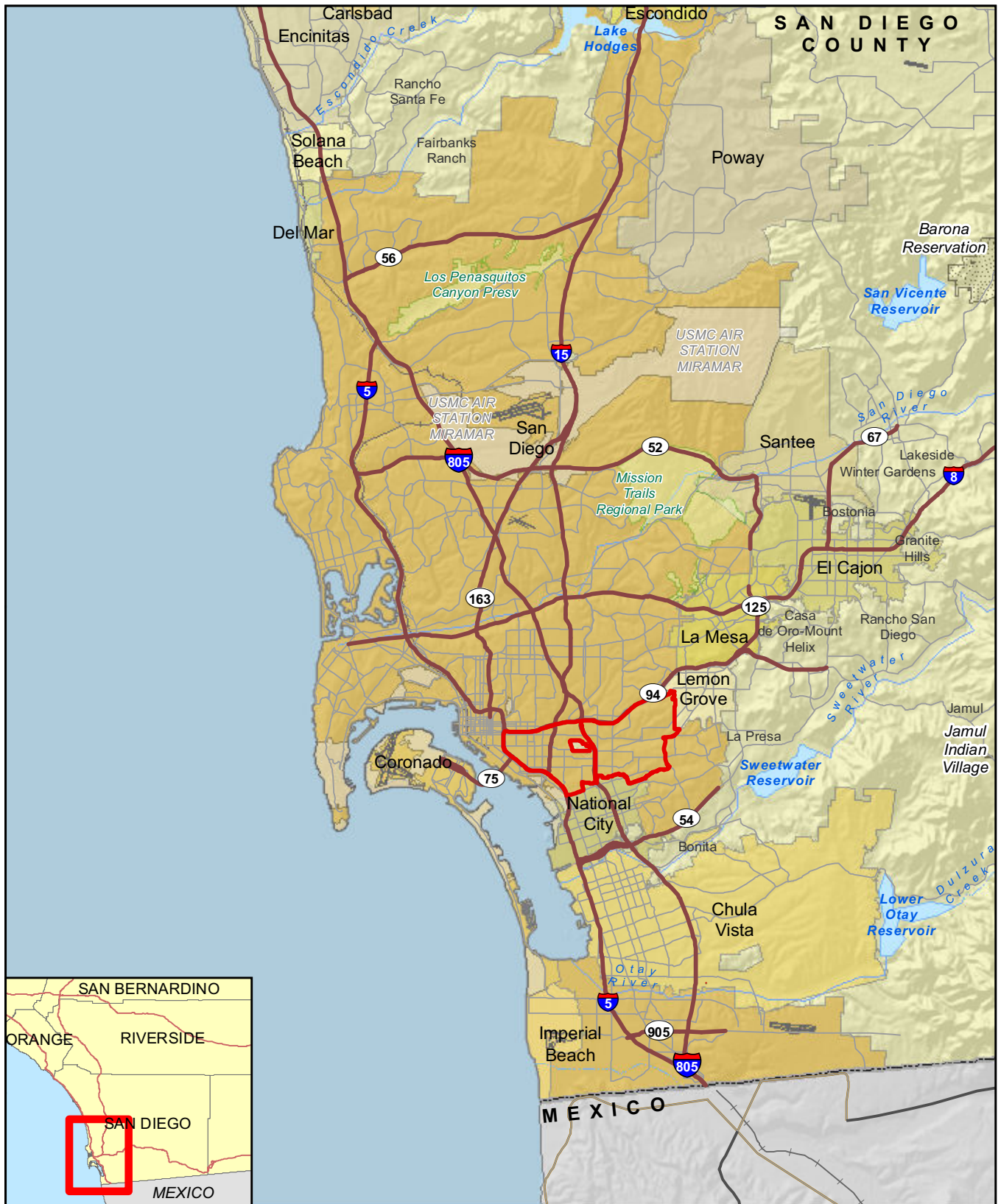
The project analyzed in this noise report includes the Southeastern San Diego and Encanto Neighborhoods CPUs. The existing Southeastern San Diego Community Plan, which includes both the Southeastern San Diego and Encanto Neighborhoods CPU areas, was originally adopted in 1969 and comprehensively updated in 1987. In order to facilitate greater focus on each community, separate community plans are being prepared through this update process (collectively referred to as the “CPUs” or “Plans” or “draft Plans”). This update will ensure consistency of the CPUs with the City of San Diego General Plan (General Plan) and incorporate relevant policies from it, as well as provide a long-range, comprehensive policy framework for growth and development in the two communities through 2035.

The purpose of this study is to assess the potential for significant adverse noise impacts to result from the CPUs. Figure 1 shows the regional location of the CPUs. Figures 2a and 2b provide aerial photographs of the Southeastern San Diego and Encanto Neighborhoods Planning Areas, respectively. Figures 3a and 3b show the land uses proposed for the Southeastern San Diego and Encanto Neighborhoods CPUs, respectively. Noise impacts were assessed in accordance with the City of San Diego California Environmental Quality Act (CEQA) Significance Determination Thresholds (City of San Diego 2011).

2.0 Project Description

2.1 Regional Location

The Southeastern San Diego and Encanto Neighborhoods encompass approximately 6,740 acres, located east of downtown San Diego and north of National City. The planning areas are surrounded by several other community planning areas: Golden Hill, City Heights, and Eastern Area to the north, Barrio Logan to the west, and Skyline–Paradise Hills to the southeast. National City borders the two planning areas to the south, and the City of Lemon Grove forms the northeast border of Encanto Neighborhoods.



 Southeastern San Diego and Encanto
Neighborhoods Community Plan Update Areas

FIGURE 1

Regional Location

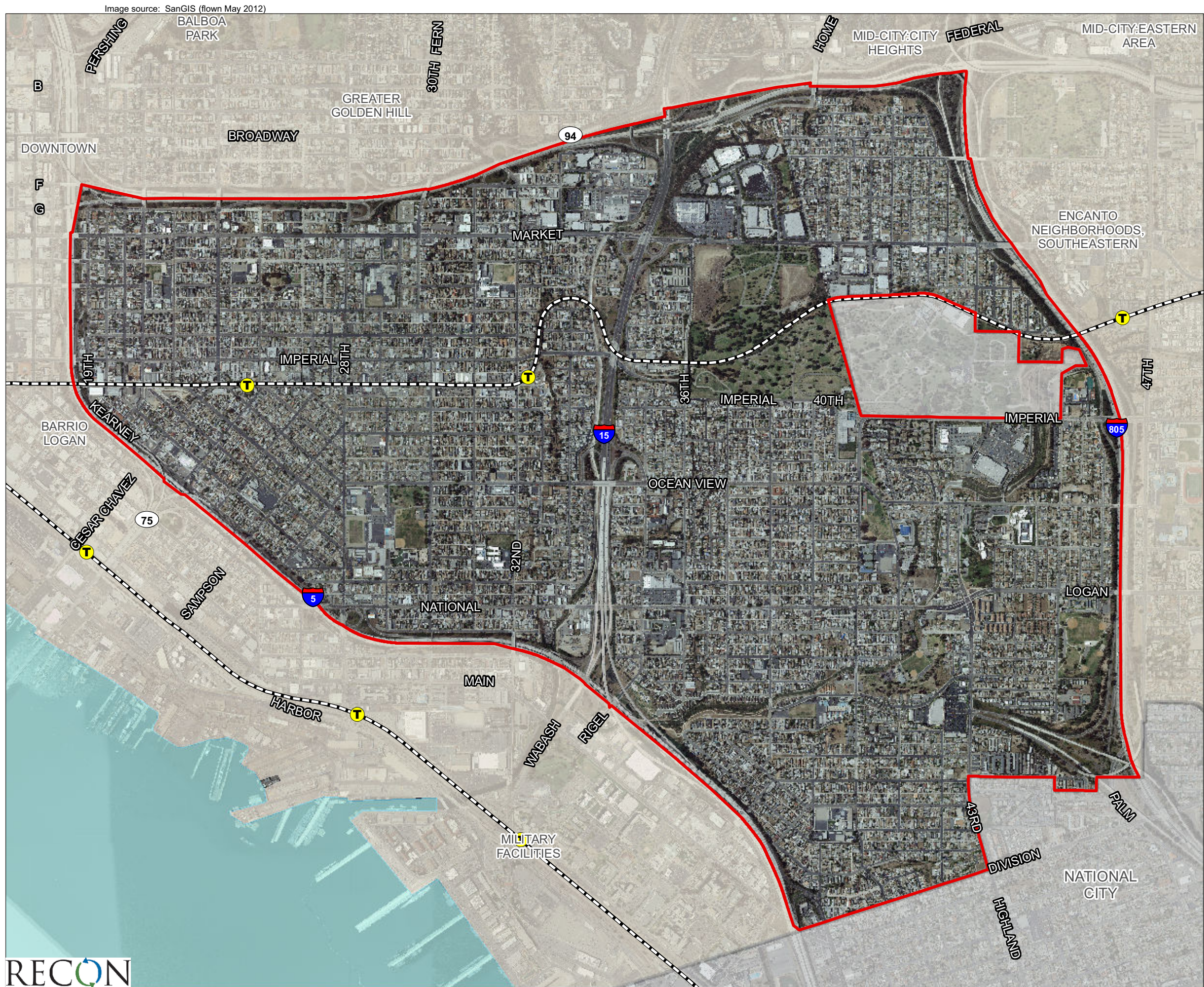
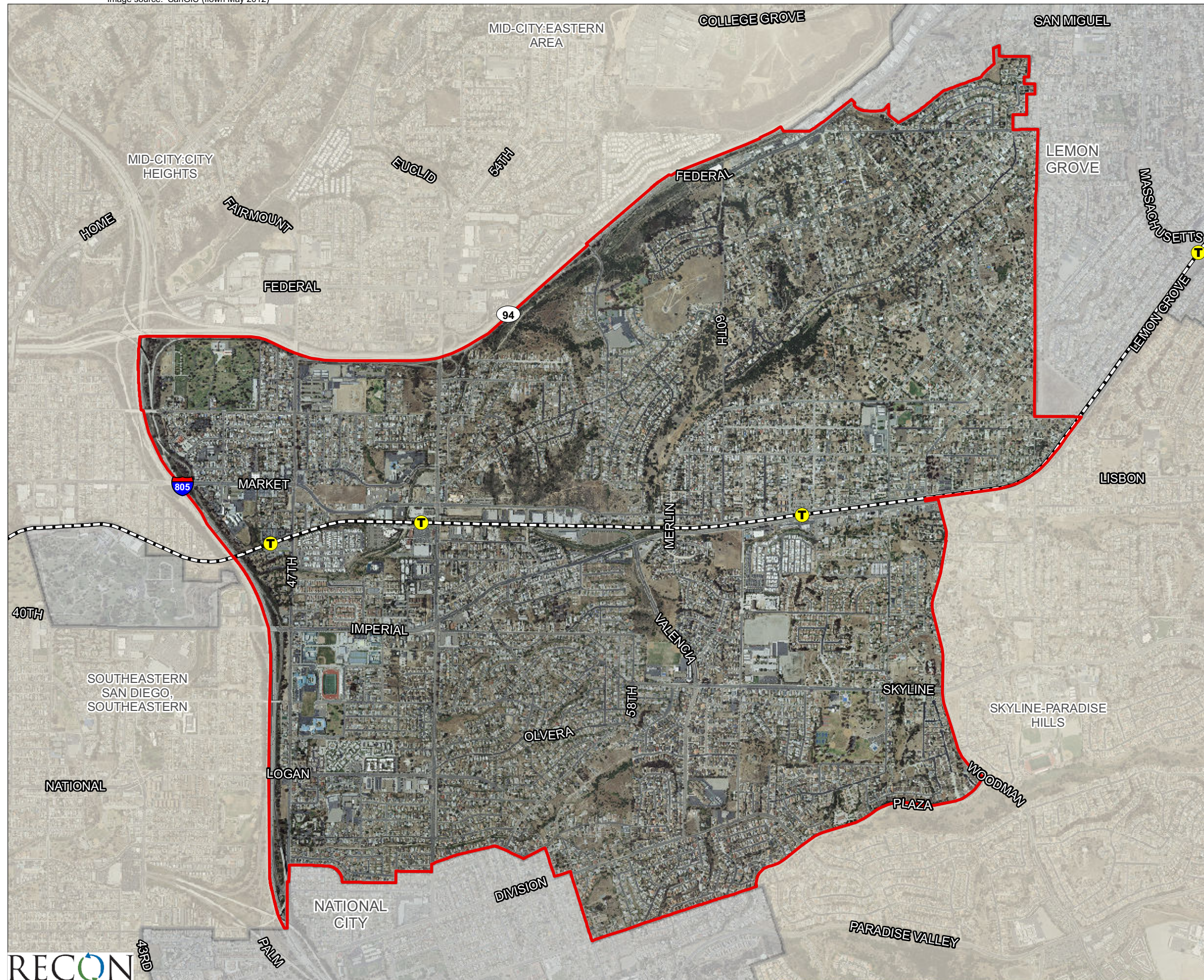


FIGURE 2a
Aerial Photograph of the
Southeastern San Diego CPU Area

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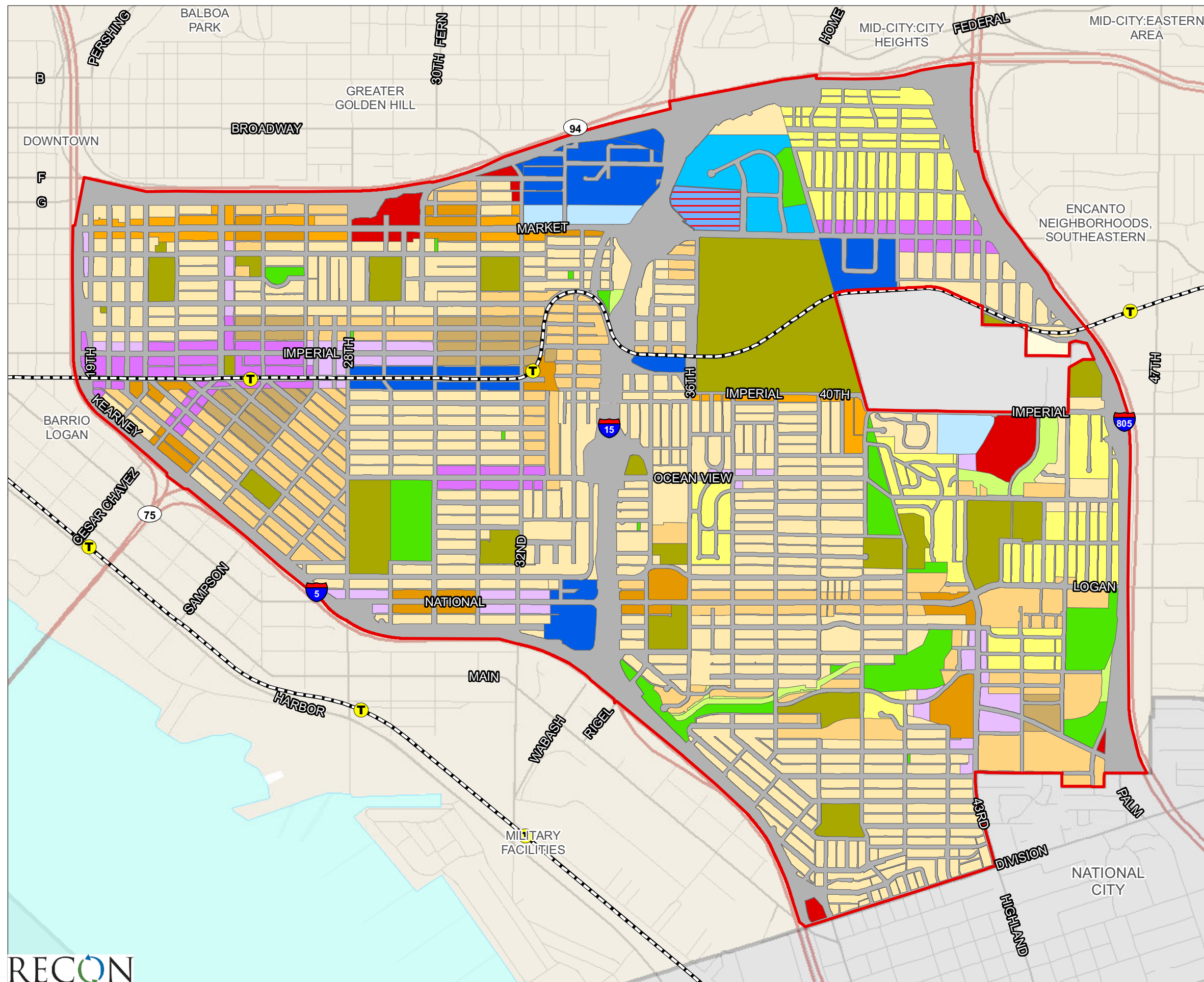


- Encanto Neighborhoods Community Plan Boundary
- Trolley Line
- Trolley Stops



FIGURE 2b
Aerial Photograph of the
Encanto Neighborhoods CPU Area

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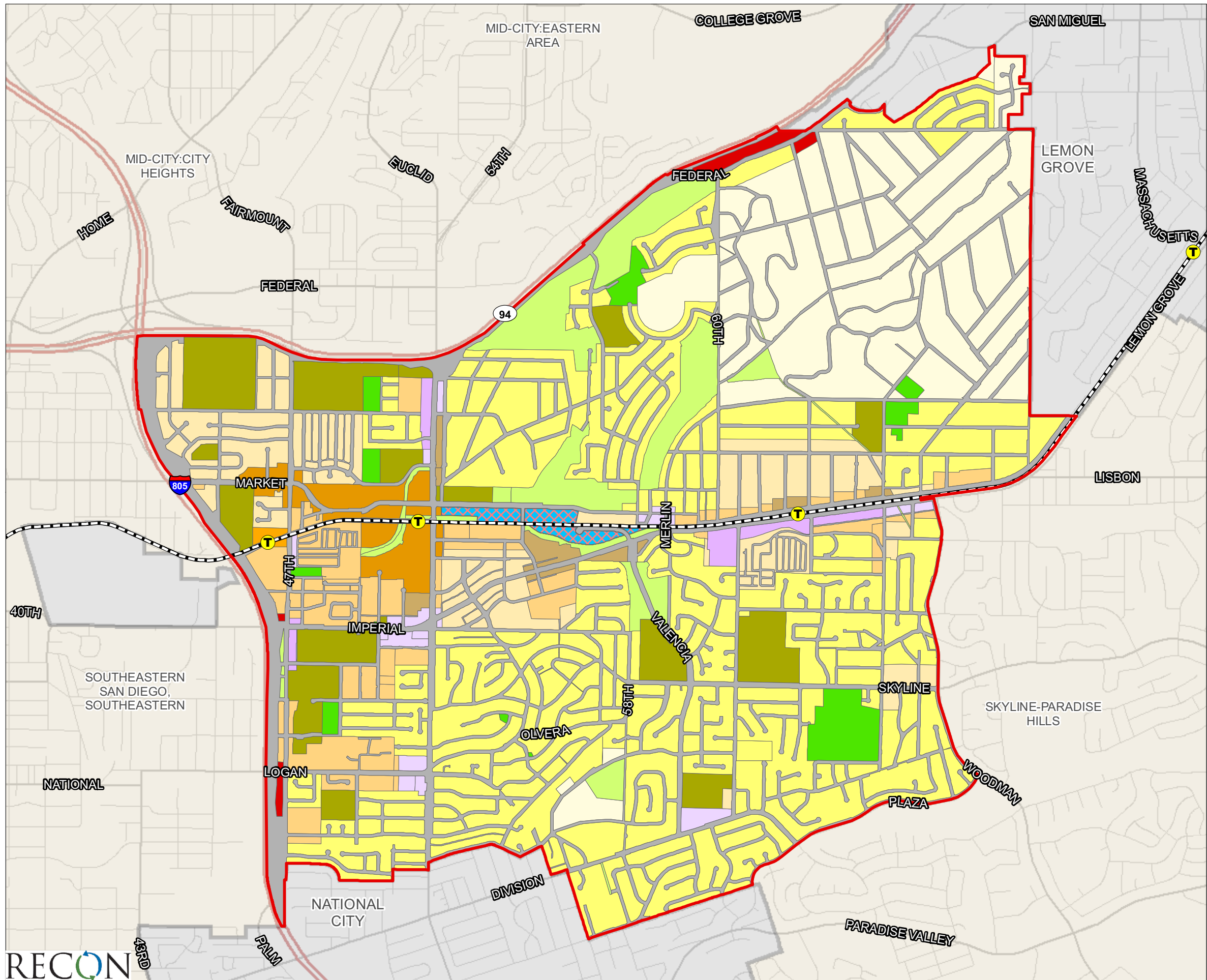


- Southeastern San Diego Community Plan Boundary
- Trolley Line
- Trolley Stops
- Proposed Land Use**
- Mixed Use**
- Neighborhood Mixed Use (30-44 du/ac)
- Neighborhood Mixed Use-Low (15-29 du/ac)
- Community Mixed Use-Medium (30-44 du/ac)
- Community Mixed Use-Low (15-29 du/ac)
- Residential**
- Residential - Very Low (0-4 du/ac)
- Residential - Low (5-9 du/ac)
- Residential - Low Medium (10-14 du/ac)
- Residential - Medium (15-29 du/ac)
- Residential - Medium High (30-44 du/ac)
- Commercial, Employment, and Industrial**
- Community Commercial - Residential Prohibited
- Regional Commercial - Residential Prohibited
- Office Commercial
- Light Industrial
- Business Park
- Institutional and Public/Semi-Public Facilities**
- Institutional
- Right-Of-Way
- Parks, Open Space & Recreation**
- Population-based Park
- Open Space



FIGURE 3a
Proposed Land Uses for the
Southeastern San Diego CPU

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- Encanto Neighborhoods Community Plan Boundary
- Trolley Line
- Trolley Stops
- Proposed Land Use**
- Mixed Use**
 - Neighborhood Mixed Use (30-44 du/ac)
 - Neighborhood Mixed Use-Low (15-29 du/ac)
 - Community Mixed Use-Medium (30-44 du/ac)
 - Community Mixed Use-Low (15-29 du/ac)
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 - Residential - Medium High (30-44 du/ac)
- Commercial, Employment, and Industrial**
 - Community Commercial - Residential Prohibited
 - Business Park - Residential Prohibited
- Institutional and Public/Semi-Public Facilities**
 - Institutional
 - Right-Of-Way
- Parks, Open Space & Recreation**
 - Population-based Park
 - Open Space

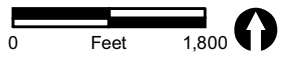


FIGURE 3b
Proposed Land Uses
for the Encanto CPU

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2.2 Planning Area Boundaries

2.2.1 Southeastern San Diego

The Southeastern San Diego Planning Area is located just east of downtown San Diego, proximate to major employment and commercial centers in the South Bay and downtown and linked to them by trolley and buses (see Figure 2a). Southeastern San Diego encompasses approximately 2,930 acres, excluding 121 acres of unincorporated San Diego County land (Greenwood Cemetery). Southeastern San Diego lies south of State Route 94 (SR-94), between Interstate 5 (I-5) and Interstate 805 (I-805), and north of the city limits of National City. Neighborhoods contained in Southeastern San Diego include Sherman Heights, Grant Hill, Stockton, Mt. Hope, Logan Heights, Mountain View, Southcrest, and Shelltown.

