APPENDIX F:

NOISE IMPACT ANALYSIS

LSA ASSOCIATES, INC.

MARCH 2010

NOISE IMPACT ANALYSIS

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

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LSA

March 2010

NOISE IMPACT ANALYSIS

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

Submitted to:

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INTRODUCTION

This Noise Impact Analysis has been prepared to evaluate the potential noise impacts and mitigation measures associated with the development anticipated in the Housing Element Implementation Plan of the City of Yucaipa (City) in San Bernardino County, California.

GEOGRAPHICAL SETTING

As illustrated on Figure 1, the proposed project is located within the City of Yucaipa. The City is situated in the eastern portion of the San Bernardino Valley area, at the foot of the San Bernardino Mountains, between the Cities of Redlands and Calimesa. The City is bounded on the northwest by the Crafton Hills, on the south by the City of Calimesa, and on the north and east by mountainous terrain.

PROJECT LOCATION AND LAND USE

Program 3.a (Site-Specific and Creation of New Land Use District)

For the implementation action that includes site-specific changes to land use designations, a total of three sites (as illustrated on Figure 1) will be analyzed for the potential construction of residential units with a density of 20 to 24 units/acre (ac).

- **Site 1: Oak Glen Road/Colorado Street:** Site 1 is a 57 ac site located at the northeast corner of the Oak Glen Road/Colorado Street intersection. This site is currently undeveloped, with dominant nonnative vegetation interspersed with native vegetation.
- **Site 2: Yucaipa Boulevard/Sand Canyon Road:** Site 2 is a 27 ac site located at the northwest corner of the Yucaipa Boulevard/Sand Canyon Road intersection. This site is currently undeveloped, with steep slopes covered by annual grasses and several eroded gullies or swales.
- **Site 3: California Street/Avenue E:** Site 3 is a 10 ac site located on the west side of California Street approximately 660 feet south of Avenue E. This site is currently developed as a manufactured home park with scattered nonnative ornamental trees. No open space, native vegetation, or natural drainages are present.

Creation of New Land Use District. The creation of the new land use district RM-24 (Multiple Residential, 24 units/ac maximum) in the General Plan Land Use Element and Development Code) would establish development standards for multifamily development. There is no one specified project location associated with this component of the proposed project.

Programs 4.a, 4.d, 4.e, and 4.f (Citywide)

The changes to land use regulations in the Development Code (Housing Programs 4.a, 4.d, 4.e, and 4.f) would apply to all new applicable developments in the City. There is no one specified project location or land use associated with this component of the proposed project.

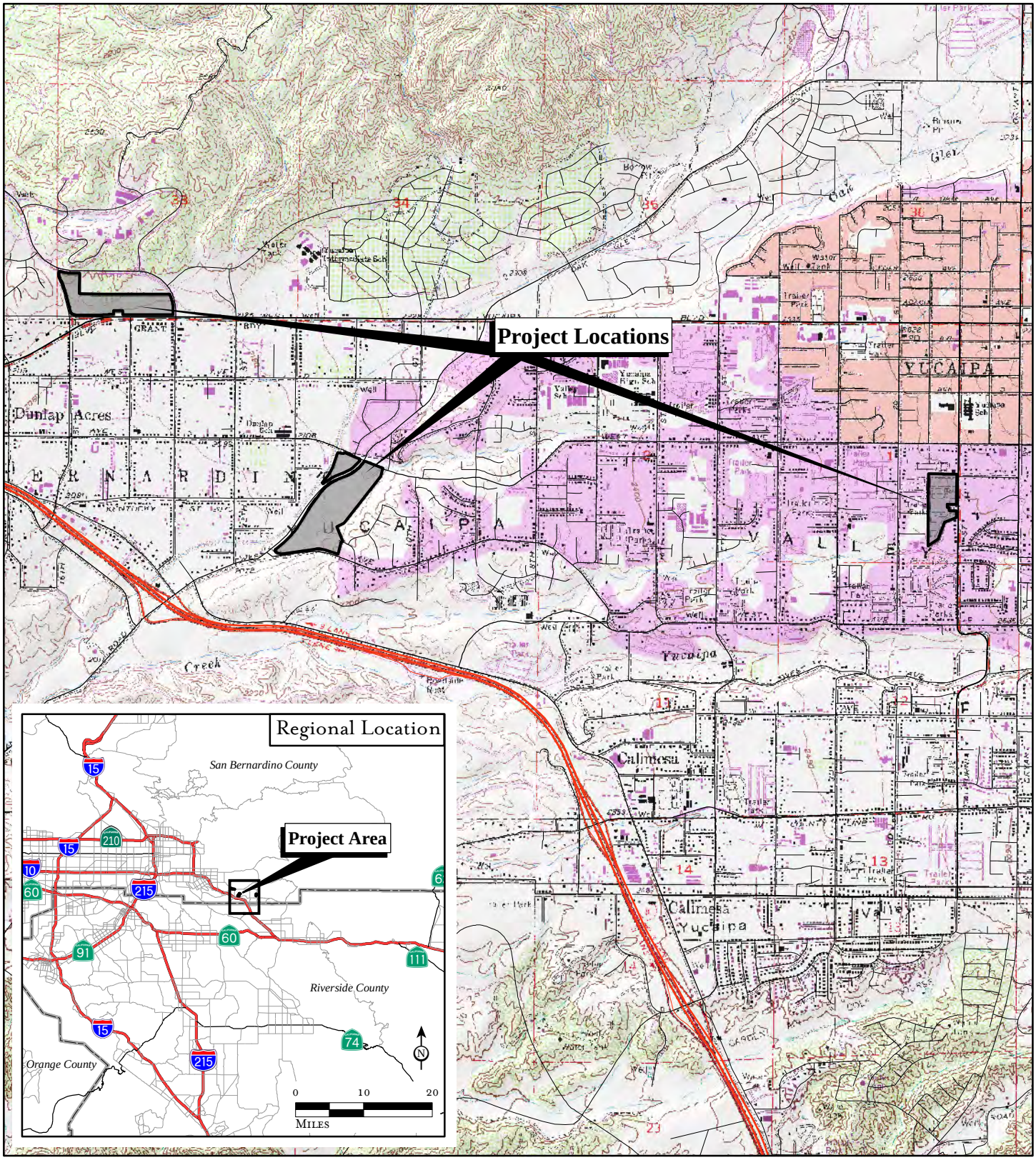

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FIGURE 1

N

0 1,500 3,000

Feet

Yucaipa Housing Element Implementation Program

Regional and Project Location

SOURCE: USGS 7.5' Quads: Yucaipa (1988), El Casco (1979), CA; Thomas Bros., 2007

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Inclusionary Housing Program (Redevelopment Project Area)

The amendments to the General Plan and Development Code that incorporate regulations for inclusionary housing would apply to projects in the redevelopment project area only. There is no one specified location or land use associated with this component of the proposed project.