2.2.2 Encanto Neighborhoods

The Encanto Neighborhoods Planning Area encompasses approximately 3,810 acres and is located approximately five miles east of downtown San Diego (see Figure 2b). The Encanto Neighborhoods Planning Area is bounded by SR-94 to the north and I-805 to the west, providing access to local and regional destinations. The Southeastern San Diego Planning Area is immediately to the west. The City of Lemon Grove defines the northeast boundary of the Encanto Neighborhoods Planning Area roughly along 69th Street, while the City of National City defines the western half of its southern boundary. Plaza Boulevard marks the southern boundary to the east. Specific neighborhoods in the community include Chollas View, Lincoln Park, Valencia Park, O'Farrell, Alta Vista, Encanto, and Broadway Heights.

2.3 Village Districts

Each planning area contains village districts. The Southeastern San Diego Planning Area contains the Southeastern Village District (see Figure 3a). The Southeastern Village District includes the Commercial/Imperial Corridor from I-5 to Interstate-15 (I-15) and is centered on the trolley stops at 25th Street and 32nd Street. The Encanto Neighborhoods Planning Area contains a village district that combines two areas known as the Village at Market Creek, centered at the intersection of Euclid Avenue and Market Street, and Imperial Avenue Village, centered at the 62nd Street Trolley station (see Figure 3b). The village districts are considered “transit priority areas”¹, in proximity to high-frequency mass transit service.

¹ According to SB 743, a “*transit priority area*” means “an area within one-half mile of a *major transit stop* that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations.” A “*major transit stop*” is means “a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”

2.4 Buildout of Plans

Table 1 describes the existing and proposed development anticipated to result from application of land uses shown on the proposed Southeastern San Diego CPU Land Use Map and the proposed Encanto Neighborhoods CPU Land Use Map on vacant and underutilized sites, according to analysis undertaken for the proposed plans.

TABLE 1
RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT: EXISTING AND PROPOSED CPU BUILDOUT

Land Use	Existing Development	Buildout of CPUs (2035)	Difference
Southeastern San Diego			
Residential Development			
Single-family Units ¹	5,648	5,765	117
Multi-family Units ²	9,380	12,747	3,367
<i>Total Housing Units</i>	<i>15,058</i>	<i>18,042</i>	<i>2,984</i>
<i>Population³</i>	<i>56,848</i>	<i>70,020</i>	<i>13,172</i>
Non-residential Development			
Commercial (square feet)	1,758,200	2,520,000	761,800
Office (square feet)	163,600	277,400	113,800
Industrial and Utilities (square feet)	2,068,700	2,489,100	420,400
Community Facilities (square feet)	2,332,800	2,593,400	260,600
<i>Total Non-residential Development (square feet)</i>	<i>6,323,300</i>	<i>7,879,900</i>	<i>1,556,600</i>
Encanto Neighborhoods			
Residential Development			
Single-family Units ¹	9,846	9,027	(819)
Multi-family Units ²	3,943	12,070	8,127
<i>Total Housing Units</i>	<i>13,789</i>	<i>21,097</i>	<i>7,308</i>
<i>Population³</i>	<i>50,719</i>	<i>76,732</i>	<i>26,013</i>
Non-residential Development			
Commercial (square feet)	413,900	1,281,500	867,600
Office (square feet)	150,200	135,000	(15,200)
Industrial and Utilities (square feet)	465,400	554,100	88,700
Community Facilities (square feet)	2,035,400	2,001,000	(34,400)
<i>Total Non-residential Development (square feet)</i>	<i>3,064,900</i>	<i>3,971,600</i>	<i>906,700</i>

SOURCES: City of San Diego 2014; Dyett & Bhatia 2014; SANDAG, Current Estimates, 2012; SANDAG Regional Forecast 2050 (Series 12) for the year 2035, 2010; City of San Diego 2008.

NOTES:

¹Includes detached single-family, multiple-unit single-family.

²Includes residential units in mixed-use development and mobile homes.

³Assumes current ratio of population to housing units remains the same.

3.0 Fundamentals of Noise and Vibration

A detailed discussion of the fundamentals of noise and vibration is contained in the Existing Air Quality, Greenhouse Gas Emissions, and Noise Conditions Report for the Southeast San Diego CPU (existing conditions report) (RECON 2013). The noise descriptors used for this study are the 1-hour average-equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL).

The hourly equivalent sound level (L_{eq}) is the average A-weighted decibel [dB(A)] sound level over a one-hour period. The CNEL is a 24-hour A-weighted average sound level [dB(A) L_{eq}] from midnight to midnight obtained after the addition of 5 decibels (dB) to sound levels occurring between 7:00 P.M. and 10:00 P.M., and 10 dB to sound levels occurring between 10:00 P.M. and 7:00 A.M. A-weighting is a frequency correction that often correlates well with the subjective response of humans to noise. Adding 5 dB and 10 dB to the evening and nighttime hours, respectively, accounts for the added sensitivity of humans to noise during these time periods.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Groundborne vibration is measured by its peak particle velocity (PPV). The PPV is normally described in inches per second. PPV is appropriate for determining potential structure damage, but does not evaluate human response to vibration. The ground motion caused by vibration may also be described in decibel notation, referenced as VdB, which serves to compress the range of numbers required to describe vibration relative to human response. A detailed discussion of human responses to vibration can be found in the existing conditions report.

4.0 Applicable Standards

Future residents and visitors to the planning areas would be exposed to noise from vehicle traffic on area roadways, from aircraft operations at the San Diego International Airport, trolley operations, construction, and from other local noise sources. Federal noise standards include transportation-related noise sources related to interstate commerce (i.e., aircraft, trains, and trucks) for which there are not more stringent state standards. State noise standards are set for automobiles, light trucks, and motorcycles. Local noise standards are set for industrial, commercial, and construction activities subject to local noise ordinances and general plan policies. A detailed discussion of the applicable regulations can be found in the existing conditions report (RECON 2013).

The San Diego County Regional Airport Authority (SDCRAA) is responsible for the management and development of the Airport Land Use Compatibility Plan (ALUCP) for each public airport in San Diego County. The SDRAA has updated the ALUCP for the San Diego International Airport since the preparation of the existing conditions report. Table 2 presents the updated land uses and the compatible noise levels.

TABLE 2
AIRPORT NOISE COMPATIBILITY CRITERIA

Land Use Category ^a <i>Note: Multiple categories may apply to a project</i>	Exterior Noise Exposure (CNEL)			
	60-65	65-70	70-75	75+
Residential				
Single-family, Multi-family	45	45 ¹	45 ^{1,2}	45 ^{1,2}
Single Room Occupancy (SRO) Facility	45	45 ¹	45 ^{1,2}	45 ^{1,2}
Group Quarters ^b	45	45 ¹	45 ^{1,2}	45 ^{1,2}
Commercial, Office, Service, Transient Lodging				
Hotel, Motel, Resort	45/50	45/50	45/50	45/50
Office – Medical, Financial, Professional Services, Civic			50	50
Retail (e.g., Convenience Market, Drug Store, Pet Store)			50	50
Service – Low Intensity (e.g., Gas Station, Auto Repair, Car Wash)			50	50
Service – Medium Intensity (e.g., Check-cashing, Veterinary Clinics, Kennels, Personal Services)			50	50
Service – High Intensity (e.g., Eating, Drinking Establishment, Funeral Chapel, Mortuary)			50	50
Sport/Fitness Facility			50	50
Theater – Movie/Live Performance/Dinner		45	45	45
Educational, Institutional, Public Services				
Assembly – Adult (Religious, Fraternal, Other)	45	45 ¹	45 ¹	45 ¹
Assembly – Children (Instructional Studios, Cultural Heritage Schools, Religious, other) ³	45			
Cemetery				
Child Day Care Center/Pre-K	45			
Convention Center				
Fire and Police Stations			50	50
Jail, Prison		45/50	45/50	45/50
Library, Museum, Gallery		45	45	45
Medical Care – Congregate Care Facility, Nursing and Convalescent Home ^b	45			
Medical Care – Hospital	45			
Medical Care – Out-Patient Surgery Centers	45			
School for Adults – College, University, Vocational/Trade School	45	45 ¹	45 ¹	
School – Kindergarten through Grade 12 (Includes Charter Schools)	45			
Industrial				
Junkyard, Dump, Recycling Center, Construction Yard				
Manufacturing/Processing – General				
Manufacturing/Processing of Biomedical Agents, Biosafety Levels 3 and 4 Only				
Manufacturing/Processing of Hazardous Materials ⁴				
Mining/Extractive Industry				
Research and Development – Scientific, Technical				
Sanitary Landfill				
Self-Storage Facility				
Warehousing/Storage – General				
Warehousing/Storage of Biomedical Agents, Biosafety Levels 3 and 4 Only				
Warehousing/Storage of Hazardous Materials ⁴				

TABLE 2
AIRPORT NOISE COMPATIBILITY CRITERIA

Land Use Category ^a <i>Note: Multiple categories may apply to a project</i>	Exterior Noise Exposure (CNEL)			
	60-65	65-70	70-75	75+
<i>Transportation, Communication, Utilities</i>				
Auto Parking				
Electrical Power Generation Plant				
Electrical Substation				
Emergency Communications Facilities				
Marine Cargo Terminal				
Marine Passenger Terminal				
Transit Center, Bus/Rail Station				
Transportation, Communication, Utilities – General				
Truck Terminal				
Water, Wastewater Treatment Plant				
<i>Recreation, Park, Open Space</i>				
Arena, Stadium				
Golf Course				
Golf Course Clubhouse				
Marina				
Park, Open Space, Recreation				
<i>Agriculture</i>				
Aquaculture				
Agriculture				

	Compatible: Use is permitted.
	Conditionally Compatible: Use is permitted subject to stated conditions.
	Incompatible: Use is not permitted under any circumstances
45	Indoor uses: building must be capable of attenuating exterior noise to 45 CNEL.
50	Indoor uses: building must be capable of attenuating exterior noise to 50 CNEL.
45/50	Sleeping rooms must be attenuated to 45 CNEEL and any other indoor areas must be attenuated to 50 CNEL.
1	Avigation easement must be dedicated to the Airport owner/operator.
2	New residential use is permitted above the 70 CNEL contour only if the current General/Community Plan designation allows for residential use. General/Community Plan amendments from a nonresidential designation to a residential designation are not permitted.
3	Refer to Appendix A of the San Diego International Airport Land Use Compatibility Plan for definition of Assembly – Children.
4	Refer to Appendix A of the San Diego International Airport Land Use Compatibility Plan for definitions of manufacturing, processing and storage of hazardous materials..
a	Land uses not specifically listed shall be evaluated, as determined by the ALUC, using the criteria for similar uses. Refer to Appendix A of the San Diego International Airport Land Use Compatibility Plan.
b	If this land use would occur within a single- or multi-family residence, it must be evaluated using the criteria for single- or multi-family residential.

SOURCE: San Diego County Regional Airport Authority 2014.

NOTE: Exterior noise levels due to aircraft operations would not exceed 70 CNEL in the Southeastern San Diego Planning Area and would not exceed 65 CNEL in the Encanto Neighborhoods Planning Area (refer to Figure 4 and Sections 6.1.3 and 6.2.3).

5.0 Analysis Methodology

5.1 Vehicle Traffic Noise

Traffic noise occurs adjacent to every roadway and is directly related to the traffic volume, speed, and mix of vehicles. Existing and future traffic volumes and speeds for the proposed CPUs were obtained from the traffic study prepared for the CPU (Chen Ryan 2014a, 2014b).

Truck volumes for I-5, I-15, I-805, and SR-94 were derived from California Department of Transportation (Caltrans) truck counts (Caltrans 2012) and estimated heavy vehicle percentages from the traffic analysis. For the freeways, Caltrans existing truck counts indicate an approximate traffic mix of 95.9 percent cars, 2.6 percent medium trucks, and 1.5 percent heavy trucks.

For the remaining circulation roadways, a traffic mix of 96.6 percent cars, 2.6 percent medium trucks, and 0.8 percent heavy trucks was modeled. This is based on traffic counts taken during the existing noise measurements.

Table 3 summarizes the future vehicle traffic parameters used in this analysis for each roadway segment.

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

The analysis of the noise environment considered that the topography was flat with no intervening terrain between sensitive land uses and roadways. Because there are no obstructions, predicted noise levels are higher than would actually occur. In actuality buildings and other obstructions along the roadways would shield distant receivers from the traffic noise.

5.2 Rail Noise

The San Diego Metropolitan Transit System (SDMTS) provides trolley service along a railway alignment designated the “Orange Line”. The Orange Line trolley generally parallels Commercial Street in the Southeastern San Diego Planning Area and Imperial Avenue in the Encanto Neighborhoods Planning Area. Noise associated with future trolley operations was modeled using the Federal Transit Administration (FTA) recommended Chicago Rail Efficiency and Transportation Efficiency (CREATE) railroad noise model (Harris Miller Miller & Hanson, Inc. 2006). The trolleys were modeled at

**TABLE 3
FUTURE VEHICLE TRAFFIC PARAMETERS**

Roadway	Segment		Buildout ADT	Speed (mph)
	From	To		
Southeastern San Diego Planning Area				
Hilltop Drive	Boundary Street	I-805	4,700	25
Market Street	17th Street	19th Street	8,300	30
	19th Street	25th Street	11,800	30
	25th Street	28th Street	13,900	30
	28th Street	32nd Street	18,100	30
	32nd Street	I-15 SB Ramps	29,000	30
	I-15 SB Ramps	I-15 NB Ramps	27,800	35
	I-15 NB Ramps	Boundary Street	31,600	35
	Boundary Street	I-805 SB Ramps	22,500	35
	I-805 SB Ramps	I-805 NB Ramps	20,200	35
Imperial Avenue	17th Street	19th Street	13,200	30
	19th Street	25th Street	9,700	30
	25th Street	28th Street	9,500	30
	28th Street	30th Street	7,200	30
	30th Street	32nd Street	5,500	30
	32nd Street	36th Street	10,800	30
	36th Street	40th Street	12,000	30
	40th Street	I-805 SB Ramps	25,500	40
	I-805 SB Ramps	I-805 NB Ramps	28,900	40
Commercial Street	17th Street	19th Street	7,100	25
	19th Street	25th Street	4,900	25
	25th Street	28th Street	3,200	25
	28th Street	30th Street	3,500	25
	30th Street	32nd Street	3,900	25
Ocean View Boulevard	25th Street	28th Street	6,500	30
	28th Street	30th Street	7,400	30
	30th Street	32nd Street	9,900	30
	32nd Street	I-15 SB Ramps	16,500	30
	I-15 SB Ramps	I-15 NB Ramps	17,900	30
	I-15 NB Ramps	36th Street	15,000	30
	36th Street	40th Street	14,500	30
	40th Street	47th Street	11,600	30
National Avenue	Commercial Street	Beardsley Street	12,200	30
	Beardsley Street	SR-75 Off-Ramp	16,000	30
	SR-75 Off-Ramp	26th Street	6,300	30
	26th Street	27th Street/I-5 SB Off-Ramp	12,000	30
	27th Street/I-5 SB Off-Ramp	28th Street	16,300	30
	28th Street	I-5 NB Ramps	19,400	30
	I-5 NB Ramps	32nd Street	13,300	30
	32nd Street	43rd Street	13,700	30
Logan Avenue	43rd Street	45th Street	10,600	30
	45th Street	47th Street	14,000	35
Acacia Street	36th Street	38th Street	3,900	25
Alpha Street	38th Street	43rd Street	7,000	25
Division Street	Main Street	Osborn Street	16,700	30
	Osborn Street	Highland Avenue	12,700	30
	Highland Avenue	Palm Avenue	13,700	35
Cesar Chavez Parkway	Commercial Street	I-5 NB Ramps	10,300	25
	I-5 NB Ramps	SR-75 On-Ramp/Logan Avenue	17,300	25

**TABLE 3
FUTURE VEHICLE TRAFFIC PARAMETERS (CONT.)**

Roadway	Segment		Buildout ADT	Speed (mph)
	From	To		
Southeastern San Diego Planning Area (cont.)				
25th Street	SR-94 WB Off-Ramp	SR-94 EB On-Ramp	18,700	30
	SR-94 EB On-Ramp	Market Street	19,500	30
	Market Street	Imperial Avenue	19,200	30
	Imperial Avenue	Commercial Street	12,500	30
28th Street	SR-94 WB Ramps	SR-94 EB Ramps	11,100	30
	SR-94 EB Ramps	Market Street	11,700	30
	Market Street	Imperial Avenue	8,600	30
	Imperial Avenue	Commercial Street	5,900	30
	Commercial Street	Ocean View Boulevard	7,100	30
	Ocean View Boulevard	National Avenue	11,600	30
	National Avenue	Boston Avenue	27,700	30
30th Street	E Street	Imperial Avenue	7,900	25
	Imperial Avenue	Commercial Street	4,700	25
	Commercial Street	National Avenue	5,000	25
Broadway	SR-94 WB	SR-94 EB On-Ramp/F Street	11,500	30
32nd Street	SR-94 EB On-Ramp/F Street	Market Street	11,700	30
	Market Street	Imperial Avenue	9,000	30
	Imperial Avenue	Commercial Street	5,800	30
	Commercial Street	Ocean View Boulevard	6,300	30
	Ocean View Boulevard	National Avenue	6,900	30
	National Avenue	Boston Avenue	9,200	30
35th Street	Ocean View Boulevard	Main Street	10,600	25
36th Street	Imperial Avenue	Ocean View Boulevard	4,000	25
	Ocean View Boulevard	Acacia Street	4,300	25
38th Street	Ocean View Boulevard	Acacia Street	3,800	25
Vesta Street	Acacia Street	Main Street	6,000	25
40th Street	Imperial Avenue	Ocean View Boulevard	4,800	25
	National Avenue	Division Street	3,700	25
Boundary Street	Hilltop Drive	Market Street	2,900	25
San Pasqual Drive	Imperial Avenue	Ocean View Boulevard	6,500	25
	Ocean View Boulevard	Logan Avenue	11,400	25
43rd Street	Logan Avenue	Newton Avenue	14,000	30
	Newton Avenue	Beta Street	16,100	30
	Beta Street	Delta Street	25,500	30
	Delta Street	Division Street	21,300	30
Highland Avenue	Division Street	4th Street	20,900	35
45th Street	Imperial Avenue	Logan Avenue	2,900	30
I-5	17th Street	SR-94	253,700	65
	SR-94	Imperial Avenue	252,000	65
	Imperial Avenue	SR-75	234,600	65
	SR-75	28th Street	244,900	65
	28th Street	I-15	226,500	65
	I-15	Main Street	299,200	65
I-15	I-805	SR-94	141,100	65
	SR-94	Market Street	138,400	65
	Market Street	Ocean View Boulevard	150,400	65
	Ocean View Boulevard	I-5	142,000	65
	I-5	Norman Scott Road	35,100	65
I-805	Home Avenue	SR-94	288,800	65
	SR-94	Market Street	281,700	65
	Market Street	Imperial Avenue	356,700	65
	Imperial Avenue	43rd Street	349,000	65
	43rd Street	Plaza Boulevard	342,800	65

**TABLE 3
FUTURE VEHICLE TRAFFIC PARAMETERS (CONT.)**

Roadway	Segment		Buildout ADT	Speed (mph)
	From	To		
Southeastern San Diego Planning Area (cont.)				
SR-94	17th Street	25th Street	203,100	65
	25th Street	28th Street	219,000	65
	28th Street	30th Street	245,800	65
	30th Street	I-15	253,600	65
	I-15	Home Avenue	216,600	65
	Home Avenue	I-805	220,600	65
	I-805	47th Street	306,400	65
Encanto Neighborhoods Planning Area				
Mallard Street	Federal Boulevard	69th Street	8,200	30
Federal Boulevard	60th Street	Mallard Street	17,300	40
	Mallard Street	MacArthur Drive	11,000	45
Tooley Street	60th Street	Paradise Street	600	25
Hilltop Drive	I-805	47th Street	4,700	25
Roswell Street	51st Street	Old Memory Lane	2,900	30
Old Memory Lane	Roswell Street	60th Street	1,400	25
Radio Drive	60th Street	Mallard Street	1,200	25
Klauber Avenue	Broadway	69th Street	1,000	25
Broadway	60th Street	Madera Street	3,600	25
Market Street	i-805 SB Ramps	I-805 NB Ramps	20,200	35
	I-805 NB Ramps	47th Street	21,600	35
	47th Street	Euclid Avenue	22,200	35
Market Street/Akins Avenue	Euclid Avenue	60th Street	11,700	25
Imperial Avenue	i-805 SB Ramps	I-805 NB Ramps	28,900	40
	I-805 NB Ramps	47th Street	34,400	40
	47th Street	Euclid Avenue	31,700	40
	Euclid Avenue	Valencia Parkway	28,900	30
	Valencia Parkway	Woodman Street	17,800	40
	Woodman Street	69th Street	25,300	40
	69th Street	Viewcrest Drive	16,300	50
Lisbon Street	Imperial Avenue	71st Street	15,500	35
Churchward Street/58th Street	Euclid Avenue	Skyline Drive	5,100	25
Skyline Drive	58th Street	Valencia Parkway	9,600	35
	Valencia Parkway	61st Street	16,400	35
	61st Street	Omeara Street	13,300	35
	Omeara Street	Woodman Street	12,900	35
	Woodman Street	69th Street	11,900	35
Logan Avenue	45th Street	47th Street	14,000	35
	47th Street	Euclid Avenue	15,900	35
Olvera Avenue/58th Street	Euclid Avenue	Skyline Drive	7,700	30
Division Street	Palm Avenue	Euclid Avenue	18,800	30
	Euclid Avenue	Harbison Avenue	13,400	35
	Harbison Avenue	58th Street	14,300	35
	58th Street	Valencia Parkway	13,500	30
	Valencia Parkway	61st Street	9,600	30
	61st Street	Plaza Boulevard	8,200	30
Plaza Boulevard	Paradise Valley Road	Division Street	9,500	30
	Division Street	Woodman Street	9,600	40
47th Street	SR-94 EB On-Ramp	Market Street	19,000	35
	Market Street	Imperial Avenue	17,300	40
	Imperial Avenue	Logan Avenue	16,600	40
	Logan Avenue	I-805 NB Ramps	17,200	40
	I-805 NB Ramps	I-805 SB Ramps	21,200	30
47th Street/Palm Avenue	I-805 SB Ramps	Division Street	27,900	40

**TABLE 3
FUTURE VEHICLE TRAFFIC PARAMETERS (CONT.)**

Roadway	Segment		Buildout ADT	Speed (mph)
	From	To		
Encanto Neighborhoods Planning Area(cont.)				
Euclid Avenue	SR-94 WB Ramps	SR-94 EB Ramps	34,200	35
	SR-94 EB Ramps	Market Street	30,800	35
	Market Street	Imperial Avenue	27,700	35
	Imperial Avenue	Logan Avenue	14,100	35
	Logan Avenue	Division Street	13,600	35
51st Street	Market Street	Roswell Street	4,000	25
San Jacinto Drive	Imperial Avenue	Olvera Avenue	3,800	25
Bayview Heights Way	SR-94 WB Ramps	SR-94 EB Ramps	17,100	30
Kelton Road	SR-94 EB Ramps	Alvin Street	12,900	30
Alvin Street	Kelton Road	Pitta Street	9,800	30
Pitta Street	Alvin Street	Market Street	10,000	25
Merlin Drive	Broadway	Imperial Avenue	4,700	25
Valencia Parkway	Imperial Avenue	Skyline Drive	7,800	40
	Skyline Drive	Cervantes Avenue	5,600	35
	Cervantes Avenue	Wesmead Street	6,200	30
	Wesmead Street	Division Street	6,200	25
60th Street	Federal Boulevard	Imperial Avenue	11,700	35
61st Street	Imperial Avenue	Division Street	7,700	30
Winnett Street	Federal Boulevard	Radio Drive	3,300	25
Paradise Street	Mallard Street	Radio Drive	900	25
Madera Street	Massachusetts Avenue	69th Street	3,500	25
Madera Street/66th Street	69th Street	Akins Avenue	4,200	25
Woodman Street	Imperial Avenue	Skyline Drive	10,800	35
	Skyline Drive	Plaza Boulevard	12,900	40
	Plaza Boulevard	Paradise Valley Road	17,600	40
69th Street	San Miguel Avenue	Mallard Street	5,600	25
	Mallard Street	Imperial Avenue	4,700	25
	Imperial Avenue	Skyline Drive	4,700	25
Hilltop Drive	47th Street	Euclid Avenue	5,500	25
I-805	Home Avenue	SR-94	288,800	65
	SR-94	Market Street	281,700	65
	Market Street	Imperial Avenue	356,700	65
	Imperial Avenue	47th Street	349,000	65
	47th Street	Plaza Boulevard	342,800	65
SR-94	Home Avenue	I-805	220,600	65
	I-805	47th Street	306,400	65
	47th Street	Euclid Avenue	306,700	65
	Euclid Avenue	Kelton Road	279,300	65
	Kelton Road	Federal Boulevard	278,100	65
	Federal Boulevard	College Grove Way	241,700	65
	College Grove Way	College Avenue	247,200	65

30 miles per hour (mph) in the planning areas. This is based on the distances between trolley stations and the average timing between stations obtained from published trolley schedules. Noise contour distances were first calculated assuming flat-site conditions and no intervening buildings that would provide noise attenuation.

Additionally, the San Diego and Imperial Valley Railroad (SDIY) also operates short-haul freight service in San Diego County along the Orange Line trolley corridor through Southeastern San Diego during the early morning hours when the trolley is not operating. This service provides connection between the Burlington Northern Santa Fe Railway Company (BNSF) and freight rail service in Mexico. One freight train operating during the nighttime hours was modeled at 30 mph using the CREATE railroad noise model. Noise contour distances were calculated assuming flat-site conditions and no intervening buildings that would provide noise attenuation.

5.3 Airport Noise

Airport/aircraft noise is evaluated based on the noise contours developed by the SDCRAA) and provided in the 2014 San Diego International Airport Land Use Compatibility Plan (SDCRAA 2014). These contours are based on year 2030 forecast noise exposure. Noise contours for the San Diego International Airport are shown in Figure 4.

5.4 Stationary Noise

Stationary sources of noise include activities associated with a given land use. For example, noise sources in commercial uses would include car washes, fast food restaurants, auto repair facilities, parking lots, and a variety of other uses. Mixed-use areas would also contain residential and commercial interfaces. Stationary noise is considered a “point source” and attenuates over distance at a rate of 6 dB(A) for each doubling of distance.

5.5 Construction Noise

During development of future projects consistent with the CPUs, construction noise would be generated by diesel-powered construction equipment used for site preparation and grading, removal of existing structures and pavement, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also would bring materials to the site and remove the spoils from excavation.

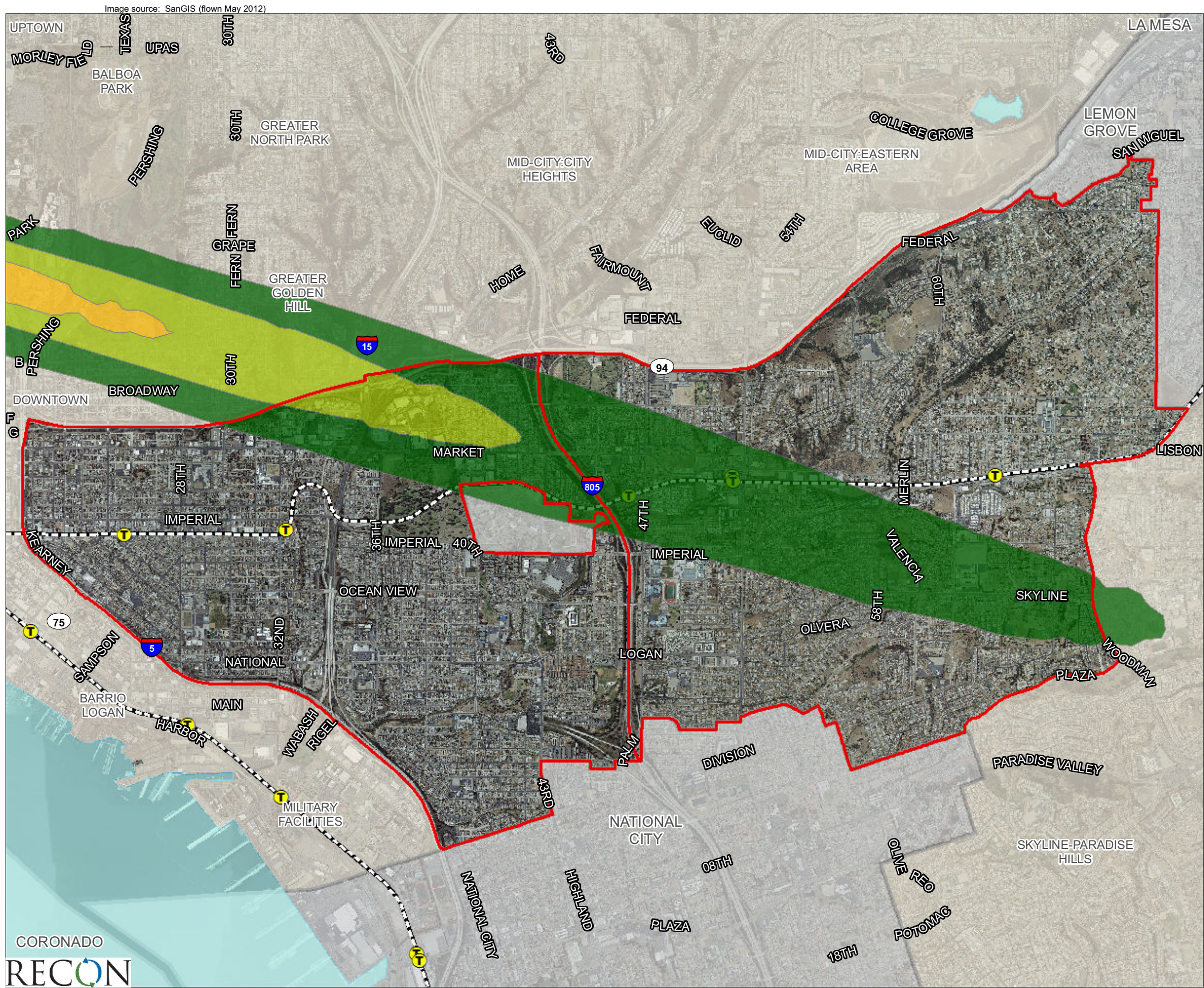
Under load conditions, diesel engine noise levels may be 85 to 90 dB(A) at a distance of 50 feet from the equipment (FHWA 2006). Occasional pavement breaking would be performed, which would generate noise levels of 90 dB(A) at 50 feet from the equipment (FHWA 2006). Construction equipment noise is considered a “point source” and

attenuates over distance at a rate of 6 dB(A) for each doubling of distance. Thus, a noise level of 85 dB(A) at 50 feet would be 79 dB(A) at 100 feet and 73 dB(A) at 200 feet from the source.

During excavating, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks. Although maximum noise levels may be 85 to 90 dB(A) at a distance of 50 feet during most construction activities, hourly average noise levels would be 82 dB(A) at 50 feet from the center of construction activity when assessing the loudest pieces of equipment working simultaneously.

5.6 Vibration

Potential vibration could result from construction of projects consistent with the CPUs. In addition, post-construction operational vibration impacts could occur as a result of commercial operations. Pile driving has the potential to generate the highest groundborne vibration levels and is the primary concern for structural damage when it occurs within 100 feet of structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods, and equipment used. Pile driving activities generate vibrations at various frequencies. The dominant frequency of propagating waves from impact sources ranges mostly between 3 hertz (Hz) and 60 Hz (Svinkin 1992). Using the middle range for illustration purposes, equipment operating at a frequency range of 30 Hz would exceed the perceptible range at approximately 100 feet.



- Southeastern San Diego and Encanto Neighborhoods Community Plan Boundary
- Trolley Line
- T Trolley Stops
- San Diego Airport Forecast Noise Exposure (2014)**
- 60-65 dB CNEL
- 65-70 dB CNEL
- 70-75 dB CNEL

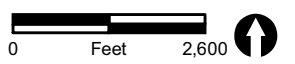


FIGURE 4

Airport Noise Contours

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6.0 Future Acoustical Environment and Impacts

6.1 Southeastern San Diego

6.1.1 Vehicle Traffic Noise

6.1.1.1 Increase in Ambient Noise

A significant impact would occur if implementation of the Southeastern San Diego CPU resulted in or created a significant increase in the existing ambient noise levels. Studies have shown that the average human ear can barely perceive a change in sound level of 3 dB(A). A change of at least 5 dB(A) is considered a readily perceivable change in a normal environment. A 10 dB(A) increase is subjectively heard as a doubling in loudness and would cause a community response. The City's 2011 Significance Determination Thresholds state that if a project is currently at or exceeds the significance thresholds for traffic noise and noise levels result in less than a 3 dB(A) increase, the impact would not be considered significant (City of San Diego 2011).

Therefore, based on these concepts of increase and perception, if an area is already exposed to noise levels in excess of the land use compatibility guidelines (see Table 5 of the existing conditions report) and noise levels were to result in greater than a 3 dB(A) increase, then the impact would be considered significant. If an area is currently exposed to noise levels that do not exceed the land use compatibility guidelines and noise levels were to result in greater than a 5 dB(A) increase, then the impact would be considered significant. There are areas that are currently exposed to noise levels that are exactly at or very near the land use compatibility guidelines. For these areas, the increase in ambient noise levels would be considered significant if noise levels resulted in greater than a 5 dB(A) increase or if resulting noise levels were 3 dB(A) more than the compatibility guideline (e.g., if the compatibility guideline is 65 CNEL, the existing noise level is currently 63 CNEL, and the future noise level is 67 CNEL, impacts would be less than significant because the increase in noise would be less than 5 dB(A) and the resulting noise level would not exceed 68 CNEL).

The roads generating the greatest noise levels in the Southeastern San Diego CPU area are I-5, I-805, I-15, SR-94, Market Street, Imperial Avenue, Ocean View Boulevard, and National Avenue. Increases in traffic noise gradually degrade the ambient noise environment, especially with respect to sensitive receptors. According to the General Plan, noise-sensitive receptors include, but are not necessarily limited to, residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, places of worship, child care facilities, and certain types of passive recreational parks and open space (City of San Diego 2008).

Vehicular traffic on roadways in the CPU area would increase due to buildout of the Southeastern San Diego CPU. Table 4 summarizes the existing and buildout traffic noise levels along various roadway segments in the Southeastern San Diego CPU area. Roadway noise is measured in CNEL at 50 feet from the roadway centerline.

As discussed previously, there are areas that are currently exposed to significant traffic noise levels greater than established General Plan Noise Element noise – land use comparability guidelines in the CPU area. The Southeastern San Diego CPU would not result in a change in that condition, and these areas would continue to be exposed to significant noise levels. Where traffic noise was calculated to be less than 65 CNEL but to increase by 5 dB(A) or more, and where traffic noise was calculated to be greater than 65 CNEL and to increase by 3 dB(A) or more, the adjacent land uses under the Southeastern San Diego CPU were examined and buildout noise levels were compared to the General Plan compatibility guidelines.

The compatible noise level for residential uses is 60 CNEL before the building must attenuate the exterior noise levels to the 45 CNEL interior standard and to 65 CNEL for exterior use areas.

The following roadway segments currently generate noise levels greater than 65 CNEL, and future noise levels would increase by 3 dB(A) or more:

- Imperial Avenue
 - 17th Street to 19th Street
 - 40th Street to I-805 Southbound Ramp
- Ocean View Boulevard
 - 25th Street to 28th Street
 - 40th Street to 47th Street
- National Avenue
 - Commercial Street to Beardsley Street
 - Beardsley Street to SR-75 Off-Ramp
- 25th Street
 - Market Street to Imperial Avenue
 - Imperial Avenue to Commercial Street
- San Pasqual Drive
 - Ocean View Boulevard to Logan Avenue

TABLE 4
INCREASE IN AMBIENT TRAFFIC NOISE – SOUTHEASTERN SAN DIEGO CPU AREA

Roadway	Segment		CNEL at 50 feet		
	From	To	Existing	2035	Change in dB
Hilltop Drive	Boundary Street	I-805	67.1	69.3	2.1
Market Street	17th Street	19th Street	73.1	73.4	0.2
	19th Street	25th Street	73.1	74.9	1.8
	25th Street	28th Street	74.0	75.6	1.6
	28th Street	32nd Street	74.5	76.7	2.3
	32nd Street	I-15 SB Ramps	76.5	78.8	2.3
	I-15 SB Ramps	I-15 NB Ramps	78.8	79.8	1.0
	I-15 NB Ramps	Boundary Street	78.8	80.3	1.5
	Boundary Street	I-805 SB Ramps	76.9	78.9	1.9
	I-805 SB Ramps	I-805 NB Ramps	77.8	78.4	0.6
Imperial Avenue	17th Street	19th Street	72.4	75.4	3.0
	19th Street	25th Street	71.3	74.0	2.7
	25th Street	28th Street	71.4	73.9	2.6
	28th Street	30th Street	71.2	72.7	1.6
	30th Street	32nd Street	70.4	71.6	1.2
	32nd Street	36th Street	72.3	74.5	2.2
	36th Street	40th Street	73.2	75.0	1.8
	40th Street	I-805 SB Ramps	76.8	80.8	3.9
	I-805 SB Ramps	I-805 NB Ramps	80.8	81.3	0.5
Commercial Street	17th Street	19th Street	63.3	71.1	7.7
	19th Street	25th Street	63.4	69.5	6.1
	25th Street	28th Street	62.8	67.6	4.8
	28th Street	30th Street	62.2	68.0	5.8
	30th Street	32nd Street	60.1	68.5	8.4
Ocean View Boulevard	25th Street	28th Street	67.6	72.3	4.7
	28th Street	30th Street	71.6	72.9	1.3
	30th Street	32nd Street	73.2	74.1	0.9
	32nd Street	I-15 SB Ramps	75.6	76.3	0.7
	I-15 SB Ramps	I-15 NB Ramps	76.5	76.7	0.2
	I-15 NB Ramps	36th Street	75.5	75.9	0.4
	36th Street	40th Street	75.0	75.8	0.8
	40th Street	47th Street	71.1	74.8	3.7
National Avenue	Commercial Street	Beardsley Street	68.3	75.0	6.8
	Beardsley Street	SR-75 Off-Ramp	69.9	76.2	6.3
	SR-75 Off-Ramp	26th Street	69.5	72.2	2.7
	26th Street	27th Street/I-5 SB Off-Ramp	74.8	75.0	0.2
	27th Street/I-5 SB Off-Ramp	28th Street	76.2	76.3	0.1
	28th Street	I-5 NB Ramps	76.8	77.1	0.2
	I-5 NB Ramps	32nd Street	74.2	75.4	1.2
	32nd Street	43rd Street	74.4	75.5	1.1
Logan Avenue	43rd Street	45th Street	73.0	74.4	1.4
	45th Street	47th Street	74.5	76.8	2.3
Acacia Street	36th Street	38th Street	64.2	68.5	4.3
Alpha Street	38th Street	43rd Street	70.0	71.0	1.0
Division Street	Main Street	Osborn Street	76.2	76.4	0.2
	Osborn Street	Highland Avenue	74.3	75.2	0.9
	Highland Avenue	Palm Avenue	75.5	76.7	1.2
Cesar Chavez Parkway	Commercial Street	I-5 NB Ramps	70.1	72.7	2.6
	I-5 NB Ramps	SR-75 On-Ramp/Logan Avenue	73.9	74.9	1.0
25th Street	SR-94 WB Off-Ramp	SR-94 EB On-Ramp	75.3	76.9	1.6
	SR-94 EB On-Ramp	Market Street	74.6	77.1	2.5
	Market Street	Imperial Avenue	73.8	77.0	3.2
	Imperial Avenue	Commercial Street	71.7	75.1	3.4

TABLE 4
INCREASE IN AMBIENT TRAFFIC NOISE – SOUTHEASTERN SAN DIEGO CPU AREA
(cont.)

Roadway	Segment		CNEL at 50 feet		
	From	To	Existing	2035	Change in dB
28th Street	SR-94 WB Ramps	SR-94 EB Ramps	74.3	74.6	0.4
	SR-94 EB Ramps	Market Street	74.2	74.9	0.7
	Market Street	Imperial Avenue	72.9	73.5	0.6
	Imperial Avenue	Commercial Street	71.4	71.9	0.5
	Commercial Street	Ocean View Boulevard	71.1	72.7	1.6
	Ocean View Boulevard	National Avenue	73.3	74.8	1.5
	National Avenue	Boston Avenue	75.7	78.6	2.9
30th Street	E Street	Imperial Avenue	69.5	71.5	2.0
	Imperial Avenue	Commercial Street	67.3	69.3	2.0
	Commercial Street	National Avenue	69.4	69.5	0.2
Broadway	SR-94 WB	SR-94 EB On-Ramp/F Street	74.8	74.8	0.0
32nd Street	SR-94 EB On-Ramp/F Street	Market Street	72.0	74.9	2.8
	Market Street	Imperial Avenue	71.3	73.7	2.5
	Imperial Avenue	Commercial Street	69.1	71.8	2.7
	Commercial Street	Ocean View Boulevard	70.2	72.2	2.0
	Ocean View Boulevard	National Avenue	70.6	72.6	1.9
	National Avenue	Boston Avenue	71.5	73.8	2.3
35th Street	Ocean View Boulevard	Main Street	71.3	72.8	1.5
36th Street	Imperial Avenue	Ocean View Boulevard	67.9	68.6	0.6
	Ocean View Boulevard	Acacia Street	67.9	68.9	1.0
38th Street	Ocean View Boulevard	Acacia Street	68.1	68.3	0.3
Vesta Street	Acacia Street	Main Street	68.5	70.3	1.8
40th Street	Imperial Avenue	Ocean View Boulevard	69.0	69.4	0.4
	National Avenue	Division Street	65.5	68.2	2.7
Boundary Street	Hilltop Drive	Market Street	65.7	67.2	1.5
San Pasqual Drive	Imperial Avenue	Ocean View Boulevard	69.9	70.7	0.7
	Ocean View Boulevard	Logan Avenue	70.0	73.1	3.1
43rd Street	Logan Avenue	Newton Avenue	75.4	75.6	0.2
	Newton Avenue	Beta Street	75.3	76.2	1.0
	Beta Street	Delta Street	76.5	78.2	1.7
	Delta Street	Division Street	76.0	77.5	1.4
Highland Avenue	Division Street	4th Street	76.5	78.5	2.1
45th Street	Imperial Avenue	Logan Avenue	67.1	68.8	1.7

Bold = potentially significant impact

The following roadway segments currently generate noise levels less than 65 CNEL, and future noise levels would increase by 5 dB(A) or more:

- Commercial Street
 - 17th Street to 19th Street
 - 19th Street to 25th Street
 - 28th Street to 30th Street
 - 30th Street to 32nd Street

The following roadway segment currently generates noise levels lower than 65 CNEL and future noise levels would increase less than 5 dB(A) over existing ambient noise levels, but future noise levels would exceed 68 CNEL:

- Acacia Street
 - 36th Street to 38th Street

There are existing sensitive uses located adjacent to these roadway segments, and there could be also future sensitive uses located adjacent to them. Possible noise-reduction measures would include retrofitting older homes with new window and door components with higher sound transmission class (STC) ratings. However, for existing uses, it cannot be determined whether the existing structures contain adequate attenuation to reduce interior noise to the 45 CNEL standard nor what measures would be required to retrofit these structures. In addition, there is no mechanism in place for implementing such a retrofit program in areas. Because the significant noise impacts are to existing homes in an already urbanized area, there is no feasible mitigation. Thus, impacts to existing sensitive land uses due to the increase in ambient noise levels associated with buildout of the Southeastern San Diego CPU would remain significant and unmitigated.