PROJECT CHARACTERISTICS

California Government Code Section 65302(c) mandates that each city include a Housing Element in its General Plan. The Housing Element is required to identify and analyze existing and projected housing needs and include statements of the city's goals, policies, quantified objectives, and scheduled programs for the preservation, improvement, and development of housing. The city, in preparing its Housing Element, must consider economic, environmental, and fiscal factors as well as community goals as set forth in the General Plan. In addition, the Housing Element must comply with Section 65580 et seq. of the California Government Code.

In December 2008, the City of Yucaipa submitted its Draft 2008 Housing Element to the California Department of Housing and Community Development (HCD) for review. The HCD subsequently issued a letter stating that the Draft Housing Element complied with all provisions of State Housing Element law. The City adopted the new Housing Element on February 23, 2009.[1]

Chapter V of the City's adopted Draft Housing Element includes a number of implementation actions involving changes to the General Plan Official Land Use Districts and/or the Development Code that are necessary to ensure continued compliance with State law. These implementation actions include site-specific changes to land use designations as well as changes to land use regulations in the Development Code that apply citywide. These implementation proposals, along with one additional item not called out in the Housing Element Action Plan (the Redevelopment Inclusionary Housing Program), constitute a program of related actions that will be evaluated in the Environmental Impact Report (EIR) (Table A).

Program 3.a (Site-Specific and Creation of New Land Use District)

As described in Chapter III of the Housing Element, Yucaipa's "fair share" of regional housing need for the planning period of July 2006 through June 2014 is 2,048 units. This total includes 476 very-low-income units, 332 low-income units, 389 moderate-income units, and 851 above-moderate-income units. In addition, the City must accommodate a "carryover" of 608 lower-income units from the previous Housing Element cycle. State law requires the City to demonstrate that it has adequate sites with appropriate zoning to accommodate the various types of units that have been assigned in the Regional Housing Needs Assessment (RHNA).

In accordance with California Government Code Section 65583 et seq., the minimum base residential density (i.e., excluding any density bonus) presumed to be adequate to facilitate development of lower-income housing is 20 units/ac. There are currently no vacant sites in Yucaipa with zoning that

[1] http://www.yucaipa.org/cityDepartments/communityDevelopment/2008_Housing_Element/Housing_Element_Update.php, website accessed February 18, 2010.

Table A: Summary of Proposed Actions

Action[1]	Description
Designation of Additional Sites (Program 3.a)	Identify and rezone a minimum of 19 ac of land for multifamily development "as-of-right" (i.e., no conditional use permit or other discretionary requirement triggering CEQA review) at a density of 20 to 24 units/ac (excluding any density bonus). This action includes the creation of a new zoning district (RM-24) in the Development Code with development standards for multifamily residential development "by-right" at a density of up to 24 units/ac.
Density Bonus Ordinance (Program 4.a)	Update the Development Code to reflect changes in State density bonus law (California Government Code Section 65915).
SRO Housing (Program 4.d)	Update the Development Code to allow SRO units subject to appropriate development standards.
Emergency Shelters and Transitional/Supportive Housing (Program 4.e)	Update the Development Code to designate emergency shelters a permitted use in the CS zone subject to appropriate development standards, and clarify that transitional and supportive housing is a residential use.
Reasonable Accommodation for Persons with Disabilities (Program 4.f)	Update the Development Code to establish procedures for reviewing and approving requests for reasonable housing accommodations pursuant to SB 520 (2001).
Inclusionary Housing Program for the Redevelopment Project Area	Adopt an Inclusionary Housing Ordinance incorporating the requirements of State redevelopment law for projects in the redevelopment project area only (not citywide).

[1] Program numbers refer to Chapter V of the City of Yucaipa Draft 2008 Housing Element.
ac = acre(s)
CEQA = California Environmental Quality Act
CS = Service Commercial
SB = Senate Bill
SRO = Single-Room Occupancy

meets these criteria. Therefore, the City must rezone a sufficient amount of land to accommodate the 808 lower-income units assigned in the current RHNA cycle plus the 608 carryover units from the previous cycle—a total of 1,416 units—at a density of at least 20 units/ac. The Housing Element (Program 3a) contains a commitment to rezone a minimum of 59 ac of land with an allowable density of 20 to 24 units/ac to meet the City's obligations under the RHNA. State law requires that the rezoned sites allow multifamily development "by-right" (i.e., no conditional use permit or other discretionary approval triggering California Environmental Quality Act [CEQA] review) and have a capacity of at least 16 units per site.

On November 24, 2008, the City Council approved the rezoning of three sites encompassing 40 ac for multifamily development. These sites are located in the Freeway Corridor Specific Plan project area, south of Interstate 10 (I-10). To facilitate sustainable development and the reduction of greenhouse gases, all of these sites are located adjacent to commercial districts that will accommodate pedestrian-oriented commercial developments. There are 25 ac of high-density multifamily zoning and 10.6 ac of adjacent commercial zoning located in the northwest quadrant of the project area, and there are 15 ac of high-density multifamily zoning and 16.8 ac of adjacent commercial zoning located in the southeast quadrant of the project area. A separate EIR was prepared and certified for that project.