A mitigation framework exists for new development in areas exposed to high levels of ambient noise. Implementation of General Plan and CPU policies, requirements in the Municipal Code, and compliance with applicable regulations (Title 24) would reduce traffic noise exposure, because they set standards for the siting of sensitive land uses. Site-specific noise analyses that demonstrate that the project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the noise compatibility standards of the City's General Plan would be required for multi-family development proposals. With this framework, noise impacts to new multi-family development would be less than significant. This would also be the case for other discretionary projects, as the mitigation framework can be required as conditions of future permit approvals. Additionally, for ministerial projects, during the application process, the City evaluates the project location in relation to noise contours provided in community plans. Projects located in areas that exceed the applicable land use and noise compatibility level would be required to demonstrate that noise levels would not exceed the General Plan noise compatibility guidelines for the subject land use.

Compliance with the standards is required of all projects and is not considered to be mitigation. However, it is possible that for certain projects, adherence to the regulations may not adequately reduce noise levels, and such projects would require additional measures to comply with applicable standards. Thus, without mitigation, implementation of the CPU would result in a significant impact from traffic noise, because the CPU would potentially allow sensitive receptors to be located in areas where exterior noise levels exceed the compatibility standards established by the General Plan.

For all other roadway segments in the CPU area not included in the above lists, the increase in ambient noise would be less than significant. The Southeastern San Diego CPU would not significantly worsen the noise exposure (i.e., future noise increase would be less than 3 dB(A) in areas already exposed to noise levels in excess of compatibility guidelines, or future noise increase would be less than 5 dB(A) in areas currently exposed to noise levels lower than compatibility guidelines), and impacts due to the increase in ambient noise would be less than significant.

6.1.1.2 Land Use Compatibility

The City of San Diego noise and land use compatibility guidelines are presented in Table 5 of the existing conditions report. The Southeastern San Diego CPU proposes single-family residential, multi-family residential, commercial, office, industrial and utilities, community facilities, and park and open space land uses.

- Single-family residential is compatible up to 60 CNEL and conditionally compatible up to 65 CNEL.
- Multi-family residential and mixed uses are compatible up to 60 CNEL and conditionally compatible up to 70 CNEL. Additionally, as stated in Section B of the City's Noise Element, although not generally considered compatible, the City conditionally allows multi-family and mixed-use residential uses up to 75 CNEL in areas affected by motor vehicle traffic noise with existing residential uses. Any future residential use exposed to noise levels above 70 CNEL must include attenuation measures to ensure an interior noise level of 45 CNEL and be located in an area where a community plan allows multi-family and mixed-use residential uses.
- Commercial, office, and industrial uses are compatible up to 65 CNEL and conditionally compatible up to 75 CNEL.
- Neighborhood parks are compatible up to 60 CNEL and conditionally compatible up to 65 CNEL. It should also be noted that in June 2015, the City Council will consider approval of a General Plan amendment to the Noise Element to change the guidelines for park uses. With this amendment, park uses would be

considered compatible in areas up to 70 CNEL and conditionally compatible in areas between 70 and 75 CNEL.

Noise contours for existing and future conditions were modeled using measured and projected traffic volumes on freeways and major roadways within the planning areas and are expressed in contour lines showing the anticipated noise levels as measured by the CNEL. The distances to the 60, 65, 70, and 75 CNEL noise contours for freeways and major roadways in the Southeastern San Diego Planning Area are shown in Table 5. A complete list of distances to the 60, 65, 70, and 75 CNEL noise contours for all roadway segments for buildout of the Southeastern San Diego CPU are included in Attachment 1. Distances to the roadway noise contours assume a hard, flat site with no intervening barriers or obstructions. Future horizon year (2035) noise contours for the Southeastern San Diego Planning Area are shown in Figure 5a.

As discussed, the roads generating the greatest noise level in the area are I-5, I-805, I-15, SR-94, Market Street, Imperial Avenue, Ocean View Boulevard, and National Avenue. The local freeways are the dominant noise sources in the planning areas. As shown in Figure 5a, traffic noise levels at existing and proposed residential use areas closest to the freeways and heavily traveled roadways would exceed the City's compatibility thresholds for residential land uses.

While the City has a compatibility level of 60 CNEL or less for residential uses, noise levels up to 65 CNEL for single-family residential and up to 70 CNEL for multi-family residential are considered conditionally compatible, since interior noise levels can be reduced to 45 CNEL through simple means, such as closing/sealing windows and providing mechanical ventilation. Additionally, as stated in Section B of the City's Noise Element, although not generally considered compatible, the City conditionally allows multi-family and mixed-use residential uses up to 75 CNEL in areas affected by motor vehicle traffic noise with existing residential uses. Any future residential use exposed to noise levels above 70 CNEL must include attenuation measures to ensure an interior noise level of 45 CNEL and be located in an area where a community plan allows multi-family and mixed-use residential uses. Passive mitigation such as noise walls can usually reduce exterior noise levels to comply with City standards. The majority of proposed residential land uses would be located within the conditionally compatible zone. Multi-family residential uses located where exterior noise levels range from 65 to 70 CNEL are considered conditionally compatible and can generally provide the required structural attenuation to reduce noise levels at interior locations. Additionally, due to the provision of common exterior use areas, these projects can generally provide greater shielding to these smaller areas, thus providing exterior use areas that comply with City standards.

TABLE 5
FUTURE VEHICLE TRAFFIC CONTOUR DISTANCES – SOUTHEASTERN SAN DIEGO CPU AREA

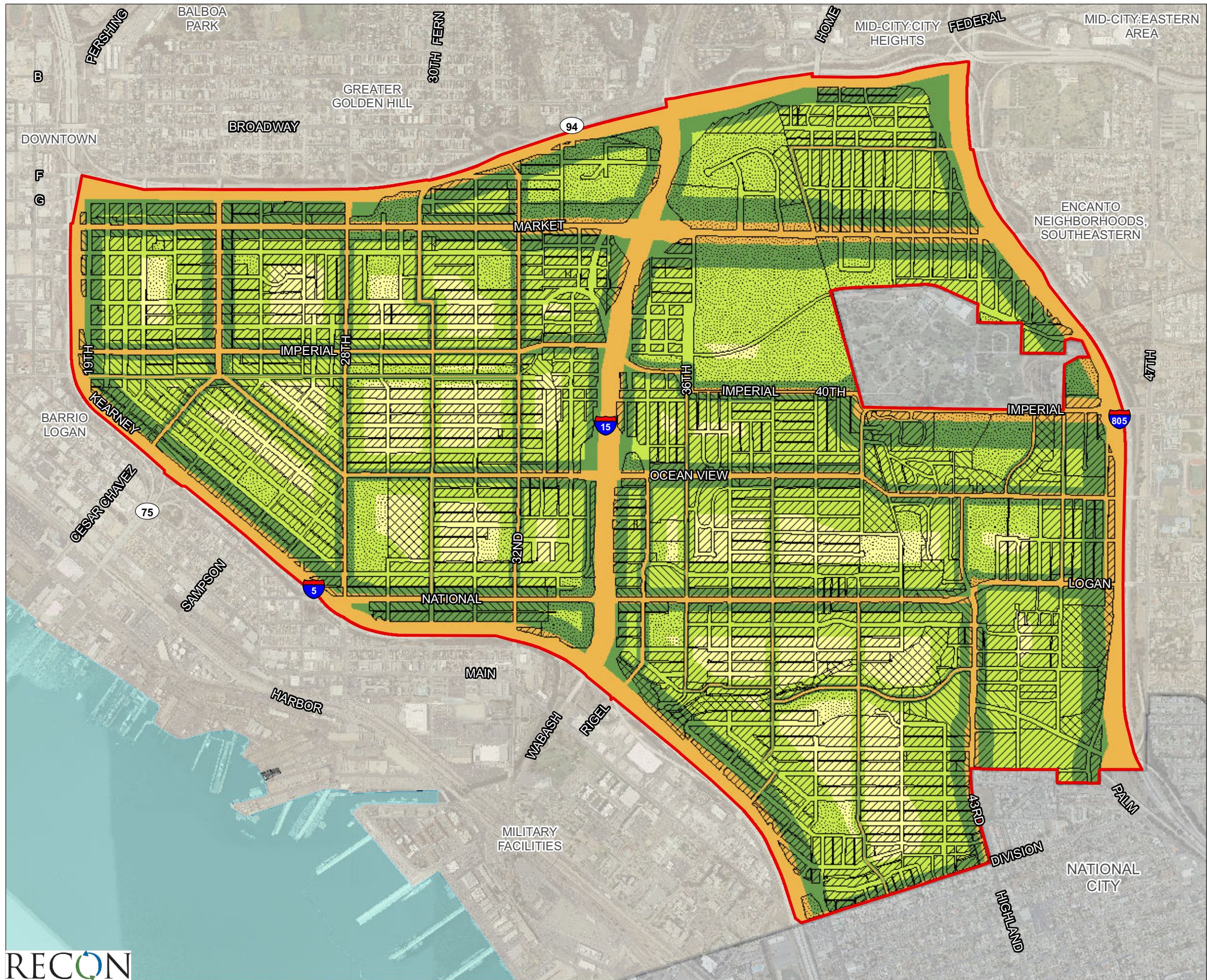
Roadway	Segment		Distance to (feet)			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Hilltop Drive	Boundary Street	I-805	1	5	15	47
Market Street	17th Street	19th Street	4	12	38	120
	19th Street	25th Street	5	17	54	169
	25th Street	28th Street	6	20	63	199
	28th Street	32nd Street	8	26	81	256
	32nd Street	I-15 SB Ramps	13	42	132	416
	I-15 SB Ramps	I-15 NB Ramps	17	52	166	524
	I-15 NB Ramps	Boundary Street	23	74	234	740
	Boundary Street	I-805 SB Ramps	2	7	22	71
	I-805 SB Ramps	I-805 NB Ramps	12	38	120	379
Imperial Avenue	17th Street	19th Street	6	19	60	190
	19th Street	25th Street	4	14	44	138
	25th Street	28th Street	4	13	43	135
	28th Street	30th Street	3	10	32	102
	30th Street	32nd Street	3	8	25	79
	32nd Street	36th Street	5	15	49	155
	36th Street	40th Street	5	17	55	173
	40th Street	I-805 SB Ramps	21	66	208	659
	I-805 SB Ramps	I-805 NB Ramps	23	74	234	740
Commercial Street	17th Street	19th Street	2	7	22	71
	19th Street	25th Street	2	5	15	48
	25th Street	28th Street	1	3	10	32
	28th Street	30th Street	1	3	11	35
	30th Street	32nd Street	1	4	12	39
Ocean View Boulevard	25th Street	28th Street	3	9	29	93
	28th Street	30th Street	3	11	34	107
	30th Street	32nd Street	4	14	45	141
	32nd Street	I-15 SB Ramps	7	23	74	234
	I-15 SB Ramps	I-15 NB Ramps	8	26	81	256
	I-15 NB Ramps	36th Street	7	21	67	213
	36th Street	40th Street	7	21	66	208
	40th Street	47th Street	5	17	52	166
National Avenue	Commercial Street	Beardsley Street	5	17	55	173
	Beardsley Street	SR-75 Off-Ramp	7	23	72	229
	SR-75 Off-Ramp	26th Street	3	9	29	91
	26th Street	27th Street/I-5 SB Off-Ramp	5	17	55	173
	27th Street/I-5 SB Off-Ramp	28th Street	7	23	74	234
	28th Street	I-5 NB Ramps	9	27	87	275
	I-5 NB Ramps	32nd Street	6	19	60	190
	32nd Street	43rd Street	6	19	62	195
Logan Avenue	43rd Street	45th Street	5	15	48	151
	45th Street	47th Street	8	26	83	262
Acacia Street	36th Street	38th Street	1	4	12	39
Alpha Street	38th Street	43rd Street	2	7	22	69
Division Street	Main Street	Osborn Street	8	24	76	239
	Osborn Street	Highland Avenue	6	18	57	182
	Highland Avenue	Palm Avenue	8	26	81	256
Cesar Chavez Parkway	Commercial Street	I-5 NB Ramps	3	10	32	102
	I-5 NB Ramps	SR-75 On-Ramp/Logan Avenue	5	17	54	169
25th Street	SR-94 WB Off-Ramp	SR-94 EB On-Ramp	8	27	85	269
	SR-94 EB On-Ramp	Market Street	9	28	89	281
	Market Street	Imperial Avenue	9	27	87	275
	Imperial Avenue	Commercial Street	6	18	56	177

TABLE 5
FUTURE VEHICLE TRAFFIC CONTOUR DISTANCES – SOUTHEASTERN SAN DIEGO CPU AREA
(cont.)

Roadway	Segment		Distance to (feet)			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
28th Street	SR-94 WB Ramps	SR-94 EB Ramps	5	16	50	158
	SR-94 EB Ramps	Market Street	5	17	52	166
	Market Street	Imperial Avenue	4	12	39	123
	Imperial Avenue	Commercial Street	3	8	27	85
	Commercial Street	Ocean View Boulevard	3	10	32	102
	Ocean View Boulevard	National Avenue	5	17	52	166
	National Avenue	Boston Avenue	13	40	126	397
30th Street	E Street	Imperial Avenue	2	8	24	77
	Imperial Avenue	Commercial Street	1	5	15	47
	Commercial Street	National Avenue	2	5	15	49
Broadway	SR-94 WB	SR-94 EB On-Ramp/F Street	5	17	52	166
32nd Street	SR-94 EB On-Ramp/F Street	Market Street	5	17	52	166
	Market Street	Imperial Avenue	4	13	41	129
	Imperial Avenue	Commercial Street	3	8	26	83
	Commercial Street	Ocean View Boulevard	3	9	29	91
	Ocean View Boulevard	National Avenue	3	10	32	100
	National Avenue	Boston Avenue	4	13	42	132
35th Street	Ocean View Boulevard	Main Street	3	10	33	104
36th Street	Imperial Avenue	Ocean View Boulevard	1	4	13	40
	Ocean View Boulevard	Acacia Street	1	4	13	43
38th Street	Ocean View Boulevard	Acacia Street	1	4	12	37
Vesta Street	Acacia Street	Main Street	2	6	19	59
40th Street	Imperial Avenue	Ocean View Boulevard	2	5	15	48
	National Avenue	Division Street	1	4	11	36
Boundary Street	Hilltop Drive	Market Street	1	3	9	29
San Pasqual Drive	Imperial Avenue	Ocean View Boulevard	2	6	20	64
	Ocean View Boulevard	Logan Avenue	4	11	35	112
43rd Street	Logan Avenue	Newton Avenue	6	20	63	199
	Newton Avenue	Beta Street	7	23	72	229
	Beta Street	Delta Street	11	36	115	362
	Delta Street	Division Street	10	31	97	308
Highland Avenue	Division Street	4th Street	12	39	123	388
45th Street	Imperial Avenue	Logan Avenue	1	4	13	42
I-5	17th Street	SR-94	1,021	3,228	10,209	32,283
	SR-94	Imperial Avenue	998	3,155	9,976	31,548
	Imperial Avenue	SR-75	931	2,944	9,310	29,442
	SR-75	28th Street	975	3,083	9,749	30,830
	28th Street	I-15	910	2,877	9,099	28,772
	I-15	Main Street	1,199	3,793	11,994	37,929
I-15	I-805	SR-94	561	1,774	5,610	17,741
	SR-94	Market Street	548	1,734	5,482	17,337
	Market Street	Ocean View Boulevard	601	1,901	6,011	19,009
	Ocean View Boulevard	I-5	574	1,815	5,741	18,154
	I-5	Norman Scott Road	141	446	1,409	4,456
I-805	Home Avenue	SR-94	1,145	3,622	11,454	36,222
	SR-94	Market Street	1,119	3,540	11,194	35,397
	Market Street	Imperial Avenue	1,442	4,560	14,420	45,601
	Imperial Avenue	43rd Street	1,409	4,456	14,092	44,563
	43rd Street	Plaza Boulevard	1,377	4,355	13,771	43,548

TABLE 5
FUTURE VEHICLE TRAFFIC CONTOUR DISTANCES – SOUTHEASTERN SAN DIEGO CPU AREA
(cont.)

Roadway	Segment		Distance to (feet)			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
SR-94	17th Street	25th Street	811	2,564	8,109	25,643
	25th Street	28th Street	869	2,748	8,689	27,477
	28th Street	30th Street	975	3,083	9,749	30,830
	30th Street	I-15	1,021	3,228	10,209	32,283
	I-15	Home Avenue	869	2,748	8,689	27,477
	Home Avenue	I-805	889	2,812	8,891	28,117
	I-805	47th Street	1,227	3,881	12,274	38,812



- Southeastern San Diego Community Plan Boundary
- Future Traffic Noise Contours**

60-65 CNEL

65-70 CNEL

70-75 CNEL

>75 CNEL
- Proposed Land Use**

Mixed Use

Residential

Commercial, Employment, and Industrial

Parks, Open Space & Recreation

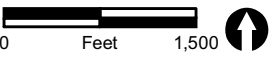


FIGURE 5a
 Future (2035) Traffic Noise Contours
 Southeastern San Diego CPU Area

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Noise levels greater than 70 CNEL require a greater level of design considerations to reduce to compatible interior noise levels in most residential structures, and noise-sensitive land uses are typically precluded from these areas, and are considered incompatible. Additionally, land uses in areas with noise levels this high or greater are not usually capable of providing sufficient shielding for exterior use areas.

Noise levels greater than 75 CNEL are considered incompatible for all land use types. Uses located adjacent to I-5, I-15, I-805, and SR-94 have the potential to be exposed to noise levels greater than 75 CNEL.

For residential properties located in areas where exterior noise levels exceed 60 CNEL, site-specific noise studies would be required. Additionally, site-specific interior noise levels would be required for land uses located in areas where exterior noise levels exceed the City's noise and land use compatibility thresholds as defined in the General Plan, Table N-3, and summarized in Table 5 of the existing conditions report.

It should be noted that at any specific location the actual existing noise would depend upon not only the source noise level, but also the nature of the path from the source to the sensitive receptor. Buildings, walls, dense vegetation, and other barriers would block the direct line of sight and reduce noise levels at the receptor. As an example, a first row of buildings would reduce traffic noise levels at receptors by 3–5 dB(A) behind those structures depending on the building-to-gap ratio. Large continuous structures can provide substantially greater attenuation of traffic noise.

Implementation of the policies in the CPU and General Plan would preclude or reduce traffic noise impacts. In addition, the City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA as well as an analysis of those projects for consistency with the goals, policies, and recommendations of the General Plan. Compliance with the standards is required of all projects and is not considered to be mitigation. However, it is possible that for certain projects, adherence to the regulations may not adequately reduce noise levels, and such projects would require additional measures to comply with applicable standards.

Thus, without mitigation, implementation of the CPU would result in a significant impact from traffic noise, because the CPU would potentially allow sensitive receptors to be located in areas where exterior noise levels exceed the compatibility standards established by the General Plan.

6.1.2 Rail Noise

Within the Southeastern San Diego Planning Area, the SDMTS provides trolley service along a railway alignment designated the "Orange Line". The Orange Line trolley generally parallels Commercial Street. At the at-grade crossings there are trolley warning signals operating while the trolley is in the vicinity of the crossing. There are two trolley stations

within the Southeastern San Diego Planning Area: the 25th/Commercial station and 32nd/Commercial station.

Railway noise consists of noise from the trolleys and emergency signaling devices. Trolley vehicles are equipped with horns for use in emergency situations and as a general audible warning to track workers and trespassers within the right-of-way as well as to pedestrians and motor vehicles at road grade crossings. Horns on the moving trolley vehicle combined with stationary bells at grade crossings can generate excessive noise levels that can affect noise-sensitive land uses.

The majority of the trolley trains run between the hours of 7:00 A.M. and 10:00 P.M. The Orange Line trolley operations consist of 144 scheduled trolleys each weekday with fewer trolleys on weekends (SDMTS 2014). Of this total, 96 trolleys occur during the daytime hours (i.e., 7 A.M.–7 P.M.), 17 occur during the evening hours (i.e., 7 P.M.–10 P.M.), and 31 occur during the nighttime hours (i.e., 10 P.M.–7 A.M.).

The modeled trolley noise levels indicate that noise levels range up to approximately 61 CNEL at 50 feet associated with the trolley (without the use of a trolley horn and 63 CNEL at 50 feet with the use of trolley horns). Thus, the 60 CNEL contour from trolley operations would fall approximately 56 feet from the centerline of the trolley tracks, and the 65 CNEL would fall approximately 32 feet from the centerline. At intersections, where the trolley horn is used, the 60 CNEL contour would fall approximately 71 feet from the centerline of the trolley tracks, and the 65 CNEL contour would fall approximately 40 feet from the centerline. The distances to various CNEL noise contours for the trolley are provided in Attachment 2.

There are no residential land uses located within 32 feet of the trolley tracks. Thus, noise levels due to trolley operations are not anticipated to exceed 65 CNEL. Noise impacts due to trolley operations would be less than significant.

As discussed in Section 5.2, SDIY also operates short-haul freight service along the Orange Line trolley corridor through Southeastern San Diego during the early morning hours when the trolley is not operating. It was assumed that one freight train would travel along the corridor per night, and would travel at the same speed as the trolleys. The modeled freight noise levels indicate that noise levels range up to approximately 57 CNEL at 50 feet. Thus, the 60 CNEL contour from freight operations would fall approximately 35 feet from the centerline of the trolley tracks, and the 65 CNEL contour would fall approximately 20 feet from the centerline. There are no residential land uses located within 20 feet of the trolley tracks. Thus, noise levels due to freight operations are not anticipated to exceed 65 CNEL. Noise impacts due to freight operations would be less than significant.

6.1.3 Airport Noise

The San Diego International Airport is located approximately two miles northwest of the Southeastern San Diego Planning Area. As shown in Figure 4, the 60 and 65 CNEL contours for the San Diego International Airport extend into the Southeastern San Diego Planning Area. Residential uses located north of Market Street, west of Boundary Street, and east of 42nd Street would have the potential to be exposed to aircraft noise levels exceeding 65 CNEL. Residential uses located in the northeast corner of the Southeastern San Diego Planning Area north of the trolley line and east of Boundary Street would have the potential to be exposed to aircraft noise levels exceeding 60 CNEL. However, the Southeastern San Diego CPU would not change the land use of the existing single-family residential land uses located within the 65 to 70 CNEL contours for the San Diego International Airport. Future single-family homes would include noise attenuation consistent with the Noise Element of the General Plan and the ALUCP for the San Diego International Airport. Impacts due to aircraft noise would be less than significant.

6.1.4 Stationary Noise

Stationary sources of noise include activities associated with a given land use. For example, noise sources in commercial uses would include car washes, fast food restaurants, auto repair facilities, parking lots, and a variety of other uses.

Mixed-use areas would contain residential and commercial interfaces. Mixed-use sites and areas where residential uses are located in proximity to commercial sites could result in an exposure of sensitive receptors to noise levels in excess of the limits established in the Noise Abatement and Control Ordinance. Noise conflicts between commercial and residential uses could occur because of traffic, loading docks, mechanical equipment (such as generators, heating, ventilation, and air conditioning [HVAC] units), deliveries, trash-hauling activities, and customer and employee use of commercial facilities. Limiting truck idling time and enclosing external equipment (generators, HVAC units, etc.) that are adjacent to residential uses would reduce stationary noise levels.

Although noise-sensitive residential land uses would be exposed to noise associated with the operation of these commercial and industrial uses, City policies in place are intended to control noise and reduce noise impacts between various land uses. The City's noise policies, as contained in the General Plan and Noise Ordinance, include policies and regulations that require noise studies for land uses proposed for potentially incompatible locations, limits on hours of operation for various noise-generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. In addition, enforcement of the federal, state, and local noise regulations reduce impacts. Moreover, the Southeastern San Diego CPU includes policies to reduce noise impacts. Such policies include requiring site design

considerations and other measures to reduce noise levels from these noise-generating uses where an interface with noise sensitive land uses occurs. The Southeastern San Diego CPU also defines acceptable methods for separating sensitive receptors within the planning areas, in the form of parking lots and other non-habitable uses to reduce noise levels to sensitive receptors. These criteria would be applied as future development is proposed to implement the Southeastern San Diego CPU.

The juxtaposition of proposed land uses would result in potentially significant noise impacts. While the applicable regulations and policies would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in the General Plan or Noise Ordinance, no project-level site plans or implementation programs have been considered as part of the environmental review of the CPUs. However, without detailed operational data it cannot be verified that future projects implemented in accordance with the Southeastern San Diego CPU would be capable of reducing noise levels to comply with City standards. As the degree of success of regulations cannot be adequately known for each specific project at this program-level analysis, impacts would be significant. Additional mitigation would be required to provide verification that City standards have been met.

6.1.5 Construction Noise

Adoption of the Southeastern San Diego CPU itself would not be associated with any ambient noise increases. However, future development as allowed under the Southeastern San Diego CPU could potentially result in temporary ambient noise increase due to construction activities.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., demolition/land clearing, grading and excavation, erection). Construction noise in any one particular area would be short-term and would include noise from activities such as site preparation, truck hauling of material, pouring of concrete, and use of power tools. Noise would also be generated by construction equipment, including earthmovers, material handlers, and portable generators, and could reach high levels for brief periods. Typical construction noise levels are discussed in Section 5.5.

The exact location of projects and construction activities approved under the Southeastern San Diego CPU are not known at this time. It is likely that sensitive receptors would be located in the vicinity of construction activities. The City of San Diego regulates noise associated with construction equipment and activities through its Noise Abatement and Control Ordinance. If construction activities exceed the limitations set forth in Section 59.5.0404 of the City's Noise Abatement and Control Ordinance (see Section 3.3.3.2 of the existing conditions report, RECON 2013), then noise impacts would be significant.

Any construction resulting from the adoption of the Southeastern San Diego CPU must comply with Section 59.5.0404 of the City's Noise Abatement and Control Ordinance. As noted above, construction equipment would generate maximum noise levels between 85 and 90 dB at 50 feet from the source when in operation. Hourly average noise levels would be 82 dB(A) at 50 feet from the center of construction activity when assessing the loudest pieces of equipment working simultaneously. Noise levels would vary depending on the nature of the construction including the duration of specific activities, nature of the equipment involved, location of the particular receiver, and nature of intervening barriers. Construction noise levels of 82 dB(A) L_{eq} at 50 feet would attenuate to 75 dB(A) L_{eq} at 110 feet. Therefore, significant impacts would occur if residential uses are located closer than 110 feet of construction activities.

Therefore, construction activities related to implementation of the Southeastern San Diego CPU would potentially generate short-term noise levels in excess of 75 dB(A) L_{eq} at adjacent properties and would therefore be potentially significant. The City regulates noise associated with construction equipment and activities through enforcement of noise ordinance standards (e.g., days of the week and hours of operation) and imposition of conditions of approval for building or grading permits. However, as the degree of success of these measures cannot be adequately known for each specific project at this program-level analysis, mitigation would be required.

6.1.6 Vibration

Potential vibration could result from construction of projects allowed by the Southeastern San Diego CPU. In addition, post-construction operational vibration impacts could occur as a result of commercial operations.

6.1.6.1 Construction

Construction of projects implemented under the Southeastern San Diego CPU would be located adjacent to existing structures. Construction activities may include demolition of existing structures, site preparation work, excavation of parking and subfloors, foundation work, and building construction. Demolition for an individual site may last weeks to months and may produce substantial vibration. Excavation for underground levels could also occur on some project sites, and vibratory pile driving could be used to stabilize the walls of excavated areas. Piles or drilled caissons may also be used to support building foundations.

As discussed in Section 5.6, pile driving has the potential to generate the highest groundborne vibration levels and is the primary concern for structural damage when it occurs within 100 feet of structures. Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component, such as blasting, rock or caisson drilling, and

site excavation or compaction, may be high enough to be perceptible within 150 feet and may be high enough to damage existing structures within 50 feet. Impacts to local vibration-sensitive receptors would be potentially significant.

Other project construction activities, such as caisson drilling, and the use of jackhammers, other high-power or vibratory tools, compactors, and tracked equipment, may also potentially generate substantial vibration in the immediate vicinity, typically within 25 feet of the equipment. By use of administrative controls, such as scheduling, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and, as such, typical construction activities would result in a less than significant impact with respect to perception.

6.1.6.2 Operation

Light industrial and commercial operations have, on occasion, been known to utilize equipment or processes in the manufacture and distribution of materials that have a potential to generate groundborne vibration. However, vibrations found to be excessive for human exposure that are the result of a manufacturing process or industrial machinery are generally addressed from an occupational health and safety perspective. The residual vibrations from industrial processes or machinery are typically of such low amplitude that they quickly dissipate into the surrounding soil and are rarely perceivable at the surrounding land uses.

Distribution of materials to and from industrial and commercial land uses can have the potential to generate more substantial levels of groundborne vibration than that of the mechanical equipment. Heavy trucks used for delivery and distribution of materials to and from industrial and commercial sites generally operate at very low speeds while on the industrial or commercial site. Therefore, the groundborne vibration induced by heavy truck traffic at industrial or commercial land uses is not anticipated to be perceptible at distances greater than 25 feet (the typical distance from a roadway centerline to the edge of a roadway right-of-way for a single-lane road).

Based on the operational characteristics of mechanical equipment and distribution methods used for general light industrial and commercial land uses, it is not anticipated that light industrial or commercial operations would result in groundborne vibration levels that approach or exceed vibration-level limits. Impacts would be less than significant.

6.2 Encanto Neighborhoods

6.2.1 Vehicle Traffic Noise

6.2.1.1 Increase in Ambient Noise

A significant impact would occur if implementation of the proposed CPU resulted in or created a significant increase in the existing ambient noise levels. Studies have shown that the average human ear can barely perceive a change in sound level of 3 dB(A). A change of at least 5 dB(A) is considered a readily perceivable change in a normal environment. A 10 dB(A) increase is subjectively heard as a doubling in loudness and would cause a community response. The City's 2011 Significance Determination Thresholds also state that if a project is currently at or exceeds the significance thresholds for traffic noise and noise levels result in less than a 3 dB(A) increase, the impact would not be considered significant (City of San Diego 2011).

As discussed in Section 6.1.1.1, if an area is already exposed to noise levels in excess of the land use compatibility guidelines (see Table 5 of the existing conditions report) and noise levels were to result in greater than a 3 dB(A) increase, then the impact would be considered significant. If an area is currently exposed to noise levels that do not exceed the land use compatibility guidelines and noise levels were to result in greater than a 5 dB(A) increase, then the impact would be considered significant. There are areas that are currently exposed to noise levels that are exactly at or very near the land use compatibility guidelines. For these areas, the increase in ambient noise levels would be considered significant if noise levels resulted in greater than a 5 dB(A) increase or if resulting noise levels were 3 dB(A) more than the compatibility guideline (e.g., if the compatibility guideline is 65 CNEL, the existing noise level is currently 63 CNEL, and the future noise level is 67 CNEL, impacts would be less than significant because the increase in noise would be less than 5 dB(A) and the resulting noise level would not exceed 68 CNEL).

The roads generating the greatest noise levels in the Encanto Neighborhoods CPU area are I-805, SR-94, Market Street, Imperial Avenue, 47th Street, and Euclid Avenue. Increases in traffic noise gradually degrade the ambient noise environment, especially with respect to sensitive receptors. According to the General Plan, noise-sensitive receptors include, but are not necessarily limited to, residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, places of worship, child care facilities, and certain types of passive recreational parks and open space (City of San Diego 2008).

Vehicular traffic on roadways in the CPU area would increase due to buildout of the Encanto Neighborhoods CPU. Table 6 summarizes the existing and buildout traffic noise levels along various roadway segments in the Encanto Neighborhoods CPU area. Roadway noise is measured in CNEL at 50 feet from the roadway centerline.

As discussed previously, there are areas that are currently exposed to significant traffic noise levels greater than established General Plan Noise Element noise – land use comparability guidelines in the CPU area. The Encanto Neighborhoods CPU would not result in a change in that condition, and these areas would continue to be exposed to significant noise levels. Where traffic noise was calculated to be less than 65 CNEL but to increase by 5 dB(A) or more, and where traffic noise was calculated to be greater than 65 CNEL and to increase by 3 dB(A) or more, the adjacent land uses under the Encanto Neighborhoods CPU were examined and buildout noise levels were compared to the General Plan compatibility guidelines.

The compatible noise level for residential uses is 60 CNEL before the building must attenuate the exterior noise levels to the 45 CNEL interior standard and to 65 CNEL for exterior use areas.

The following roadway segments currently generate noise levels greater than 65 CNEL, and future noise levels would increase by 3 dB(A) or more:

- Market Street
 - 47th Street to Euclid Avenue
- Imperial Avenue
 - 69th Street to Viewcrest Drive
- Churchward Street/58th Street
 - Euclid Avenue to Skyline Drive
- Plaza Boulevard
 - Paradise Valley Road to Division Street
- San Jacinto Drive
 - Imperial Avenue to Olvera Avenue
- Kelton Road
 - SR-94 Eastbound Ramp to Alvin Street
- Pitta Street
 - Alvin Street to Market Street
- 60th Street
 - Federal Boulevard to Imperial Avenue

The following roadway segment currently generates noise levels less than 65 CNEL, and future noise levels would increase by 5 dB(A) or more:

- Alvin Street
 - Kelton Road to Pitta Street

TABLE 6
INCREASE IN AMBIENT TRAFFIC NOISE – ENCANTO NEIGHBORHOODS CPU AREA

Roadway	Segment		CNEL at 50 feet		
	From	To	Existing	2035	Change in dB
Mallard Street	Federal Boulevard	69th Street	72.9	73.3	0.4
Federal Boulevard	60th Street	Mallard Street	79.1	79.1	0.0
	Mallard Street	MacArthur Drive	78.3	78.4	0.0
Tooley Street	60th Street	Paradise Street	59.2	60.3	1.1
Hilltop Drive	I-805	47th Street	69.0	69.3	0.3
Roswell Street	51st Street	Old Memory Lane	64.2	68.8	4.6
Old Memory Lane	Roswell Street	60th Street	63.7	64.0	0.3
Radio Drive	60th Street	Mallard Street	59.2	63.3	4.2
Klauber Avenue	Broadway	69th Street	62.2	62.5	0.4
Broadway	60th Street	Madera Street	66.7	68.1	1.4
Market Street	I-805 SB Ramps	I-805 NB Ramps	77.8	78.4	0.6
	I-805 NB Ramps	47th Street	77.1	78.7	1.6
	47th Street	Euclid Avenue	75.3	78.8	3.5
Market Street/Akins Avenue	Euclid Avenue	60th Street	73.0	73.2	0.2
Imperial Avenue	I-805 SB Ramps	I-805 NB Ramps	80.8	81.3	0.5
	I-805 NB Ramps	47th Street	81.9	82.1	0.1
	47th Street	Euclid Avenue	81.6	81.7	0.2
	Euclid Avenue	Valencia Parkway	77.9	78.8	0.9
	Valencia Parkway	Woodman Street	79.2	79.2	0.0
	Woodman Street	69th Street	78.9	80.7	1.8
	69th Street	Viewcrest Drive	78.2	81.2	3.0
Lisbon Street	Imperial Avenue	71st Street	74.6	77.2	2.6
Churchward Street/58th Street	Euclid Avenue	Skyline Drive	65.6	69.6	4.1
Skyline Drive	58th Street	Valencia Parkway	73.6	75.2	1.5
	Valencia Parkway	61st Street	75.7	77.5	1.8
	61st Street	Omeara Street	75.9	76.6	0.6
	Omeara Street	Woodman Street	76.0	76.4	0.4
	Woodman Street	69th Street	76.0	76.1	0.1
Logan Avenue	45th Street	47th Street	74.5	76.8	2.3
	47th Street	Euclid Avenue	74.8	77.4	2.6
Olvera Avenue/58th Street	Euclid Avenue	Skyline Drive	71.3	73.0	1.7
Division Street	Palm Avenue	Euclid Avenue	76.6	76.9	0.3
	Euclid Avenue	Harbison Avenue	76.4	76.6	0.2
	Harbison Avenue	58th Street	75.8	76.9	1.1
	58th Street	Valencia Parkway	74.5	75.5	1.0
	Valencia Parkway	61st Street	73.8	74.0	0.2
	61st Street	Plaza Boulevard	72.3	73.3	1.0
Plaza Boulevard	Paradise Valley Road	Division Street	70.9	73.9	3.1
	Division Street	Woodman Street	74.6	76.5	1.9
47th Street	SR-94 EB On-Ramp	Market Street	76.2	78.1	1.9
	Market Street	Imperial Avenue	76.8	79.1	2.3
	Imperial Avenue	Logan Avenue	77.1	78.9	1.8
	Logan Avenue	I-805 NB Ramps	76.5	79.1	2.6
	I-805 NB Ramps	I-805 SB Ramps	76.1	77.4	1.4
47th Street/Palm Avenue	I-805 SB Ramps	Division Street	80.1	81.2	1.1
Euclid Avenue	SR-94 WB Ramps	SR-94 EB Ramps	80.0	80.7	0.7
	SR-94 EB Ramps	Market Street	79.4	80.2	0.8
	Market Street	Imperial Avenue	78.5	79.8	1.2
	Imperial Avenue	Logan Avenue	75.8	76.8	1.1
	Logan Avenue	Division Street	75.6	76.7	1.1
51st Street	Market Street	Roswell Street	66.1	68.6	2.5
San Jacinto Drive	Imperial Avenue	Olvera Avenue	65.2	68.3	3.1
Bayview Heights Way	SR-94 WB Ramps	SR-94 EB Ramps	74.6	76.5	1.9
Kelton Road	SR-94 EB Ramps	Alvin Street	70.0	75.3	5.3

TABLE 6
INCREASE IN AMBIENT TRAFFIC NOISE – ENCANTO NEIGHBORHOODS CPU AREA

Roadway	Segment		CNEL at 50 feet		
	From	To	Existing	2035	Change in dB
Alvin Street	Kelton Road	Pitta Street	64.8	74.1	9.3
Pitta Street	Alvin Street	Market Street	67.3	72.5	5.2
Merlin Drive	Broadway	Imperial Avenue	69.0	69.3	0.2
Valencia Parkway	Imperial Avenue	Skyline Drive	75.2	75.6	0.4
	Skyline Drive	Cervantes Avenue	71.0	72.8	1.9
	Cervantes Avenue	Wesmead Street	70.6	72.1	1.4
	Wesmead Street	Division Street	69.0	70.5	1.5
60th Street	Federal Boulevard	Imperial Avenue	72.4	76.0	3.6
61st Street	Imperial Avenue	Division Street	71.1	73.0	1.9
Winnett Street	Federal Boulevard	Radio Drive	66.8	67.7	1.0
Paradise Street	Mallard Street	Radio Drive	61.1	62.1	1.0
Madera Street	Massachusetts Avenue	69th Street	68.0	68.0	0.0
Madera Street/66th Street	69th Street	Akins Avenue	67.5	68.8	1.2
Woodman Street	Imperial Avenue	Skyline Drive	73.8	75.7	1.9
	Skyline Drive	Plaza Boulevard	76.4	77.8	1.4
	Plaza Boulevard	Paradise Valley Road	78.9	79.2	0.2
69th Street	San Miguel Avenue	Mallard Street	69.9	70.0	0.2
	Mallard Street	Imperial Avenue	68.6	69.3	0.7
	Imperial Avenue	Skyline Drive	67.8	69.3	1.5

Bold = potentially significant impact

The following roadway segment currently generates noise levels lower than 65 CNEL and future noise levels would increase less than 5 dB(A) over existing ambient noise levels, but future noise levels would exceed 68 CNEL:

- Roswell Street
 - 51st Street to Old Memory Lane

There are existing sensitive uses located adjacent to these roadway segments, and there could be also future sensitive uses located adjacent to them. Possible noise-reduction measures would include retrofitting older homes with new window and door components with higher STC ratings. However, for existing uses, it cannot be determined whether the existing structures contain adequate attenuation to reduce interior noise to the 45 CNEL standard nor what measures would be required to retrofit these structures. In addition, there is no mechanism in place for implementing such a retrofit program in areas. Because the significant noise impacts are to existing homes in an already urbanized area, there is no feasible mitigation. Thus, impacts to existing sensitive land uses due to the increase in ambient noise levels associated with buildout of the Encanto Neighborhoods CPU would remain significant and unmitigated.

A mitigation framework exists for new development in areas exposed to high levels of ambient noise. Policies in the CPU and General Plan, procedures in the Municipal Code, and regulations (Title 24) would reduce traffic noise exposure, because they set standards for the siting of sensitive land uses. Site-specific noise analyses that demonstrate that the project would not place sensitive receptors in locations where the exterior existing or future noise levels would exceed the noise compatibility standards of the City's General Plan would be required for multi-family development proposals. With this framework, noise impacts to new multi-family development would be less than significant. This would also be the case for other discretionary projects, as the mitigation framework can be required as conditions of future permit approvals. Additionally, for ministerial projects, during the application process, the City evaluates the project location in relation to noise contours provided in community plans. Projects located in areas that exceed the applicable land use and noise compatibility level would be required to demonstrate that noise levels would not exceed the General Plan noise compatibility guidelines for the subject land use. Compliance with the standards is required of all projects and is not considered to be mitigation. However, it is possible that for certain projects, adherence to the regulations may not adequately reduce noise levels, and such projects would require additional measures to comply with applicable standards. Thus, without mitigation, implementation of the CPU would result in a significant impact from traffic noise, because the CPU would potentially allow sensitive receptors to be located in areas where exterior noise levels exceed the compatibility standards established by the General Plan.

For all other roadway segments in the CPU area not included in the above lists, the increase in ambient noise would be less than significant. The Encanto Neighborhoods

CPU would not significantly worsen the noise exposure (i.e., future noise increase would be less than 3 dB(A) in areas already exposed to noise levels in excess of compatibility guidelines, or future noise increase would be less than 5 dB(A) in areas currently exposed to noise levels lower than compatibility guidelines), and impacts due to the increase in ambient noise would be less than significant.

6.2.1.2 Land Use Compatibility

The City of San Diego noise and land use compatibility guidelines are presented in Table 5 of the existing conditions report. The Encanto Neighborhoods CPU proposes single-family residential, multi-family residential, commercial, office, industrial and utilities, community facilities, and park and open space land uses.

- Single-family residential is compatible up to 60 CNEL and conditionally compatible up to 65 CNEL.
- Multi-family residential and mixed uses are compatible up to 60 CNEL and conditionally compatible up to 70 CNEL. Additionally, as stated in Section B of the City's Noise Element, although not generally considered compatible, the City conditionally allows multi-family and mixed-use residential uses up to 75 CNEL in areas affected by motor vehicle traffic noise with existing residential uses. Any future residential use exposed to noise levels above 70 CNEL must include attenuation measures to ensure an interior noise level of 45 CNEL and be located in an area where a community plan allows multi-family and mixed-use residential uses.
- Commercial, office, and industrial uses are compatible up to 65 CNEL and conditionally compatible up to 75 CNEL.
- Neighborhood parks are compatible up to 60 CNEL and conditionally compatible up to 65 CNEL. It should also be noted that in June 2015, the City Council will consider approval of a General Plan amendment to the Noise Element to change the guidelines for park uses. With this amendment, park uses would be considered compatible in areas up to 70 CNEL and conditionally compatible in areas between 70 and 75 CNEL.