With the rezoning of 40 ac for multifamily development in the Freeway Corridor Specific Plan, an additional 19 ac remain to be rezoned.

It is anticipated that the selected site(s) will also incorporate commercial and/or institutional land uses in order to facilitate mixed-use sustainable development and the reduction of greenhouse gas emissions. The objective is to rezone one or more sites totaling at least 19 ac of multifamily zoning along with the adoption of multifamily design standards for the rezoned sites. Table B provides a summary of on-site and adjacent land use designations for each of the three sites.

- **Site 1: Oak Glen Road/Colorado Street:** This 57 ac site is currently designated RL-2.5-AP (Rural Living, 2.5 ac minimum lot size, Agricultural Preserve Overlay District) on the General Plan Official Land Use District Map. A General Plan Land Use District Change is proposed to remove the AP overlay and establish a 40 ac mixed-use district that could include up to 660 multifamily dwelling units, 4 ac of commercial land uses, 4.5 ac of institutional land uses, and 11.2 ac of open space land uses (as illustrated on Figure 2).
- **Site 2: Yucaipa Boulevard/Sand Canyon Road:** This 27 ac site is currently designated General Commercial (CG) on the General Plan Official Land Use Districts Map. A General Plan Land Use District Change is proposed to establish a 27 ac mixed-use district that could include up to 608 multifamily dwelling units and 8 ac of CG uses.
- **Site 3: California Street/Avenue E:** This 10 ac site is currently designated RM-72C (Multiple Residential, 7,200-square-foot [ft] minimum lot size) on the General Plan Official Land Use Districts Map. A General Plan Land Use District Change is proposed to establish a 10 ac multifamily land use district that could include up to 320 multifamily dwelling units.

Creation of New Land Use District. Included in this component of the program is the creation of the new land use district RM-24 (Multiple Residential, 24 units/ac maximum) in the General Plan Land Use Element and Development Code. This district would establish development standards and procedures for multifamily development by-right (i.e., without a conditional use permit or other discretionary approval) at a density of 20 to 24 units/ac excluding density bonus.

Programs 4.a, 4.d, 4.e, and 4.f (Citywide)

In addition to the proposed changes to site-specific land use designations discussed above, the Housing Element Implementation Plan includes the following amendments to citywide land use regulations and procedures:

- **Density Bonus Regulations:** Under current State density bonus law (Senate Bill [SB] 1818 of 2004), cities and counties must provide a density increase of up to 35 percent over the otherwise maximum allowable residential density under the Municipal Code and Land Use Element of the General Plan (or bonuses of equivalent financial value) when builders agree to construct housing developments with units affordable for low-income or moderate-income households. The Housing Action Plan (Chapter V) contains Program 4a to add density bonus provisions to the Municipal Code to comply with the current provisions of State law. Pending completion of that update, State law supersedes the existing density bonus ordinance.

Table B: On-Site and Adjacent Land Use Designations

Site	Location	Current Land Use	General Plan Land Use Designation	Zoning Designation
Site 1	On Site	Undeveloped	Rural Living	RL-2.5-AP
	North	Single-family residential (subdivision and large lots)	Single Residential	RS-10
	South	Undeveloped	Open Space	OS
	West	Rural residential	Rural Living	RL-2.5
	East	Residential subdivision	Single Residential	RS-10M
Site 2	On Site	Undeveloped	General Commercial	CG
	North	Undeveloped, Crafton Hills College	General Commercial, Institutional	CG, IN
	South	Undeveloped, commercial, rural residential	General Commercial, Multiple Residential	CG, RM-10M
	West	Residential subdivision	Rural Living, Single Residential	RL-1, RS-20M
	East	Undeveloped, fire station	General Commercial, Institutional	CG, IN
Site 3	On Site	Manufactured home park	Multiple Residential	RM-72C
	North	Manufactured home park, commercial	Multiple Residential	RM-72C
	South	Manufactured home park, commercial	Multiple Residential	RM-72C
	West	Manufactured home park, single-family residential	Multiple Residential, Institutional	RM-72C, IN
	East	Church, rural residential	Multiple Residential, Neighborhood Commercial, Institutional	RM-72C, CN, IN

Source: General Plan Land Use Maps, City of Yucaipa.
Notes: AP: Agricultural Preserve Overlay District; **RL-1:** Rural Living, 1 ac minimum lot size; **RL-2.5:** Rural Living, 2.5 ac minimum lot size; **RS-10M:** Single Residential, 10,000 sf minimum lot size; **RS-20M:** Single Residential, 20,000 sf minimum lot size; **RM-10M:** Multiple Residential, 10,000 sf minimum lot size; **RM-72C:** Multiple Residential, 7,200 sf minimum lot size; **CN:** Neighborhood Commercial; **CG:** General Commercial; **IN:** Institutional; **OS:** Open Space
ac = acre(s)
sf = square foot/feet

- **Single-Room Occupancy Regulations:** Single-Room Occupancy (SRO) facilities are small studio-type units that may provide affordable housing to lower-income individuals such as students. SROs are not currently defined in the Development Code. Program 4d is included in

Chapter V of the Housing Element to revise the Code to establish appropriate locations and development standards for SROs. Development standards and approval procedures will be designed to encourage and facilitate this type of housing.

- **Emergency Shelter and Transitional/Supportive Housing Regulations:** SB 2 of 2007 strengthened the planning requirements for emergency shelters and transitional/supportive housing. Unless adequate capacity is available to serve existing needs, SB 2 requires that shelters be allowed "by-right" (i.e., without a conditional use permit or other discretionary approval) in at least one zoning district. Emergency shelters are currently permitted as a conditional use in a number of land use districts in the City. The Housing Action Plan (Chapter V) includes Program 4e to amend the Municipal Code in conformance with SB 2. The Service Commercial (CS) zone is proposed to allow emergency shelters by-right.

  SB 2 also requires that transitional and supportive housing be treated as a residential use that is subject to the same regulations and procedures as other residential uses of the same type in the same zone. Program 4e in the Housing Action Plan provides that the City will amend the Municipal Code in conformance with SB 2.