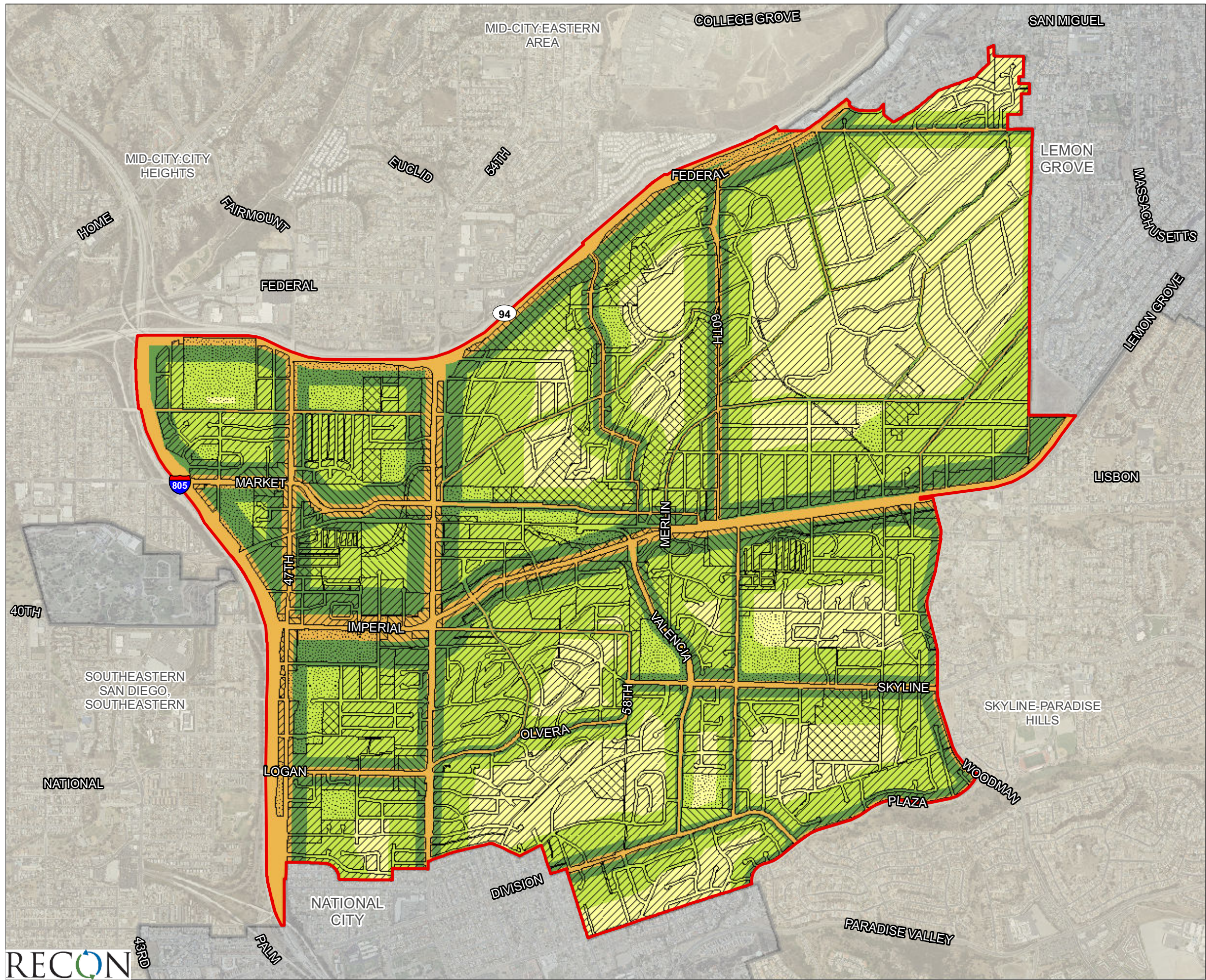
The distances to the 60, 65, 70, and 75 CNEL noise contours for freeways and major roadways in the Encanto Neighborhoods Planning Area are shown in Table 7. A complete list of distances to the 60, 65, 70, and 75 CNEL noise contours for all roadway segments for buildout of the Encanto Neighborhoods Planning Area are included in Attachment 3. Distances to the roadway noise contours assume a hard, flat site with no intervening barriers or obstructions. Future noise contours for the Encanto Neighborhoods Planning Area are shown in Figure 5b.

TABLE 7
FUTURE VEHICLE TRAFFIC CONTOUR DISTANCES – ENCANTO NEIGHBORHOODS CPU AREA

Roadway	Segment		Distance to (feet)			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Mallard Street	Federal Boulevard	69th Street	4	12	37	117
Federal Boulevard	60th Street	Mallard Street	14	45	141	446
	Mallard Street	MacArthur Drive	12	38	120	379
Tooley Street	60th Street	Paradise Street	0	1	2	6
Hilltop Drive	I-805	47th Street	1	5	15	47
Roswell Street	51st Street	Old Memory Lane	1	4	13	42
Old Memory Lane	Roswell Street	60th Street	0	1	4	14
Radio Drive	60th Street	Mallard Street	14	46	144	456
Klauber Avenue	Broadway	69th Street	20	64	204	644
Broadway	60th Street	Madera Street	1	4	11	35
Market Street	I-805 SB Ramps	I-805 NB Ramps	12	38	120	379
	I-805 NB Ramps	47th Street	13	41	129	406
	47th Street	Euclid Avenue	13	42	132	416
Market Street/Akins Avenue	Euclid Avenue	60th Street	4	11	36	115
Imperial Avenue	I-805 SB Ramps	I-805 NB Ramps	23	74	234	740
	I-805 NB Ramps	47th Street	28	89	281	889
	47th Street	Euclid Avenue	26	81	256	811
	Euclid Avenue	Valencia Parkway	13	42	132	416
	Valencia Parkway	Woodman Street	14	46	144	456
	Woodman Street	69th Street	20	64	204	644
	69th Street	Viewcrest Drive	23	72	229	723
Lisbon Street	Imperial Avenue	71st Street	9	29	91	288
Churchward Street/58th Street	Euclid Avenue	Skyline Drive	2	5	16	50
Skyline Drive	58th Street	Valencia Parkway	6	18	57	182
	Valencia Parkway	61st Street	10	31	97	308
	61st Street	Omeara Street	8	25	79	251
	Omeara Street	Woodman Street	8	24	76	239
	Woodman Street	69th Street	7	22	71	223
Logan Avenue	45th Street	47th Street	8	26	83	262
	47th Street	Euclid Avenue	9	29	93	294
Olvera Avenue/58th Street	Euclid Avenue	Skyline Drive	3	11	35	109
Division Street	Palm Avenue	Euclid Avenue	8	27	85	269
	Euclid Avenue	Harbison Avenue	8	25	79	251
	Harbison Avenue	58th Street	8	27	85	269
	58th Street	Valencia Parkway	6	19	62	195
	Valencia Parkway	61st Street	4	14	44	138
	61st Street	Plaza Boulevard	4	12	37	117
Plaza Boulevard	Paradise Valley Road	Division Street	4	13	43	135
	Division Street	Woodman Street	8	24	77	245
47th Street	SR-94 EB On-Ramp	Market Street	11	35	112	354
	Market Street	Imperial Avenue	14	45	141	446
	Imperial Avenue	Logan Avenue	13	43	135	426
	Logan Avenue	I-805 NB Ramps	14	45	141	446
	I-805 NB Ramps	I-805 SB Ramps	10	30	95	301
47th Street/Palm Avenue	I-805 SB Ramps	Division Street	23	72	229	723
Euclid Avenue	SR-94 WB Ramps	SR-94 EB Ramps	20	64	204	644
	SR-94 EB Ramps	Market Street	18	57	182	574
	Market Street	Imperial Avenue	17	52	166	524
	Imperial Avenue	Logan Avenue	8	26	83	262
	Logan Avenue	Division Street	8	26	81	256
51st Street	Market Street	Roswell Street	1	4	13	40
San Jacinto Drive	Imperial Avenue	Olvera Avenue	1	4	12	37
Bayview Heights Way	SR-94 WB Ramps	SR-94 EB Ramps	8	24	77	245

TABLE 7
FUTURE VEHICLE TRAFFIC CONTOUR DISTANCES – ENCANTO NEIGHBORHOODS CPU AREA
(cont.)

Roadway	Segment		Distance to (feet)			
	From	To	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Kelton Road	SR-94 EB Ramps	Alvin Street	6	19	59	186
Alvin Street	Kelton Road	Pitta Street	4	14	45	141
Pitta Street	Alvin Street	Market Street	3	10	31	97
Merlin Drive	Broadway	Imperial Avenue	1	5	15	47
Valencia Parkway	Imperial Avenue	Skyline Drive	6	20	63	199
	Skyline Drive	Cervantes Avenue	3	10	33	104
	Cervantes Avenue	Wesmead Street	3	9	28	89
	Wesmead Street	Division Street	2	6	19	62
60th Street	Federal Boulevard	Imperial Avenue	7	22	69	218
61st Street	Imperial Avenue	Division Street	3	11	35	109
Winnett Street	Federal Boulevard	Radio Drive	1	3	10	32
Paradise Street	Mallard Street	Radio Drive	0	1	3	9
Madera Street	Massachusetts Avenue	69th Street	1	3	11	35
Madera Street/66th Street	69th Street	Akins Avenue	1	4	13	42
Woodman Street	Imperial Avenue	Skyline Drive	6	20	64	204
	Skyline Drive	Plaza Boulevard	10	33	104	330
	Plaza Boulevard	Paradise Valley Road	14	46	144	456
69th Street	San Miguel Avenue	Mallard Street	2	5	17	55
	Mallard Street	Imperial Avenue	1	5	15	47
	Imperial Avenue	Skyline Drive	1	5	15	47
Hilltop Drive	47th Street	Euclid Avenue	2	5	17	54
I-805	Home Avenue	SR-94	1,145	3,622	11,454	36,222
	SR-94	Market Street	1,119	3,540	11,194	35,397
	Market Street	Imperial Avenue	1,442	4,560	14,420	45,601
	Imperial Avenue	47th Street	1,409	4,456	14,092	44,563
	47th Street	Plaza Boulevard	1,377	4,355	13,771	43,548
SR-94	Home Avenue	I-805	889	2,812	8,891	28,117
	I-805	47th Street	1,227	3,881	12,274	38,812
	47th Street	Euclid Avenue	1,227	3,881	12,274	38,812
	Euclid Avenue	Kelton Road	1,119	3,540	11,194	35,397
	Kelton Road	Federal Boulevard	1,119	3,540	11,194	35,397
	Federal Boulevard	College Grove Way	975	3,083	9,749	30,830
	College Grove Way	College Avenue	998	3,155	9,976	31,548



Encanto Neighborhoods Community Plan Boundary

Future Traffic Noise Contours

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

Proposed Land Use

- Mixed Use
- Residential
- Commercial, Employment, and Industrial
- Parks, Open Space & Recreation



FIGURE 5b
 Future (2035) Traffic Noise Contours
 Encanto CPU Area

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As discussed, the roads generating the greatest noise level in the Encanto Neighborhoods Planning Area are I-805, SR-94, Market Street, Imperial Avenue, 47th Street, and Euclid Avenue. The local freeways are the dominant noise sources in the planning areas. As shown in Figure 5b, traffic noise levels at existing and proposed residential use areas closest to the freeways and heavily traveled roadways would exceed the City's compatibility thresholds for residential land uses.

As with the Southeastern San Diego Planning Area, for properties located in areas where exterior noise levels exceed 60 CNEL, site-specific noise studies would be required. Additionally, site-specific interior noise levels would be required for land uses located in areas where exterior noise levels exceed the City's noise and land use compatibility thresholds as defined in the General Plan, Table N-3.

Implementation of the policies in the CPU and General Plan would preclude or reduce traffic noise impacts. In addition, the City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA as well as an analysis of those projects for consistency with the goals, policies, and recommendations of the General Plan. Compliance with the standards is required of all projects and is not considered to be mitigation. However, it is possible that for certain projects, adherence to the regulations may not adequately reduce noise levels, and such projects would require additional measures to comply with applicable standards.

Thus, without mitigation, implementation of the CPU would result in a significant impact from traffic noise, because the CPU would potentially allow sensitive receptors to be located in areas where exterior noise levels exceed the compatibility standards established by the General Plan.

6.2.2 Rail Noise

Within the Encanto Neighborhoods Planning Area, the SDMTS provides trolley service along a railway alignment designated the "Orange Line". There are three trolley stations within the Encanto Neighborhoods Planning Area: the 47th Street station, Euclid Avenue station, and Encanto/62nd Street station.

Trolley noise levels in the Encanto Neighborhoods Planning Area would be the same as those discussed for the Southeastern San Diego Planning Area. The 60 CNEL contour from trolley operations would fall approximately 56 feet from the centerline of the trolley tracks, and the 65 CNEL would fall approximately 32 feet from the centerline. At intersections, where the trolley horn is used, the 60 CNEL contour would fall approximately 71 feet from the centerline of the trolley tracks, and the 65 CNEL contour would fall approximately 40 feet from the centerline. The distances to various CNEL noise contours for the trolley are provided in Attachment 2.

There are no residential land uses located within 32 feet of the trolley tracks within the Encanto Neighborhoods CPA. Thus, noise levels due to trolley operations are not anticipated to exceed 65 CNEL. Noise impacts due to trolley operations would be less than significant.

6.2.3 Airport Noise

The San Diego International Airport is located approximately four miles northwest of the Encanto Neighborhoods Planning Area. As shown in Figure 4, the Encanto Neighborhoods Planning Area is located entirely outside of the 65 CNEL noise contour for San Diego International Airport. Additionally, a majority of the planning area is located outside the 60 CNEL contour. Future single-family homes would include noise attenuation consistent with the Noise Element of the General Plan and the ALUCP for the San Diego International Airport. Impacts due to aircraft noise would be less than significant.

6.2.4 Stationary Noise

Stationary noise generated in the Encanto Neighborhoods Planning Area would be similar to the stationary noise generated in the Southeastern San Diego Planning Area. Although noise-sensitive residential land uses would be exposed to noise associated with the operation of commercial and industrial uses, City policies in place are intended to control noise and reduce noise impacts between various land uses. The City's noise policies, as contained in the General Plan and Noise Ordinance, include policies and regulations that require noise studies for land uses proposed for potentially incompatible locations, limits on hours of operation for various noise-generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. In addition, enforcement of the federal, state, and local noise regulations reduces impacts. Moreover, the Encanto Neighborhoods CPU includes policies to reduce noise impacts. Such policies include requiring site design considerations and other measures to reduce noise levels from these noise-generating uses where an interface with noise sensitive land uses occurs. The Encanto Neighborhoods CPU also defines acceptable methods for separating sensitive receptors within the planning area, in the form of parking lots and other non-habitable uses to reduce noise levels to sensitive receptors. These criteria would be applied as future development is proposed to implement the Encanto Neighborhoods CPU.

The juxtaposition of proposed land uses would result in potentially significant noise impacts. While the applicable regulations and policies would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in the General Plan or Noise Ordinance, no project-level site plans or implementation programs have been considered as part of the environmental review of the CPUs. Without detailed operational data it cannot be verified that future projects implemented in accordance with the Encanto Neighborhoods CPU would be capable of

reducing noise levels to comply with City standards. As the degree of success of regulations cannot be adequately known for each specific project at this program-level analysis, impacts would be significant. Additional mitigation would be required to provide verification that City standards have been met.

6.2.5 Construction Noise

Adoption of the Encanto Neighborhoods CPU itself would not be associated with any ambient noise increases. However, future development as allowed under the Encanto Neighborhoods CPU could potentially result in temporary ambient noise increase due to construction activities.

Construction noise associated with future development in the Encanto Neighborhoods Planning Area would be similar to construction noise in the Southeastern San Diego Planning Area. Construction activities related to implementation of the Encanto Neighborhoods CPU would potentially generate short-term noise levels in excess of 75 dB(A) L_{eq} at adjacent properties and would therefore be potentially significant. The City regulates noise associated with construction equipment and activities through enforcement of noise ordinance standards (e.g., days of the week and hours of operation) and imposition of conditions of approval for building or grading permits. However, as the degree of success of these measures cannot be adequately known for each specific project at this program-level analysis, mitigation would be required.

6.2.6 Vibration

6.2.6.1 Construction

Construction of projects implemented under the Encanto Neighborhoods CPU would be located adjacent to existing structures. Construction vibration impacts in the Encanto Neighborhoods Planning Area would be similar to those associated with the Southeastern San Diego CPU. Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component, such as blasting, rock or caisson drilling, and site excavation or compaction, may be high enough to be perceptible within 150 feet and may be high enough to damage existing structures within 50 feet. Impacts to local vibration-sensitive receptors would be potentially significant.

Other project construction activities, such as caisson drilling, and the use of jackhammers, other high-power or vibratory tools, compactors, and tracked equipment, may also potentially generate substantial vibration in the immediate vicinity, typically within 25 feet of the equipment. By use of administrative controls, such as scheduling, typical construction activities would be restricted to hours with least potential to affect nearby properties. Thus, perceptible vibration can be kept to a minimum and, as such,

typical construction activities would result in a less than significant impact with respect to perception.

6.2.6.2 Operation

As discussed in Section 6.1.6.2, based on the operational characteristics of mechanical equipment and distribution methods used for general light industrial and commercial land uses, it is not anticipated that light industrial or commercial operations would result in groundborne vibration levels that approach or exceed vibration-level limits. Impacts would be less than significant.

7.0 Mitigation Framework

The following measures represent the Mitigation Framework to be applied to future development projects within both planning areas and would reduce noise impacts resulting from the adoption of the CPUs:

7.1 Traffic Noise and Land Use Compatibility

NOI-1. Site-specific exterior noise analyses demonstrating that the project would not place residential receptors in locations where the exterior existing or future noise levels would exceed the noise compatibility standards of the City's General Plan shall be required as part of the environmental and discretionary review of future development proposals. Noise reduction measures, including but not limited to, building noise barriers, increased building setbacks, speed reductions on surrounding roadways, alternative pavement surfaces, or other relevant noise-attenuation measures, may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses.

NOI-2. When building plans are available and prior to the issuance of building permits, site-specific interior noise analyses demonstrating compliance with the interior noise compatibility standards of the City's General Plan and other applicable regulations shall be prepared for noise-sensitive land uses located in areas where exterior noise levels exceed the noise compatibility standards of the City's General Plan. Noise control measures, including but not limited to, increasing roof, wall, window, and door sound attenuation ratings, placing HVAC in noise reducing enclosures, or designing buildings so that no windows face freeways or major roadways, may be used to achieve the noise compatibility standards. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses.

Future development proposals implementing the CPUs will be required to incorporate feasible mitigation measures and alternatives adopted in conjunction with the certification of the Program Environmental Impact Report (PEIR). However, because the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level analysis, the program-level exterior and interior noise impacts remains significant and unavoidable. However, with adherence to the Mitigation Framework, project-level impacts would be expected to be less than significant.

Project traffic noise effects on existing residences would be potentially significant. There are areas within the planning areas where project traffic noise would potentially cause interior noise levels in existing residences to exceed applicable standards. As these older homes may not have been constructed to achieve current interior noise standards, there is the potential that project traffic would generate noise levels that exceed current standards at these existing residences. Possible exterior noise mitigation would include the construction of barriers between heavily traveled roadways and noise-sensitive exterior use areas. Possible interior noise-reduction measures would include retrofitting older homes with new window and door components with higher STC ratings. However, because the significant noise impacts are to existing homes in an already urbanized area, there is no feasible mitigation. Impacts would remain significant and unavoidable.

7.2 Stationary Sources (Collocation)

NOI-3. Prior to the issuance of a building permit, a site-specific acoustical/noise analysis of any on-site generated noise sources, including generators, mechanical equipment, and trucks, shall be prepared which identifies all noise-generating equipment, predicts noise levels at property lines from all identified equipment, and recommends mitigation to be implemented (e.g., enclosures, barriers, site orientation), to ensure compliance with the City's Noise Abatement and Control Ordinance. Noise reduction measures shall include building noise-attenuating walls, reducing noise at the source by requiring quieter machinery or limiting the hours of operation, or other attenuation measures. Additionally, future projects shall be required to buffer sensitive receptors from noise sources through the use of open space and other separation techniques as recommended after thorough analysis by a qualified acoustical engineer. Exact noise mitigation measures and their effectiveness shall be determined by the site specific noise analyses.

Future development proposals implementing the CPUs will be required to incorporate feasible mitigation measures and alternatives adopted in conjunction with the certification of the PEIR. However, because the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level analysis, the program-level impact related to the generation of noise levels in excess of the standards established in

the City's Noise Abatement and Control Ordinance remain significant and unavoidable, even with adherence to the Mitigation Framework. However, with adherence to the Mitigation Framework, project-level impacts would be expected to be less than significant.

7.3 Construction

NOI-4. For projects that would exceed daily construction noise thresholds established by the City of San Diego, best construction management practices shall be used to reduce construction noise levels to comply with standards established by the City of San Diego in Article 9.5 Noise Abatement and Control. Future projects shall be required to prepare and implement a Construction Noise Management Plan. Appropriate management practices shall be determined on a project-by-project basis and are specific to a location. Control measures shall include:

- a) Minimizing simultaneous operation of multiple construction equipment units;
- b) Locating stationary equipment as far as reasonable from sensitive receptors;
- c) Requiring all internal combustion-engine-driven equipment to be equipped with mufflers that are in good operating condition and appropriate for the equipment; and
- d) Construction of temporary noise barriers around construction sites that block the line-of-sight to surrounding receptors.

Future development proposals implementing the CPUs will be required to incorporate feasible mitigation measures and alternatives adopted in conjunction with the certification of the PEIR. With adherence to the Mitigation Framework, the program-level impact related to construction noise impacts to residential uses and sensitive species would be reduced to below a level of significance.

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ATTACHMENTS

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ATTACHMENT 1

FHWA Vehicle Traffic Contour Distance Calculations – Southeastern San Diego Planning Area

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

Project Name : SESD
Project Number : 6514
Modeled Condition : Preferred Plan 2035

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

Segment	Roadway	From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Hilltop Drive	Boundary Street	I-805	4,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
2	Market Street	17th Street	19th Street	8,300	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
3	Market Street	19th Street	25th Street	11,800	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
4	Market Street	25th Street	28th Street	13,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
5	Market Street	28th Street	32nd Street	18,100	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
6	Market Street	32nd Street	I-15 SB Ramps	29,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
7	Market Street	I-15 SB Ramps	I-15 NB Ramps	27,800	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
8	Market Street	I-15 NB Ramps	Boundary Street	31,600	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
9	Market Street	Boundary Street	I-805 SB Ramps	22,500	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
10	Market Street	I-805 SB Ramps	I-805 NB Ramps	20,200	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
11	Imperial Avenue	17th Street	19th Street	13,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
12	Imperial Avenue	19th Street	25th Street	9,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
13	Imperial Avenue	25th Street	28th Street	9,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
14	Imperial Avenue	28th Street	30th Street	7,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
15	Imperial Avenue	30th Street	32nd Street	5,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
16	Imperial Avenue	32nd Street	36th Street	10,800	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
17	Imperial Avenue	36th Street	40th Street	12,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
18	Imperial Avenue	40th Street	I-805 SB Ramps	25,500	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
19	Imperial Avenue	I-805 SB Ramps	I-805 NB Ramps	28,900	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
20	Commercial Street	17th Street	19th Street	7,100	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
21	Commercial Street	19th Street	25th Street	4,900	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
22	Commercial Street	25th Street	28th Street	3,200	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
23	Commercial Street	28th Street	30th Street	3,500	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
24	Commercial Street	30th Street	32nd Street	3,900	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
25	Ocean View Boulevard	25th Street	28th Street	6,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
26	Ocean View Boulevard	28th Street	30th Street	7,400	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
27	Ocean View Boulevard	30th Street	32nd Street	9,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
28	Ocean View Boulevard	32nd Street	I-15 SB Ramps	16,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00	

29	Ocean View Boulevard	I-15 SB Ramps	I-15 NB Ramps	17,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00
30	Ocean View Boulevard	I-15 NB Ramps	36th Street	15,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00
31	Ocean View Boulevard	36th Street	40th Street	14,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
32	Ocean View Boulevard	40th Street	47th Street	11,600	30	50	96.60	2.60	0.80	80.00	10.00	10.00
33	National Avenue	Commercial Street	Beardsley Street	12,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00
34	National Avenue	Beardsley Street	SR-75 Off-Ramp	16,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00
35	National Avenue	SR-75 Off-Ramp	26th Street	6,300	30	50	96.60	2.60	0.80	80.00	10.00	10.00
36	National Avenue	26th Street	27th Street/I-5 SB Off-Ramp	12,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00
37	National Avenue	27th Street/I-5 SB Off-Ramp	28th Street	16,300	30	50	96.60	2.60	0.80	80.00	10.00	10.00
38	National Avenue	28th Street	I-5 NB Ramps	19,400	30	50	96.60	2.60	0.80	80.00	10.00	10.00
39	National Avenue	I-5 NB Ramps	32nd Street	13,300	30	50	96.60	2.60	0.80	80.00	10.00	10.00
40	National Avenue	32nd Street	43rd Street	13,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
41	Logan Avenue	43rd Street	45th Street	10,600	30	50	96.60	2.60	0.80	80.00	10.00	10.00
42	Logan Avenue	45th Street	47th Street	14,000	35	50	96.60	2.60	0.80	80.00	10.00	10.00
43	Acacia Street	36th Street	38th Street	3,900	25	50	96.60	2.60	0.80	80.00	10.00	10.00
44	Alpha Street	38th Street	43rd Street	7,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00
45	Division Street	Main Street	Osborn Street	16,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
46	Division Street	Osborn Street	Highland Avenue	12,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
47	Division Street	Highland Avenue	Palm Avenue	13,700	35	50	96.60	2.60	0.80	80.00	10.00	10.00
48	Cesar Chavez Parkway	Commercial Street	I-5 NB Ramps	10,300	25	50	96.60	2.60	0.80	80.00	10.00	10.00
49	Cesar Chavez Parkway	I-5 NB Ramps	SR-75 On-Ramp/Logan Avenue	17,300	25	50	96.60	2.60	0.80	80.00	10.00	10.00
50	25th Street	SR-94 WB Off-Ramp	SR-94 EB On-Ramp	18,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
51	25th Street	SR-94 EB On-Ramp	Market Street	19,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
52	25th Street	Market Street	Imperial Avenue	19,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00
53	25th Street	Imperial Avenue	Commercial Street	12,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
54	28th Street	SR-94 WB Ramps	SR-94 EB Ramps	11,100	30	50	96.60	2.60	0.80	80.00	10.00	10.00
55	28th Street	SR-94 EB Ramps	Market Street	11,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
56	28th Street	Market Street	Imperial Avenue	8,600	30	50	96.60	2.60	0.80	80.00	10.00	10.00
57	28th Street	Imperial Avenue	Commercial Street	5,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00
58	28th Street	Commercial Street	Ocean View Boulevard	7,100	30	50	96.60	2.60	0.80	80.00	10.00	10.00
59	28th Street	Ocean View Boulevard	National Avenue	11,600	30	50	96.60	2.60	0.80	80.00	10.00	10.00
60	28th Street	National Avenue	Boston Avenue	27,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
61	30th Street	E Street	Imperial Avenue	7,900	25	50	96.60	2.60	0.80	80.00	10.00	10.00
62	30th Street	Imperial Avenue	Commercial Street	4,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00
63	30th Street	Commercial Street	National Avenue	5,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00
64	Broadway	SR-94 WB	SR-94 EB On-Ramp/F Street	11,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
65	32nd Street	SR-94 EB On-Ramp/F Street	Market Street	11,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
66	32nd Street	Market Street	Imperial Avenue	9,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00
67	32nd Street	Imperial Avenue	Commercial Street	5,800	30	50	96.60	2.60	0.80	80.00	10.00	10.00
68	32nd Street	Commercial Street	Ocean View Boulevard	6,300	30	50	96.60	2.60	0.80	80.00	10.00	10.00
69	32nd Street	Ocean View Boulevard	National Avenue	6,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00
70	32nd Street	National Avenue	Boston Avenue	9,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00
71	35th Street	Ocean View Boulevard	Main Street	10,600	25	50	96.60	2.60	0.80	80.00	10.00	10.00
72	36th Street	Imperial Avenue	Ocean View Boulevard	4,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00
73	36th Street	Ocean View Boulevard	Acacia Street	4,300	25	50	96.60	2.60	0.80	80.00	10.00	10.00
74	38th Street	Ocean View Boulevard	Acacia Street	3,800	25	50	96.60	2.60	0.80	80.00	10.00	10.00
75	Vesta Street	Acacia Street	Main Street	6,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00

76	40th Street	Imperial Avenue	Ocean View Boulevard	4,800	25	50	96.60	2.60	0.80	80.00	10.00	10.00
77	40th Street	National Avenue	Division Street	3,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00
78	Boundary Street	Hilltop Drive	Market Street	2,900	25	50	96.60	2.60	0.80	80.00	10.00	10.00
79	San Pasqual Drive	Imperial Avenue	Ocean View Boulevard	6,500	25	50	96.60	2.60	0.80	80.00	10.00	10.00
80	San Pasqual Drive	Ocean View Boulevard	Logan Avenue	11,400	25	50	96.60	2.60	0.80	80.00	10.00	10.00
81	43rd Street	Logan Avenue	Newton Avenue	14,000	30	50	96.60	2.60	0.80	80.00	10.00	10.00
82	43rd Street	Newton Avenue	Beta Street	16,100	30	50	96.60	2.60	0.80	80.00	10.00	10.00
83	43rd Street	Beta Street	Delta Street	25,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
84	43rd Street	Delta Street	Division Street	21,300	30	50	96.60	2.60	0.80	80.00	10.00	10.00
85	Highland Avenue	Division Street	4th Street	20,900	35	50	96.60	2.60	0.80	80.00	10.00	10.00
86	45th Street	Imperial Avenue	Logan Avenue	2,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00
87	I-5	17th Street	SR-94	253,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00
88	I-5	SR-94	Imperial Avenue	252,000	65	50	89.50	4.00	6.50	80.00	10.00	10.00
89	I-5	Imperial Avenue	SR-75	234,600	65	50	89.50	4.00	6.50	80.00	10.00	10.00
90	I-5	SR-75	28th Street	244,900	65	50	89.50	4.00	6.50	80.00	10.00	10.00
91	I-5	28th Street	I-15	226,500	65	50	89.50	4.00	6.50	80.00	10.00	10.00
92	I-5	I-15	Main Street	299,200	65	50	89.50	4.00	6.50	80.00	10.00	10.00
93	I-15	I-805	SR-94	141,100	65	50	89.50	4.00	6.50	80.00	10.00	10.00
94	I-15	SR-94	Market Street	138,400	65	50	89.50	4.00	6.50	80.00	10.00	10.00
95	I-15	Market Street	Ocean View Boulevard	150,400	65	50	89.50	4.00	6.50	80.00	10.00	10.00
96	I-15	Ocean View Boulevard	I-5	142,000	65	50	89.50	4.00	6.50	80.00	10.00	10.00
97	I-15	I-5	Norman Scott Road	35,100	65	50	89.50	4.00	6.50	80.00	10.00	10.00
98	I-805	Home Avenue	SR-94	288,800	65	50	89.50	4.00	6.50	80.00	10.00	10.00
99	I-805	SR-94	Market Street	281,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00
100	I-805	Market Street	Imperial Avenue	356,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00
101	I-805	Imperial Avenue	43rd Street	349,000	65	50	89.50	4.00	6.50	80.00	10.00	10.00
102	I-805	43rd Street	Plaza Boulevard	342,800	65	50	89.50	4.00	6.50	80.00	10.00	10.00
103	SR-94	17th Street	25th Street	203,100	65	50	89.50	4.00	6.50	80.00	10.00	10.00
104	SR-94	25th Street	28th Street	219,000	65	50	89.50	4.00	6.50	80.00	10.00	10.00
105	SR-94	28th Street	30th Street	245,800	65	50	89.50	4.00	6.50	80.00	10.00	10.00
106	SR-94	30th Street	I-15	253,600	65	50	89.50	4.00	6.50	80.00	10.00	10.00
107	SR-94	I-15	Home Avenue	216,600	65	50	89.50	4.00	6.50	80.00	10.00	10.00
108	SR-94	Home Avenue	I-805	220,600	65	50	89.50	4.00	6.50	80.00	10.00	10.00
109	SR-94	I-805	47th Street	306,400	65	50	89.50	4.00	6.50	80.00	10.00	10.00

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

Project Name : SESD
Project Number : 6514
Modeled Condition : Preferred Plan 2035
Assessment Metric: Hard

Segment	Roadway	From	Segment To	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
				Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Hilltop Drive	Boundary Street	I-805	56.5	52.4	54.9	60	1	5	15	47	148	467
2	Market Street	17th Street	19th Street	61.2	56.1	58.1	64	4	12	38	120	379	1,199
3	Market Street	19th Street	25th Street	62.7	57.6	59.6	65	5	17	54	169	536	1,694
4	Market Street	25th Street	28th Street	63.5	58.3	60.3	66	6	20	63	199	629	1,991
5	Market Street	28th Street	32nd Street	64.6	59.5	61.5	67	8	26	81	256	811	2,564
6	Market Street	32nd Street	I-15 SB Ramps	66.7	61.5	63.5	69	13	42	132	416	1,315	4,159
7	Market Street	I-15 SB Ramps	I-15 NB Ramps	68.4	62.4	62.5	70	17	52	166	524	1,656	5,236
8	Imperial Avenue	I-805 SB Ramps	Boundary Street	70.2	63.5	63.2	72	23	74	234	740	2,339	7,396
9	Commercial Street	17th Street	I-805 SB Ramps	58.3	54.2	56.7	62	2	7	22	71	223	706
10	Market Street	I-805 SB Ramps	I-805 NB Ramps	67.0	61.0	61.1	69	12	38	120	379	1,199	3,793
11	Imperial Avenue	17th Street	19th Street	63.2	58.1	60.1	66	6	19	60	190	601	1,901
12	Imperial Avenue	19th Street	25th Street	61.9	56.8	58.8	64	4	14	44	138	435	1,377
13	Imperial Avenue	25th Street	28th Street	61.8	56.7	58.7	64	4	13	43	135	426	1,346
14	Imperial Avenue	28th Street	30th Street	60.6	55.5	57.5	63	3	10	32	102	323	1,021
15	Imperial Avenue	30th Street	32nd Street	59.4	54.3	56.3	62	3	8	25	79	251	792
16	Imperial Avenue	32nd Street	36th Street	62.4	57.2	59.2	65	5	15	49	155	489	1,545
17	Imperial Avenue	36th Street	40th Street	62.8	57.7	59.7	65	5	17	55	173	548	1,734
18	Imperial Avenue	40th Street	I-805 SB Ramps	69.7	62.9	62.6	71	21	66	208	659	2,084	6,591
19	Imperial Avenue	I-805 SB Ramps	I-805 NB Ramps	70.2	63.5	63.2	72	23	74	234	740	2,339	7,396
20	Commercial Street	17th Street	19th Street	58.3	54.2	56.7	62	2	7	22	71	223	706
21	Commercial Street	19th Street	25th Street	56.6	52.6	55.1	60	2	5	15	48	151	477
22	Commercial Street	25th Street	28th Street	54.8	50.7	53.2	58	1	3	10	32	100	315
23	Commercial Street	28th Street	30th Street	55.2	51.1	53.6	58	1	3	11	35	109	346
24	Commercial Street	30th Street	32nd Street	55.7	51.6	54.1	59	1	4	12	39	123	388
25	Ocean View Boulevard	25th Street	28th Street	60.2	55.0	57.0	63	3	9	29	93	294	931
26	Ocean View Boulevard	28th Street	30th Street	60.7	55.6	57.6	63	3	11	34	107	338	1,069
27	Ocean View Boulevard	30th Street	32nd Street	62.0	56.9	58.9	65	4	14	45	141	446	1,409
28	Ocean View Boulevard	32nd Street	I-15 SB Ramps	64.2	59.1	61.1	67	7	23	74	234	740	2,339

29	Ocean View Boulevard	I-15 SB Ramps	I-15 NB Ramps	64.6	59.4	61.4	67	8	26	81	256	811	2,564
30	Ocean View Boulevard	I-15 NB Ramps	36th Street	63.8	58.7	60.7	66	7	21	67	213	674	2,133
31	Ocean View Boulevard	36th Street	40th Street	63.6	58.5	60.5	66	7	21	66	208	659	2,084
32	Ocean View Boulevard	40th Street	47th Street	62.7	57.5	59.6	65	5	17	52	166	524	1,656
33	National Avenue	Commercial Street	Beardsley Street	62.9	57.8	59.8	65	5	17	55	173	548	1,734
34	National Avenue	Beardsley Street	SR-75 Off-Ramp	64.1	58.9	60.9	67	7	23	72	229	723	2,285
35	National Avenue	SR-75 Off-Ramp	26th Street	60.0	54.9	56.9	63	3	9	29	91	288	910
36	National Avenue	26th Street	27th Street/I-5 SB Off-Ramp	62.8	57.7	59.7	65	5	17	55	173	548	1,734
37	National Avenue	27th Street/I-5 SB Off-Ramp	28th Street	64.1	59.0	61.0	67	7	23	74	234	740	2,339
38	National Avenue	28th Street	I-5 NB Ramps	64.9	59.8	61.8	67	9	27	87	275	869	2,748
39	National Avenue	I-5 NB Ramps	32nd Street	63.3	58.1	60.1	66	6	19	60	190	601	1,901
40	National Avenue	32nd Street	43rd Street	63.4	58.3	60.3	66	6	19	62	195	615	1,945
41	Logan Avenue	43rd Street	45th Street	62.3	57.2	59.2	65	5	15	48	151	477	1,510
42	Logan Avenue	45th Street	47th Street	65.4	59.4	59.5	67	8	26	83	262	830	2,624
43	Acacia Street	36th Street	38th Street	55.7	51.6	54.1	59	1	4	12	39	123	388
44	Alpha Street	38th Street	43rd Street	58.2	54.1	56.6	61	2	7	22	69	218	690
45	Division Street	Main Street	Osborn Street	64.3	59.1	61.1	67	8	24	76	239	757	2,393
46	Division Street	Osborn Street	Highland Avenue	63.1	57.9	59.9	65.6	6	18	57	182	574	1,815
47	Division Street	Highland Avenue	Palm Avenue	65.3	59.3	59.4	67.1	8	26	81	256	811	2,564
48	Cesar Chavez Parkway	Commercial Street	I-5 NB Ramps	59.9	55.8	58.3	63.1	3	10	32	102	323	1,021
49	Cesar Chavez Parkway	I-5 NB Ramps	SR-75 On-Ramp/Logan Avenue	62.1	58.0	60.6	65	5	17	54	169	536	1,694
50	25th Street	SR-94 WB Off-Ramp	SR-94 EB On-Ramp	64.7	59.6	61.6	67	8	27	85	269	849	2,685
51	25th Street	SR-94 EB On-Ramp	Market Street	64.9	59.8	61.8	68	9	28	89	281	889	2,812
52	25th Street	Market Street	Imperial Avenue	64.9	59.7	61.7	67	9	27	87	275	869	2,748
53	25th Street	Imperial Avenue	Commercial Street	63.0	57.9	59.9	66	6	18	56	177	561	1,774
54	28th Street	SR-94 WB Ramps	SR-94 EB Ramps	62.5	57.4	59.4	65	5	16	50	158	500	1,581
55	28th Street	SR-94 EB Ramps	Market Street	62.7	57.6	59.6	65	5	17	52	166	524	1,656
56	28th Street	Market Street	Imperial Avenue	61.4	56.2	58.3	64	4	12	39	123	388	1,227
57	28th Street	Imperial Avenue	Commercial Street	59.7	54.6	56.6	62	3	8	27	85	269	849
58	28th Street	Commercial Street	Ocean View Boulevard	60.5	55.4	57.4	63	3	10	32	102	323	1,021
59	28th Street	Ocean View Boulevard	National Avenue	62.7	57.5	59.6	65	5	17	52	166	524	1,656
60	28th Street	National Avenue	Boston Avenue	66.5	61.3	63.3	69	13	40	126	397	1,256	3,972
61	30th Street	E Street	Imperial Avenue	58.7	54.6	57.2	62	2	8	24	77	245	774
62	30th Street	Imperial Avenue	Commercial Street	56.5	52.4	54.9	60	1	5	15	47	148	467
63	30th Street	Commercial Street	National Avenue	56.7	52.7	55.2	60	2	5	15	49	155	489
64	Broadway	SR-94 WB	SR-94 EB On-Ramp/F Street	62.6	57.5	59.5	65	5	17	52	166	524	1,656
65	32nd Street	SR-94 EB On-Ramp/F Street	Market Street	62.7	57.6	59.6	65	5	17	52	166	524	1,656
66	32nd Street	Market Street	Imperial Avenue	61.6	56.4	58.4	64	4	13	41	129	406	1,285
67	32nd Street	Imperial Avenue	Commercial Street	59.7	54.5	56.5	62	3	8	26	83	262	830
68	32nd Street	Commercial Street	Ocean View Boulevard	60.0	54.9	56.9	63	3	9	29	91	288	910
69	32nd Street	Ocean View Boulevard	National Avenue	60.4	55.3	57.3	63	3	10	32	100	315	998
70	32nd Street	National Avenue	Boston Avenue	61.7	56.5	58.5	64	4	13	42	132	416	1,315
71	35th Street	Ocean View Boulevard	Main Street	60.0	55.9	58.4	63	3	10	33	104	330	1,045
72	36th Street	Imperial Avenue	Ocean View Boulevard	55.8	51.7	54.2	59	1	4	13	40	126	397
73	36th Street	Ocean View Boulevard	Acacia Street	56.1	52.0	54.5	59	1	4	13	43	135	426
74	38th Street	Ocean View Boulevard	Acacia Street	55.5	51.5	54.0	59	1	4	12	37	117	371
75	Vesta Street	Acacia Street	Main Street	57.5	53.4	56.0	61	2	6	19	59	186	587

76	40th Street	Imperial Avenue	Ocean View Boulevard	56.6	52.5	55.0	60	2	5	15	48	151	477
77	40th Street	National Avenue	Division Street	55.4	51.3	53.9	59	1	4	11	36	115	362
78	Boundary Street	Hilltop Drive	Market Street	54.4	50.3	52.8	58	1	3	9	29	91	288
79	San Pasqual Drive	Imperial Avenue	Ocean View Boulevard	57.9	53.8	56.3	61	2	6	20	64	204	644
80	San Pasqual Drive	Ocean View Boulevard	Logan Avenue	60.3	56.2	58.7	64	4	11	35	112	354	1,119
81	43rd Street	Logan Avenue	Newton Avenue	63.5	58.4	60.4	66	6	20	63	199	629	1,991
82	43rd Street	Newton Avenue	Beta Street	64.1	59.0	61.0	67	7	23	72	229	723	2,285
83	43rd Street	Beta Street	Delta Street	66.1	61.0	63.0	69	11	36	115	362	1,145	3,622
84	43rd Street	Delta Street	Division Street	65.3	60.2	62.2	68	10	31	97	308	975	3,083
85	Highland Avenue	Division Street	4th Street	67.2	61.1	61.2	69	12	39	123	388	1,227	3,881
86	45th Street	Imperial Avenue	Logan Avenue	56.7	51.5	53.5	59	1	4	13	42	132	416
87	I-5	17th Street	SR-94	85.4	78.1	83.6	88	1,021	3,228	10,209	32,283	102,087	322,827
88	I-5	SR-94	Imperial Avenue	85.4	78.0	83.6	88	998	3,155	9,976	31,548	99,763	315,479
89	I-5	Imperial Avenue	SR-75	85.1	77.7	83.3	88	931	2,944	9,310	29,442	93,104	294,422
90	I-5	SR-75	28th Street	85.3	77.9	83.5	88	975	3,083	9,749	30,830	97,492	308,298
91	I-5	28th Street	I-15	84.9	77.6	83.1	88	910	2,877	9,099	28,772	90,985	287,720
92	I-5	I-15	Main Street	86.1	78.8	84.4	89	1,199	3,793	11,994	37,929	119,942	379,289
93	I-15	I-805	SR-94	82.9	75.5	81.1	86	561	1,774	5,610	17,741	56,101	177,407
94	I-15	SR-94	Market Street	82.8	75.4	81.0	85	548	1,734	5,482	17,337	54,824	173,368
95	I-15	Market Street	Ocean View Boulevard	83.1	75.8	81.4	86	601	1,901	6,011	19,009	60,113	190,095
96	I-15	Ocean View Boulevard	I-5	82.9	75.5	81.1	86	574	1,815	5,741	18,154	57,408	181,539
97	I-15	I-5	Norman Scott Road	76.8	69.5	75.0	80	141	446	1,409	4,456	14,092	44,563
98	I-805	Home Avenue	SR-94	86.0	78.6	84.2	89	1,145	3,622	11,454	36,222	114,543	362,218
99	I-805	SR-94	Market Street	85.9	78.5	84.1	89	1,119	3,540	11,194	35,397	111,936	353,973
100	I-805	Market Street	Imperial Avenue	86.9	79.5	85.1	90	1,442	4,560	14,420	45,601	144,202	456,005
101	I-805	Imperial Avenue	43rd Street	86.8	79.4	85.0	90	1,409	4,456	14,092	44,563	140,919	445,625
102	I-805	43rd Street	Plaza Boulevard	86.7	79.4	84.9	89	1,377	4,355	13,771	43,548	137,711	435,482
103	SR-94	17th Street	25th Street	84.4	77.1	82.7	87	811	2,564	8,109	25,643	81,091	256,431
104	SR-94	25th Street	28th Street	84.8	77.4	83.0	87	869	2,748	8,689	27,477	86,890	274,770
105	SR-94	28th Street	30th Street	85.3	77.9	83.5	88	975	3,083	9,749	30,830	97,492	308,298
106	SR-94	30th Street	I-15	85.4	78.1	83.6	88	1,021	3,228	10,209	32,283	102,087	322,827
107	SR-94	I-15	Home Avenue	84.7	77.4	83.0	87	869	2,748	8,689	27,477	86,890	274,770
108	SR-94	Home Avenue	I-805	84.8	77.4	83.0	88	889	2,812	8,891	28,117	88,914	281,171
109	SR-94	I-805	47th Street	86.2	78.9	84.5	89	1,227	3,881	12,274	38,812	122,735	388,124