- **Reasonable Accommodation Procedures:** SB 520 of 2001 requires cities to remove constraints and make reasonable accommodation for housing occupied by persons with disabilities. To facilitate the processing of requests to reduce land use or architectural obstacles for persons with disabilities, Program 4f to adopt a Reasonable Accommodation Ordinance is included in the Housing Action Plan.

Inclusionary Housing Program (Redevelopment Project Area)

Inclusionary housing refers to the State mandate that at least 15 percent of new housing constructed in a redevelopment project area be affordable to low-income and moderate-income households. The proposed action includes General Plan and Development Code Amendments to incorporate regulations for inclusionary housing in the City's redevelopment project area consistent with State redevelopment law.

PROJECT OBJECTIVES

This EIR analysis focuses on the proposed City of Yucaipa Housing Element Implementation Plan Project and, in particular, two primary components of the Housing Element Implementation Plan: (1) identification of sites sufficient to accommodate housing needs for the balance of goals not achieved through existing housing; and (2) changes to land use regulations in the Development Code that apply citywide. These programs are the focus of the EIR analysis because they have the potential to result in physical impacts to the environment. Specifically, the project objectives include:

- Facilitate fulfillment of RHNA requirements through new construction projects in which the City retains a financial and/or real property interest to best control design, development, and occupancy;
- Gear housing production toward small unit sizes and transit-oriented occupants;
- Provide housing opportunities for households with a wide range of incomes;
- Provide housing opportunities for residents with special needs;

- Balance housing and job growth in Yucaipa;
- Institute job-based occupancy preferences to minimize commute traffic;
- Ensure a choice of housing types and locations for all persons regardless of race, sex, cultural origin, age, marital status, physical handicaps, or family composition; and
- Provide affordable housing throughout the City.

Because several of the goals, policies, and actions that are part of these strategies are specifically intended to mitigate the environmental effects associated with future housing needs in the City, they are discussed in the EIR as part of an overall mitigation strategy, where applicable, for a given issue.

DISCRETIONARY ACTIONS

The discretionary actions to be considered by the City as part of the proposed project include, but are not limited to, the following:

- A General Plan Land Use District Change to establish a mixed-use or multifamily land use district on one of the three alternative sites.
- General Plan and Development Code amendments to incorporate zoning and development standards for an Inclusionary Housing Program in the redevelopment project area.
- A Development Code amendment to incorporate zoning and development standards for SRO dwelling units, current statutes for density bonus provisions of State law, current statutes for reasonable accommodation provisions of State law, and zoning and development standards for high-density "by-right" multifamily developments.

Future development of housing on sites within the City under the conditions of the City's Housing Program would likely require approval of the following:

- Architectural and site plan reviews by the Yucaipa Planning Commission and the City Council;
- Approval of subdivision maps by the City Council; and
- Issuance of grading and building permits by the City of Yucaipa.

Other related approvals may be required by the following agencies, including, but not limited to: the Yucaipa Valley Water District, the Regional Water Quality Control Board, the California Department of Fish and Game, and the United States Army Corps of Engineers.

METHODOLOGY RELATED TO NOISE IMPACT ASSESSMENT

Evaluation of noise impacts associated with the proposed Housing Element Implementation Plan project includes the following:

- Determine the noise impacts associated with short-term construction and long-term operation of the proposed development projects on noise-sensitive uses adjacent to these development projects

- Determine the long-term traffic noise impacts on the proposed on-site noise-sensitive uses
- Determine the required mitigation measures to reduce short-term and long-term noise impacts

The City has adopted interior/exterior noise level standards for mobile noise sources in its General Plan Noise Element (July 2004) that should be used for environmental review under CEQA. This Noise Impact Analysis utilizes the noise standards of the City, including the City's Noise Element and Municipal Code Noise Control Ordinance, as thresholds against which potential noise impacts are evaluated.

CHARACTERISTICS OF SOUND

Sound is increasing in the environment and can affect quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

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

MEASUREMENT OF SOUND

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

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

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is

produced by a line source, such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source, noise in a relatively flat environment with absorptive vegetation, decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Another noise scale often used together with the L_{max} in noise ordinances for enforcement purposes is noise standards in terms of percentile noise levels. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

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

PHYSIOLOGICAL EFFECTS OF NOISE

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the

human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dBA will result in dizziness and/or loss of equilibrium.

The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas.

Table C lists "Definitions of Acoustical Terms," and Table D shows "Common Sound Levels and Their Noise Sources." Table E shows "Land Use Compatibility for Exterior Community Noise," recommended by the California Department of Health, Office of Noise Control.

Table C: Definitions of Acoustical Terms

Term	Definition
Decibel, dB	A unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{02}, L_{08}, L_{50}, L_{90}	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurement and Noise Control, 1991.

Table D: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	Reference Level
Average Office	60	Quiet	½ times as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ times as loud
Large Transformer	45	Quiet	
Average Residence without Stereo Playing	40	Faint	⅛ times as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc., 2004.

Table E: Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50B55	55B70	70+
Auditoriums, concert halls, amphitheaters	45−50	50B65	65B70	70+
Residential: low density single family, duplex, mobile homes	50−55	55B70	70B75	75+
Residential: multifamily	50−60	60B70	70B75	75+
Transient lodging: motels, hotels	50−60	60B70	70B80	80+
Schools, libraries, churches, hospitals, nursing homes	50−60	60B70	70B80	80+
Actively used open spaces: playgrounds, neighborhood parks	50−67	C	67B73	73+
Golf courses, riding stables, water recreation, cemeteries	50−70	C	70B80	80+
Office buildings, commercial business and professional	50−67	67B75	75+	C
Industrial, manufacturing, utilities, agriculture	50−70	70B75	75+	C

Source: Office of Noise Control, California Department of Health, 1976.

Noise Range I─Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Noise Range II─Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Noise Range III─Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV─Clearly Unacceptable: New construction or development should generally not be undertaken.