ATTACHMENT 2

CREATE Trolley Noise Calculations

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Noise Model

Noise Model Based on Federal Transit Administration General Transit Noise Assessment

Developed for Chicago Create Project

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Case:

SESD/Encanto

RESULTS			
Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
All Sources	61	58	54
Source 1	61	58	54
Source 2	0	0	0
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

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

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

NOISE SOURCE PARAMETERS					
Parameter	Source 1		Source 2		Source 3
Source Num.	RRT/LRT	4			
Distance (source to receiver)	distance (ft)	50			
Daytime Hours (7 AM - 10 PM)	speed (mph)	30			
	trains/hour	8			
	cars/train	5			
Nighttime Hours (10 PM - 7 AM)	speed (mph)	30			
	trains/hour	3			
	cars/train	5			
Wheel Flats?	% of cars w/ wheel flats	0.00%			
Jointed Track?	Y/N	N			
Embedded Track?	Y/N	N			
Aerial Structure?	Y/N	N			
Barrier Present?	Y/N	N			
Intervening Rows of Buildings	number of rows	0			

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

ATTACHMENT 3

FHWA Vehicle Traffic Contour Distance Calculations – Encanto Neighborhoods Planning Area

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

Project Name : Encanto
Project Number : 6514
Modeled Condition : Preferred Plan 2035

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

Segment	Roadway	From	Segment To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Mallard Street	Federal Boulevard	69th Street	8,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
2	Federal Boulevard	60th Street	Mallard Street	17,300	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
3	Federal Boulevard	Mallard Street	MacArthur Drive	11,000	45	50	96.60	2.60	0.80	80.00	10.00	10.00	
4	Tooley Street	60th Street	Paradise Street	600	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
5	Hilltop Drive	I-805	47th Street	4,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
6	Roswell Street	51st Street	Old Memory Lane	2,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
7	Old Memory Lane	Roswell Street	60th Street	1,400	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
8	Radio Drive	60th Street	Mallard Street	1,200	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
9	Klauber Avenue	Broadway	69th Street	1,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
10	Broadway	60th Street	Madera Street	3,600	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
11	Market Street	i-805 SB Ramps	I-805 NB Ramps	20,200	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
12	Market Street	I-805 NB Ramps	47th Street	21,600	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
13	Market Street	47th Street	Euclid Avenue	22,200	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
14	Market Street/Akins Avenue	Euclid Avenue	60th Street	11,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
15	Imperial Avenue	i-805 SB Ramps	I-805 NB Ramps	28,900	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
16	Imperial Avenue	I-805 NB Ramps	47th Street	34,400	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
17	Imperial Avenue	47th Street	Euclid Avenue	31,700	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
18	Imperial Avenue	Euclid Avenue	Valencia Parkway	28,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00	
19	Imperial Avenue	Valencia Parkway	Woodman Street	17,800	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
20	Imperial Avenue	Woodman Street	69th Street	25,300	40	50	96.60	2.60	0.80	80.00	10.00	10.00	
21	Imperial Avenue	69th Street	Viewcrest Drive	16,300	50	50	96.60	2.60	0.80	80.00	10.00	10.00	
22	Lisbon Street	Imperial Avenue	71st Street	15,500	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
23	Churchward Street/58th Street	Euclid Avenue	Skyline Drive	5,100	25	50	96.60	2.60	0.80	80.00	10.00	10.00	
24	Skyline Drive	58th Street	Valencia Parkway	9,600	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
25	Skyline Drive	Valencia Parkway	61st Street	16,400	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
26	Skyline Drive	61st Street	Omeara Street	13,300	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
27	Skyline Drive	Omeara Street	Woodman Street	12,900	35	50	96.60	2.60	0.80	80.00	10.00	10.00	
28	Skyline Drive	Woodman Street	69th Street	11,900	35	50	96.60	2.60	0.80	80.00	10.00	10.00	

29	Logan Avenue	45th Street	47th Street	14,000	35	50	96.60	2.60	0.80	80.00	10.00	10.00
30	Logan Avenue	47th Street	Euclid Avenue	15,900	35	50	96.60	2.60	0.80	80.00	10.00	10.00
31	Olvera Avenue/58th Street	Euclid Avenue	Skyline Drive	7,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
32	Division Street	Palm Avenue	Euclid Avenue	18,800	30	50	96.60	2.60	0.80	80.00	10.00	10.00
33	Division Street	Euclid Avenue	Harbison Avenue	13,400	35	50	96.60	2.60	0.80	80.00	10.00	10.00
34	Division Street	Harbison Avenue	58th Street	14,300	35	50	96.60	2.60	0.80	80.00	10.00	10.00
35	Division Street	58th Street	Valencia Parkway	13,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
36	Division Street	Valencia Parkway	61st Street	9,600	30	50	96.60	2.60	0.80	80.00	10.00	10.00
37	Division Street	61st Street	Plaza Boulevard	8,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00
38	Plaza Boulevard	Paradise Valley Road	Division Street	9,500	30	50	96.60	2.60	0.80	80.00	10.00	10.00
39	Plaza Boulevard	Division Street	Woodman Street	9,600	40	50	96.60	2.60	0.80	80.00	10.00	10.00
40	47th Street	SR-94 EB On-Ramp	Market Street	19,000	35	50	96.60	2.60	0.80	80.00	10.00	10.00
41	47th Street	Market Street	Imperial Avenue	17,300	40	50	96.60	2.60	0.80	80.00	10.00	10.00
42	47th Street	Imperial Avenue	Logan Avenue	16,600	40	50	96.60	2.60	0.80	80.00	10.00	10.00
43	47th Street	Logan Avenue	I-805 NB Ramps	17,200	40	50	96.60	2.60	0.80	80.00	10.00	10.00
44	47th Street	I-805 NB Ramps	I-805 SB Ramps	21,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00
45	47th Street/Palm Avenue	I-805 SB Ramps	Division Street	27,900	40	50	96.60	2.60	0.80	80.00	10.00	10.00
46	Euclid Avenue	SR-94 WB Ramps	SR-94 EB Ramps	34,200	35	50	96.60	2.60	0.80	80.00	10.00	10.00
47	Euclid Avenue	SR-94 EB Ramps	Market Street	30,800	35	50	96.60	2.60	0.80	80.00	10.00	10.00
48	Euclid Avenue	Market Street	Imperial Avenue	27,700	35	50	96.60	2.60	0.80	80.00	10.00	10.00
49	Euclid Avenue	Imperial Avenue	Logan Avenue	14,100	35	50	96.60	2.60	0.80	80.00	10.00	10.00
50	Euclid Avenue	Logan Avenue	Division Street	13,600	35	50	96.60	2.60	0.80	80.00	10.00	10.00
51	51st Street	Market Street	Roswell Street	4,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00
52	San Jacinto Drive	Imperial Avenue	Olvera Avenue	3,800	25	50	96.60	2.60	0.80	80.00	10.00	10.00
53	Bayview Heights Way	SR-94 WB Ramps	SR-94 EB Ramps	17,100	30	50	96.60	2.60	0.80	80.00	10.00	10.00
54	Kelton Road	SR-94 EB Ramps	Alvin Street	12,900	30	50	96.60	2.60	0.80	80.00	10.00	10.00
55	Alvin Street	Kelton Road	Pitta Street	9,800	30	50	96.60	2.60	0.80	80.00	10.00	10.00
56	Pitta Street	Alvin Street	Market Street	10,000	25	50	96.60	2.60	0.80	80.00	10.00	10.00
57	Merlin Drive	Broadway	Imperial Avenue	4,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00
58	Valencia Parkway	Imperial Avenue	Skyline Drive	7,800	40	50	96.60	2.60	0.80	80.00	10.00	10.00
59	Valencia Parkway	Skyline Drive	Cervantes Avenue	5,600	35	50	96.60	2.60	0.80	80.00	10.00	10.00
60	Valencia Parkway	Cervantes Avenue	Wesmead Street	6,200	30	50	96.60	2.60	0.80	80.00	10.00	10.00
61	Valencia Parkway	Wesmead Street	Division Street	6,200	25	50	96.60	2.60	0.80	80.00	10.00	10.00
62	60th Street	Federal Boulevard	Imperial Avenue	11,700	35	50	96.60	2.60	0.80	80.00	10.00	10.00
63	61st Street	Imperial Avenue	Division Street	7,700	30	50	96.60	2.60	0.80	80.00	10.00	10.00
64	Winnett Street	Federal Boulevard	Radio Drive	3,300	25	50	96.60	2.60	0.80	80.00	10.00	10.00
65	Paradise Street	Mallard Street	Radio Drive	900	25	50	96.60	2.60	0.80	80.00	10.00	10.00
66	Madera Street	Massachusetts Avenue	69th Street	3,500	25	50	96.60	2.60	0.80	80.00	10.00	10.00
67	Madera Street/66th Street	69th Street	Akins Avenue	4,200	25	50	96.60	2.60	0.80	80.00	10.00	10.00
68	Woodman Street	Imperial Avenue	Skyline Drive	10,800	35	50	96.60	2.60	0.80	80.00	10.00	10.00
69	Woodman Street	Skyline Drive	Plaza Boulevard	12,900	40	50	96.60	2.60	0.80	80.00	10.00	10.00
70	Woodman Street	Plaza Boulevard	Paradise Valley Road	17,600	40	50	96.60	2.60	0.80	80.00	10.00	10.00
71	69th Street	San Miguel Avenue	Mallard Street	5,600	25	50	96.60	2.60	0.80	80.00	10.00	10.00
72	69th Street	Mallard Street	Imperial Avenue	4,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00
73	69th Street	Imperial Avenue	Skyline Drive	4,700	25	50	96.60	2.60	0.80	80.00	10.00	10.00
74	Hilltop Drive	47th Street	Euclid Avenue	5,500	25	50	96.60	2.60	0.80	80.00	10.00	10.00
75	I-805	Home Avenue	SR-94	288,800	65	50	89.50	4.00	6.50	80.00	10.00	10.00
76	I-805	SR-94	Market Street	281,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00

77	I-805	Market Street	Imperial Avenue	356,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00
78	I-805	Imperial Avenue	47th Street	349,000	65	50	89.50	4.00	6.50	80.00	10.00	10.00
79	I-805	47th Street	Plaza Boulevard	342,800	65	50	89.50	4.00	6.50	80.00	10.00	10.00
80	SR-94	Home Avenue	I-805	220,600	65	50	89.50	4.00	6.50	80.00	10.00	10.00
81	SR-94	I-805	47th Street	306,400	65	50	89.50	4.00	6.50	80.00	10.00	10.00
82	SR-94	47th Street	Euclid Avenue	306,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00
83	SR-94	Euclid Avenue	Kelton Road	279,300	65	50	89.50	4.00	6.50	80.00	10.00	10.00
84	SR-94	Kelton Road	Federal Boulevard	278,100	65	50	89.50	4.00	6.50	80.00	10.00	10.00
85	SR-94	Federal Boulevard	College Grove Way	241,700	65	50	89.50	4.00	6.50	80.00	10.00	10.00
86	SR-94	College Grove Way	College Avenue	247,200	65	50	89.50	4.00	6.50	80.00	10.00	10.00
87												

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

Project Name : Encanto
Project Number : 6514
Modeled Condition : Preferred Plan 2035
Assessment Metric: Hard

Segment	Roadway	From	Segment To	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
				Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	Mallard Street	Federal Boulevard	69th Street	61.2	56.0	58.0	64	4	12	37	117	371	1,172
2	Federal Boulevard	60th Street	Mallard Street	68.0	61.2	60.9	70	14	45	141	446	1,409	4,456
3	Federal Boulevard	Mallard Street	MacArthur Drive	67.5	60.1	59.4	69	12	38	120	379	1,199	3,793
4	Tooley Street	60th Street	Paradise Street	47.5	43.4	46.0	51	0	1	2	6	19	59
5	Hilltop Drive	I-805	47th Street	56.5	52.4	54.9	60	1	5	15	47	148	467
6	Roswell Street	51st Street	Old Memory Lane	56.7	51.5	53.5	59	1	4	13	42	132	416
7	Old Memory Lane	Roswell Street	60th Street	51.2	47.1	49.6	54	0	1	4	14	44	138
8	Imperial Avenue	Valencia Parkway	Mallard Street	68.1	61.4	61.1	70	14	46	144	456	1,442	4,560
9	Imperial Avenue	Woodman Street	69th Street	69.7	62.9	62.6	71	20	64	204	644	2,037	6,441
10	Broadway	60th Street	Madera Street	55.3	51.2	53.7	59	1	4	11	35	112	354
11	Market Street	i-805 SB Ramps	I-805 NB Ramps	67.0	61.0	61.1	69	12	38	120	379	1,199	3,793
12	Market Street	I-805 NB Ramps	47th Street	67.3	61.3	61.4	69	13	41	129	406	1,285	4,064
13	Market Street	47th Street	Euclid Avenue	67.4	61.4	61.5	69	13	42	132	416	1,315	4,159
14	Market Street/Akins Avenue	Euclid Avenue	60th Street	60.4	56.3	58.9	64	4	11	36	115	362	1,145
15	Imperial Avenue	i-805 SB Ramps	I-805 NB Ramps	70.2	63.5	63.2	72	23	74	234	740	2,339	7,396
16	Imperial Avenue	I-805 NB Ramps	47th Street	71.0	64.2	63.9	73	28	89	281	889	2,812	8,891
17	Imperial Avenue	47th Street	Euclid Avenue	70.6	63.9	63.6	72	26	81	256	811	2,564	8,109
18	Imperial Avenue	Euclid Avenue	Valencia Parkway	66.6	61.5	63.5	69	13	42	132	416	1,315	4,159
19	Imperial Avenue	Valencia Parkway	Woodman Street	68.1	61.4	61.1	70	14	46	144	456	1,442	4,560
20	Imperial Avenue	Woodman Street	69th Street	69.7	62.9	62.6	71	20	64	204	644	2,037	6,441
21	Imperial Avenue	69th Street	Viewcrest Drive	70.5	62.5	61.6	72	23	72	229	723	2,285	7,227
22	Lisbon Street	Imperial Avenue	71st Street	65.9	59.8	59.9	68	9	29	91	288	910	2,877
23	Churchward Street/58th Street	Euclid Avenue	Skyline Drive	56.8	52.7	55.3	60	2	5	16	50	158	500
24	Skyline Drive	58th Street	Valencia Parkway	63.8	57.8	57.8	66	6	18	57	182	574	1,815
25	Skyline Drive	Valencia Parkway	61st Street	66.1	60.1	60.2	68	10	31	97	308	975	3,083
26	Skyline Drive	61st Street	Omeara Street	65.2	59.2	59.3	67	8	25	79	251	792	2,506
27	Skyline Drive	Omeara Street	Woodman Street	65.1	59.1	59.1	67	8	24	76	239	757	2,393
28	Skyline Drive	Woodman Street	69th Street	64.7	58.7	58.8	67	7	22	71	223	706	2,233

29	Logan Avenue	45th Street	47th Street	65.4	59.4	59.5	67	8	26	83	262	830	2,624
30	Logan Avenue	47th Street	Euclid Avenue	66.0	60.0	60.0	68	9	29	93	294	931	2,944
31	Olvera Avenue/58th Street	Euclid Avenue	Skyline Drive	60.9	55.8	57.8	63	3	11	35	109	346	1,094
32	Division Street	Palm Avenue	Euclid Avenue	64.8	59.6	61.6	67	8	27	85	269	849	2,685
33	Division Street	Euclid Avenue	Harbison Avenue	65.2	59.2	59.3	67	8	25	79	251	792	2,506
34	Division Street	Harbison Avenue	58th Street	65.5	59.5	59.6	67	8	27	85	269	849	2,685
35	Division Street	58th Street	Valencia Parkway	63.3	58.2	60.2	66	6	19	62	195	615	1,945
36	Division Street	Valencia Parkway	61st Street	61.9	56.7	58.7	64	4	14	44	138	435	1,377
37	Division Street	61st Street	Plaza Boulevard	61.2	56.0	58.0	64	4	12	37	117	371	1,172
38	Plaza Boulevard	Paradise Valley Road	Division Street	61.8	56.7	58.7	64	4	13	43	135	426	1,346
39	Plaza Boulevard	Division Street	Woodman Street	65.4	58.7	58.4	67	8	24	77	245	774	2,449
40	47th Street	SR-94 EB On-Ramp	Market Street	66.7	60.7	60.8	69	11	35	112	354	1,119	3,540
41	47th Street	Market Street	Imperial Avenue	68.0	61.2	60.9	70	14	45	141	446	1,409	4,456
42	47th Street	Imperial Avenue	Logan Avenue	67.8	61.1	60.8	69	13	43	135	426	1,346	4,256
43	47th Street	Logan Avenue	I-805 NB Ramps	68.0	61.2	60.9	70	14	45	141	446	1,409	4,456
44	47th Street	I-805 NB Ramps	I-805 SB Ramps	65.3	60.2	62.2	68	10	30	95	301	953	3,013
45	47th Street/Palm Avenue	I-805 SB Ramps	Division Street	70.1	63.3	63.0	72	23	72	229	723	2,285	7,227
46	Euclid Avenue	SR-94 WB Ramps	SR-94 EB Ramps	69.3	63.3	63.4	71.1	20	64	204	644	2,037	6,441
47	Euclid Avenue	SR-94 EB Ramps	Market Street	68.8	62.8	62.9	70.6	18	57	182	574	1,815	5,741
48	Euclid Avenue	Market Street	Imperial Avenue	68.4	62.4	62.4	70.2	17	52	166	524	1,656	5,236
49	Euclid Avenue	Imperial Avenue	Logan Avenue	65.4	59.4	59.5	67	8	26	83	262	830	2,624
50	Euclid Avenue	Logan Avenue	Division Street	65.3	59.3	59.4	67	8	26	81	256	811	2,564
51	51st Street	Market Street	Roswell Street	55.8	51.7	54.2	59	1	4	13	40	126	397
52	San Jacinto Drive	Imperial Avenue	Olvera Avenue	55.5	51.5	54.0	59	1	4	12	37	117	371
53	Bayview Heights Way	SR-94 WB Ramps	SR-94 EB Ramps	64.4	59.2	61.2	67	8	24	77	245	774	2,449
54	Kelton Road	SR-94 EB Ramps	Alvin Street	63.1	58.0	60.0	66	6	19	59	186	587	1,858
55	Alvin Street	Kelton Road	Pitta Street	61.9	56.8	58.8	65	4	14	45	141	446	1,409
56	Pitta Street	Alvin Street	Market Street	59.7	55.7	58.2	63	3	10	31	97	308	975
57	Merlin Drive	Broadway	Imperial Avenue	56.5	52.4	54.9	60	1	5	15	47	148	467
58	Valencia Parkway	Imperial Avenue	Skyline Drive	64.5	57.8	57.5	66	6	20	63	199	629	1,991
59	Valencia Parkway	Skyline Drive	Cervantes Avenue	61.4	55.4	55.5	63	3	10	33	104	330	1,045
60	Valencia Parkway	Cervantes Avenue	Wesmead Street	60.0	54.8	56.8	63	3	9	28	89	281	889
61	Valencia Parkway	Wesmead Street	Division Street	57.7	53.6	56.1	61	2	6	19	62	195	615
62	60th Street	Federal Boulevard	Imperial Avenue	64.6	58.6	58.7	66	7	22	69	218	690	2,183
63	61st Street	Imperial Avenue	Division Street	60.9	55.8	57.8	63	3	11	35	109	346	1,094
64	Winnett Street	Federal Boulevard	Radio Drive	54.9	50.9	53.4	58	1	3	10	32	102	323
65	Paradise Street	Mallard Street	Radio Drive	49.3	45.2	47.7	53	0	1	3	9	28	89
66	Madera Street	Massachusetts Avenue	69th Street	55.2	51.1	53.6	58	1	3	11	35	109	346
67	Madera Street/66th Street	69th Street	Akins Avenue	56.0	51.9	54.4	59	1	4	13	42	132	416
68	Woodman Street	Imperial Avenue	Skyline Drive	64.3	58.3	58.4	66	6	20	64	204	644	2,037
69	Woodman Street	Skyline Drive	Plaza Boulevard	66.7	60.0	59.7	68	10	33	104	330	1,045	3,303
70	Woodman Street	Plaza Boulevard	Paradise Valley Road	68.1	61.3	61.0	70	14	46	144	456	1,442	4,560
71	69th Street	San Miguel Avenue	Mallard Street	57.2	53.1	55.7	60	2	5	17	55	173	548
72	69th Street	Mallard Street	Imperial Avenue	56.5	52.4	54.9	60	1	5	15	47	148	467
73	69th Street	Imperial Avenue	Skyline Drive	56.5	52.4	54.9	60	1	5	15	47	148	467
74	Hilltop Drive	47th Street	Euclid Avenue	57.2	53.1	55.6	60	2	5	17	54	169	536
75	I-805	Home Avenue	SR-94	86.0	78.6	84.2	89	1,145	3,622	11,454	36,222	114,543	362,218
76	I-805	SR-94	Market Street	85.9	78.5	84.1	89	1,119	3,540	11,194	35,397	111,936	353,973

77	I-805	Market Street	Imperial Avenue	86.9	79.5	85.1	90	1,442	4,560	14,420	45,601	144,202	456,005
78	I-805	Imperial Avenue	47th Street	86.8	79.4	85.0	90	1,409	4,456	14,092	44,563	140,919	445,625
79	I-805	47th Street	Plaza Boulevard	86.7	79.4	84.9	89	1,377	4,355	13,771	43,548	137,711	435,482
80	SR-94	Home Avenue	I-805	84.8	77.4	83.0	88	889	2,812	8,891	28,117	88,914	281,171
81	SR-94	I-805	47th Street	86.2	78.9	84.5	89	1,227	3,881	12,274	38,812	122,735	388,124
82	SR-94	47th Street	Euclid Avenue	86.2	78.9	84.5	89	1,227	3,881	12,274	38,812	122,735	388,124
83	SR-94	Euclid Avenue	Kelton Road	85.8	78.5	84.1	89	1,119	3,540	11,194	35,397	111,936	353,973
84	SR-94	Kelton Road	Federal Boulevard	85.8	78.5	84.0	89	1,119	3,540	11,194	35,397	111,936	353,973
85	SR-94	Federal Boulevard	College Grove Way	85.2	77.8	83.4	88	975	3,083	9,749	30,830	97,492	308,298
86	SR-94	College Grove Way	College Avenue	85.3	77.9	83.5	88	998	3,155	9,976	31,548	99,763	315,479