SETTING

Existing Sensitive Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. In general, the City's residential communities are spread throughout the entire City. In particular, there are residential uses in the vicinity of two of the three development areas identified in the Housing Element Implementation Plan. These sensitive land uses may be potentially affected by the noise generated during construction on the project sites.

Overview of the Existing Noise Environment

The primary existing noise sources in the City are transportation facilities. Traffic on major arterials such as Yucaipa Boulevard, Oak Glen Road, Avenue E, California Street, Sand Canyon Road, Colorado Street, 14th Street, 16th Street, and Chapman Heights Road is the source of ambient noise in the City.

The City has no railroad lines either in or abutting the City, and there are no regularly scheduled flight paths or aircraft over the City. This is true of aircraft taking off or landing at Redlands Municipal Airport, northeast of Redlands. Therefore, further discussion of noise associated with trains and airplanes within the City is unwarranted. The impact of buses and trucks are reflected in the traffic noise discussion below.

Existing Traffic Noise. Exterior land uses along the major arterials within the City limits would be potentially exposed to high noise levels if outdoor active use areas such as backyards and/or patios/ balconies are directly adjacent to these roadways.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along major arterials within the City limits. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the L_{dn} values. Table F provides the existing (2010) traffic noise levels adjacent to 23 road segments with average daily traffic (ADT) volumes provided in the *Traffic Study* prepared for this Housing Element Implementation Plan (LSA Associates, Inc. [LSA], March 2010). These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix A.

Table F shows that the existing traffic noise along the major arterials within the City ranges from low (Colorado Street east of Oak Glen Road and California Street north of Yucaipa Boulevard) to moderate (Oak Glen Road east of Avenue E, Avenue E, Sand Canyon Road, 14th Street, 16th Street, East Campus Drive, Chapman Heights Road, Yucaipa Boulevard near California Street, and California Street south of Yucaipa Boulevard) and high (Oak Glen Road west of Avenue E and Yucaipa Boulevard near Sand Canyon Road).

Thresholds of Significance

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located.

Table F: Existing (2010) Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 L_{dn} (feet)	Centerline to 65 L_{dn} (feet)	Centerline to 60 L_{dn} (feet)	L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	17,000	57	119	253	68.8
Oak Glen Rd. between Colorado St. and Ave. E	15,400	54	111	237	68.4
Oak Glen Rd. east of Ave. E	12,800	< 50	83	176	66.4
Colorado St. east of Oak Glen Rd.	1,400	< 50	< 50	< 50	57.9
Ave. E west of Oak Glen Rd.	3,600	< 50	< 50	76	62.0
Ave. E east of Oak Glen Rd.	8,200	< 50	61	131	65.6
Sand Canyon Rd. north of 16th St.	8,600	< 50	63	135	65.8
Sand Canyon Rd. between 16th St. and E. Campus Dr.	7,200	< 50	56	120	65.0
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	10,500	< 50	72	154	66.6
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	7,700	< 50	58	125	65.3
14th St. south of Yucaipa Blvd.	4,600	< 50	< 50	89	63.0
16th St. south of Sand Canyon Rd.	2,000	< 50	< 50	51	59.4
E. Campus Dr. north of Sand Canyon Rd.	3,800	< 50	< 50	78	62.2
Chapman Heights Rd. east of Sand Canyon Rd.	3,900	< 50	< 50	80	62.3
Yucaipa Blvd. west of Sand Canyon Rd.	17,300	58	120	256	68.9
Yucaipa Blvd. east of Sand Canyon Rd.	18,900	61	127	271	69.2
California St. north of Yucaipa Blvd.	1,600	< 50	< 50	< 50	58.5
California St. between Yucaipa Blvd. and Ave. E	4,800	< 50	< 50	92	63.2
California St. south of Ave. E	5,800	< 50	< 50	104	64.0
Yucaipa Blvd. west of California St.	11,900	< 50	94	200	67.2
Yucaipa Blvd. east of California St.	9,500	< 50	82	172	66.3
Ave. E west of California St.	4,500	< 50	< 50	88	62.9
Ave. E east of California St.	3,400	< 50	< 50	73	61.7

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline (shown as < 50 in the table) should be evaluated with site-specific information.
ADT = average daily traffic
dBA = A-weighted decibel
L_{dn} = day-night average sound level

City of Yucaipa Noise Standards

General Plan Noise Element. The City's current General Plan Noise Element discusses the noise environment, noise-related effects on people, and noise sources within the City. It also discusses potential solutions to excessive noise. The following summarizes the noise goals, policies, and actions included in the City's General Plan Noise Element.

Goal N-1. Develop and adopt specific policies and an effective implementation program to abate and avoid excessive noise exposure in the City.

Policies.

A. Require effective noise mitigation measures be incorporated into the design of new noise-generating and new noise-sensitive land uses.

B. Because excessive noise can interfere with sleep, speech and health, yet can be mitigated to acceptable levels through land use design requirements, the following actions shall be implemented.

C. Because City residents may be exposed to vehicular noise sources in excess of acceptable levels, the City shall actively support enforcement of existing sections of the California Vehicle Code relating to adequate vehicle mufflers and modified exhaust systems. The City shall also limit truck traffic in residential and commercial areas to designated truck routes, limit construction, delivery and through truck traffic to designated routes, and distribute maps of approved truck routes to City traffic officers.

D. Because the noise environment is dynamic, the City shall periodically review and update the Noise Element and effected portions of the General Plan elements to ensure that noise exposure information and specific policies are consistent with changing conditions within the City and with noise control regulations enacted after the adoption of this element.

Actions.

1. Areas within the City shall be designated as "noise-impacted" if they are exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Tables G and H.

2. New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the standards of Tables G and H. Noise-sensitive land uses include residential uses, schools, hospitals, nursing homes, churches and libraries.

3. When industrial, commercial or other land uses, including locally-regulated noise sources, are proposed for areas containing noise-sensitive land uses, noise level generated by the proposed use shall not exceed the performance standards of Table G within outdoor activity areas. If outdoor activity areas have not yet been determined, noise levels shall not exceed the performance standards of Table G at the boundary of areas planned or zoned for residential or other noise-sensitive land uses.

Table G: Interior/Exterior Noise Level Standards – Mobile Noise Sources

Land Uses		L_{dn} (or CNEL), dBA	
Categories	**Uses**	**Interior[1]**	**Exterior[2]**
Residential	Single and Multifamily, Duplex	45	60[3]
	Mobile Home	45	60[3]
Commercial	Hotel, Motel, Transient Lodging	45	60[3]
	Commercial Retail, Bank, Restaurant	50	–
	Office Building, R&D, Offices	45	65
	Amphitheater, Hall, Auditorium, Theater	45	–
Institutional/Public	Hospital, School, Church, Library	45	65
Open Space	Park	–	65

Source: City of Yucaipa General Plan Noise Element, July 2004.

1 Interior living environment, excluding bathrooms, kitchens, toilets, closets, and corridors.

2 Outdoor environment, limited to private yards of single-family dwellings, multifamily private patios or balconies, mobile home parks, hospital/office building patios, park picnic areas, school playgrounds, and hotel and motel and recreation areas.

3 An exterior noise level of up to 65 dBA L_{dn} (or CNEL) will be allowed, provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dBA L_{dn} (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed will necessitate the use of air conditioning or mechanical ventilation.

CNEL = Community Noise Equivalent Level
dBA = A-weighted decibel
L_{dn} = day-night average sound level

Table H: Hourly Noise Level Performance Standards – Stationary and Other Locally Regulated Sources

	7:00 a.m. to 10:00 p.m.		10:00 p.m. to 7:00 a.m.	
Land Use Category	**L_{eq}**	**L_{max}**	**L_{eq}**	**L_{max}**
Residential or Other Noise-Sensitive Receivers	55 dBA	75 dBA	45 dBA	65 dBA

Note: Noise sources that are not exempt from local noise control, regulations, including vehicles operated on public roadways and aircraft in flight

4. Prior to approval of proposed development of new residential or other noise-sensitive land uses in a noise-impacted area or a new noise-generating use in an area which could affect existing noise-sensitive land uses, an acoustical analysis shall be required. The appropriate time for requiring an acoustical analysis is during the environmental review process so that noise mitigation can be an integral part of the project design. The acoustical analysis shall conform to the following requirements.

    a. The analysis shall be the responsibility of the applicant.

    b. The analysis shall be prepared by a qualified person experienced in the field of environmental noise assessment and architectural acoustics.

    c. The analysis shall include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

    d. The analysis shall include estimated noise levels in terms of the description shown in Tables G and H for existing and projected future (20 year hence) conditions, with a comparison made to the adopted policies of the Noise Element.

    e. The analysis shall include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent, single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.

    f. The analysis shall include estimates of noise exposure after the prescribed mitigation measures have been implemented if compliance with the adopted standards and policies of the Noise Element will not be achieved, acoustical information to support a statement of overriding considerations for the project must be provided.

5. The City of Yucaipa shall develop and employ procedures to ensure that requirements imposed pursuant to the finding of an acoustical analysis are implemented as part of the project review and building permit process.

6. The City of Yucaipa shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code (UBC). Title 24 requires that an acoustical analysis be prepared for all new developments of multifamily dwellings, condominiums, hotels and motels proposed for areas within the 60 dBA L_{dn} (or CNEL) contour with a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dBA L_{dn} (or CNEL) will be achieved with the windows and doors closed. UBC Chapter 35 requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards for the transmission of airborne sound and structure-borne impact noise.

Goal N-2. Provide sufficient noise exposure information so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes.

Policy. Because noise sources are transjurisdictional, the City of Yucaipa shall work to achieve maximum efficiency in abatement through inter- and intra-governmental coordination and public information through the following actions.

Actions.

1. Consider the following noise mitigation measures in the design of new and the rebuilding of existing City streets and highways.
    a. alignment
    b. barriers
    c. lateral separation
    d. vertical profile
    e. other appropriate noise attenuation techniques
2. Include in the capital improvements budget funds for construction of remedial mitigation measures for areas impacted by existing highways and streets according to the following priorities.
    a. degree of sensitivity
    b. excess of the maximum allowable standards
    c. length of time the noise impact existed
    d. number of residential units
3. Examine the existing and projected future noise environment when considering amendments to the circulation system.
4. Compile and publish a list of standardized noise mitigation measures.

Goal N-3. Protect areas within the City where the present noise environment is within acceptable limits.

Policies.

A. Because City residents are exposed to levels considered to be excessive from stationary sources such as industrial, recreational and construction activities, as well as mechanical and electrical equipment, the City shall enforce the Hourly Noise Level Performance Standards for stationary and other locally-regulated sources (Table H) through the development and implementation of a noise ordinance that will conform to the following criteria.

B. Because City residents are exposed to vehicular noise sources in excess of acceptable levels, new equipment and vehicles purchased by the City of Yucaipa shall comply with noise level performance standards consistent with the best available noise-reduction technology.

Actions.

1. The ordinance shall be consistent with this component of the General Plan and State Law.
2. The ordinance shall include the development standards portion in the Development Code.

3. The ordinance shall establish a central authority with the responsibilities of Noise Ordinance enforcement, noise monitoring, noise problems and programs.
4. The ordinance shall establish a City Noise Abatement Program including an ongoing evaluation program to catalog, evaluate and solve noise complaints, test noise reduction measures for effectiveness, refine mitigation measures and assemble and study programs from the Environmental Protection Agency (EPA), the State Resources Agency and other Federal, County and State-related programs for input into the City Noise Abatement Program.
5. The ordinance shall develop an implementation chart identifying the responsibilities of each City division involved in the noise-related review process.
6. The ordinance shall require any project (new construction or addition) to meet the City Noise Ordinance standards as a condition of building permit approval.
7. The ordinance shall require developers to depict on any appropriate development application review (i.e., zone change, subdivision, site approval, site plan and building plans) any potential noise sources known at the time of submission and mitigation measures that ensure these noise sources meet City Noise Ordinance Standards. Such sources include, but are not limited to, the following.
    a. truck pick-up and loading areas
    b. mechanical and electrical equipment such as air conditioning, swimming pools pumps and filters, spa pumps, etc.
    c. exterior work areas
    d. exterior nuisances such as speaker boxes and outdoor public address systems
8. The ordinance shall condition subdivision approval adjacent to any developed/occupied noise-sensitive land uses by requiring the developer to submit a construction-related noise mitigation plan to the City for review and approval prior to the issuance of grading permits. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project through the use of such method as the following.
    a. temporary noise attenuation fences
    b. preferential location of equipment
    c. use of current technology and noise suppression equipment

Yucaipa Municipal Code. The City's Development Code, Division 7, Chapter 9, Performance Standards, identifies the following noise standards in Table I for emanation from any source as it affects adjacent properties.

Table I: Noise Standards

Affected Land Use (receiving noise)	Noise Level (L_{dn}, dBA)	Time Period
Residential	55	7:00 a.m. to 10:00 p.m.
	50	10:00 p.m. to 7:00 a.m.
Professional Services	55	Anytime
Other Commercial	60	Anytime
Industrial	70	Anytime

Source: City of Yucaipa Municipal Code.
dBA = A-weighted decibel
L_{dn} = day-night average sound level

No person shall operate, or cause to be operated, any source of sound at any location or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person that causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed any of the following levels:

A. The noise standard for that receiving land use (as specified in Table I above) for a cumulative period of more than 30 minutes in any hour

B. The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour

C. The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour

D. The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour

E. The noise standard plus 20 dBA for any period of time

If the measured ambient noise exceeds any of the first four noise limit categories above, the allowable noise exposure standard shall be increased to reflect this ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

If the alleged exceedance consists entirely of impact noise or simple-tone noise, each of the noise levels in Table I shall be reduced by 5 dBA.

The following noise sources are exempt from this noise ordinance:

a. Motor vehicles not under the control of the industrial use

b. Emergency equipment, vehicles, and devices

c. Temporary construction, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except on Sundays and legal holidays

The City's Development Code, Division 5, Chapter 2, Article 4, Noise Hazard (NH) Overlay District, sets the following development standards regarding noise:

a. Noise levels shall be identified. An acoustical report shall be performed to identify noise impacts, and any recommendations for noise attenuation or other mitigation measures shall be incorporated into the design standards or conditions of approval, as applicable.

b. The interior noise level in all single-family and multifamily residences and educational institutions shall not exceed 45 dBA L_{dn} emanating from sources outside of the residential building.

c. Exterior noise levels in all single-family residential land use areas and multifamily residential land use areas should not exceed 65 dBA L_{dn}. Exterior noise levels shall not exceed 70 dBA L_{dn} for any residential use areas.

d. The ability to mitigate exterior noise to levels of 65 dBA L_{dn} and 70 dBA L_{dn} shall be considered by the reviewing authority when determining the actual L_{dn} level with which the land use must comply.

e. In areas where noise exceeds the noise standard, measures shall be taken to mitigate noise levels. An acoustical report identifying these mitigation measures shall be required and reviewed by the Community Development Department prior to issuance of any required development permits or approval of land use applications.

f. All other structures shall be sound attenuated against the combined input of all present and projected exterior noise so as to not exceed the following criteria listed in Table J.

Table J: 12-Hour Equivalent Sound Level (Interior)

Typical Land Use	dBA L_{dn}
Educational, Institutions, Libraries, Churches, etc.	45
General Office, Reception, etc.	50
Retail Stores, Restaurants, etc.	55
Other Areas for Manufacturing, Assembly, Testing, Warehousing, etc.	65

Source: City of Yucaipa Municipal Code.
dBA = A-weighted decibel
L_{dn} = day-night average sound level

In addition, the average of the maximum levels on the loudest of intrusive sounds occurring during a 24-hour period shall not exceed a 65 dBA interior sound level.

The City's Municipal Code, Title 8, Chapter 8.28, Waste Management, states that the noise level for the collection vehicles used during the stationary compaction process shall not exceed 75 dB at a distance of 25 ft from the collection vehicles and at an elevation of 5 ft from the horizontal base place of such vehicles.

PROJECT IMPACTS

Construction Noise

Short-term noise impacts would be associated with excavation, grading, and erecting of buildings on site during construction of the proposed project. Construction-related short-term noise levels would

be higher than existing ambient noise levels in the project area today but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. There will be a relatively high single-event noise exposure potential at a maximum level of 87 dBA L_{max} with trucks passing at 50 ft. However, the projected construction traffic will be small when compared to the existing traffic volumes on affected streets, and its associated long-term noise level change will not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would not be substantial.

The second type of short-term noise impact is related to noise generated during excavation, grading, and construction on the project site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table K lists maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 ft between the equipment and a noise receptor. Typical maximum noise levels range up to 91 dBA at 50 ft during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three or four minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, bulldozers, and water and pickup trucks. This equipment would be used on the project site. Based on Table K, the maximum noise level generated by each scraper on the proposed project site is assumed to be 87 dBA L_{max} at 50 ft from the scraper. Each bulldozer would also generate 85 dBA L_{max} at 50 ft. The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 50 ft from these vehicles. Each doubling of a sound source with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level at each individual residence during this phase of construction would be 91 dBA L_{max} at a distance of 50 ft from the active construction area.

There are existing residences in the vicinity of two of the three project sites identified in the Housing Element Implementation Plan. Some of them are located as close as 100 ft from the potential project construction areas. There are no existing intervening structures between these homes and the project sites. These closest residences may be subject to short-term noise reaching 85 dBA L_{max}, generated by construction activities on the project sites. The City's Municipal Code specifically exempts noise associated with construction activity as long as the activity occurs within the permitted hours.

Table K: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Range of Maximum Sound Level Measured at 50 ft (dBA)	Suggested Maximum Sound Level for Analysis at 50 ft (dBA)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock Drills	83–99	96
Jackhammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Dozers	77–90	85
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoes	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek, & Newman, 1987.
dBA = A-weighted decibel
ft = feet
ft-lb/blow = foot-pounds per blow
L_{max} = maximum noise level

Traffic Noise Impacts

As proposed, there would be residential (townhome) uses on each of the three potential sites (Site 1, Site 2, and Site 3). In addition, there would be commercial (shopping center) uses on two of the three sites (Site 1 and Site 2). The future traffic volumes for roadway segments analyzed in the Housing Element Implementation Plan in the with and without project scenarios are provided in the *Traffic Study* (LSA, March 2010). Potential project-related traffic noise impacts on the proposed on-site residential uses and off-site noise-sensitive uses were evaluated.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along arterials and major collector roads within the City and in the vicinity of the three potential development sites. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the L_{dn} values. Tables L and M provide the 2014 without project and with project traffic noise levels, respectively, adjacent to the same roadway segments evaluated in the existing environment. Tables N and O provide the 2035 without project and with project traffic noise levels, respectively, adjacent to the same roadway segments evaluated in the existing environment. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The

Table L: 2014 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 L_{dn} (feet)	Centerline to 65 L_{dn} (feet)	Centerline to 60 L_{dn} (feet)	L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	18,000	59	123	263	69.0
Oak Glen Rd. between Colorado St. and Ave. E	16,300	56	115	246	68.6
Oak Glen Rd. east of Ave. E	13,600	< 50	87	183	66.7
Colorado St. east of Oak Glen Rd.	1,400	< 50	< 50	< 50	57.9
Ave. E west of Oak Glen Rd.	3,800	< 50	< 50	78	62.2
Ave. E east of Oak Glen Rd.	8,700	< 50	63	136	65.8
Sand Canyon Rd. north of 16th St.	9,100	< 50	65	140	66.0
Sand Canyon Rd. between 16th St. and E. Campus Dr.	7,600	< 50	58	124	65.2
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	11,100	< 50	74	160	66.9
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	8,200	< 50	61	131	65.6
14th St. south of Yucaipa Blvd.	4,900	< 50	< 50	93	63.3
16th St. south of Sand Canyon Rd.	2,100	< 50	< 50	53	59.6
E. Campus Dr. north of Sand Canyon Rd.	4,000	< 50	< 50	81	62.4
Chapman Heights Rd. east of Sand Canyon Rd.	4,200	< 50	< 50	84	62.6
Yucaipa Blvd. west of Sand Canyon Rd.	18,400	60	125	267	69.1
Yucaipa Blvd. east of Sand Canyon Rd.	20,100	63	132	283	69.5
California St. north of Yucaipa Blvd.	1,700	< 50	< 50	< 50	58.7
California St. between Yucaipa Blvd. and Ave. E	5,100	< 50	< 50	95	63.5
California St. south of Ave. E	6,100	< 50	< 50	107	64.3
Yucaipa Blvd. west of California St.	12,600	< 50	98	207	67.5
Yucaipa Blvd. east of California St.	10,100	< 50	85	179	66.5
Ave. E west of California St.	4,800	< 50	< 50	92	63.2
Ave. E east of California St.	3,600	< 50	< 50	76	62.0

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
dBA = A-weighted decibel
L_{dn} = day-night average sound level

Table M: 2014 With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 L_{dn} (feet)	Centerline to 65 L_{dn} (feet)	Centerline to 60 L_{dn} (feet)	L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane	Increase in L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	22,100	67	141	301	69.9	0.9
Oak Glen Rd. between Colorado St. and Ave. E	19,700	63	130	279	69.4	0.8
Oak Glen Rd. east of Ave. E	14,900	< 50	92	195	67.1	0.4
Colorado St. east of Oak Glen Rd.	1,900	< 50	< 50	< 50	59.2	1.3
Ave. E west of Oak Glen Rd.	4,500	< 50	< 50	88	62.9	0.7
Ave. E east of Oak Glen Rd.	9,200	< 50	66	141	66.1	0.3
Sand Canyon Rd. north of 16th St.	10,600	< 50	72	155	66.7	0.7
Sand Canyon Rd. between 16th St. and E. Campus Dr.	9,300	< 50	66	142	66.1	0.9
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	12,500	< 50	80	173	67.4	0.5
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	9,700	< 50	68	146	66.3	0.7
14th St. south of Yucaipa Blvd.	6,700	< 50	53	114	64.7	1.4
16th St. south of Sand Canyon Rd.	3,600	< 50	< 50	76	62.0	2.4
E. Campus Dr. north of Sand Canyon Rd.	4,000	< 50	< 50	81	62.4	0.0
Chapman Heights Rd. east of Sand Canyon Rd.	4,300	< 50	< 50	85	62.7	0.1
Yucaipa Blvd. west of Sand Canyon Rd.	21,100	65	136	292	69.7	0.6
Yucaipa Blvd. east of Sand Canyon Rd.	22,700	68	143	307	70.0	0.5
California St. north of Yucaipa Blvd.	1,800	< 50	< 50	< 50	59.0	0.3
California St. between Yucaipa Blvd. and Ave. E	5,500	< 50	< 50	100	63.8	0.3
California St. south of Ave. E	7,000	< 50	55	118	64.9	0.6
Yucaipa Blvd. west of California St.	13,700	< 50	103	219	67.8	0.3
Yucaipa Blvd. east of California St.	10,800	< 50	88	187	66.8	0.3
Ave. E west of California St.	5,100	< 50	< 50	95	63.5	0.3
Ave. E east of California St.	3,900	< 50	< 50	80	62.3	0.3

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
dBA = A-weighted decibel
L_{dn} = day-night average sound level

Table N: 2035 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 L_{dn} (feet)	Centerline to 65 L_{dn} (feet)	Centerline to 60 L_{dn} (feet)	L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	35,200	90	191	410	71.9
Oak Glen Rd. between Colorado St. and Ave. E	32,400	86	181	388	71.6
Oak Glen Rd. east of Ave. E	29,100	68	142	304	70.0
Colorado St. east of Oak Glen Rd.	3,300	< 50	< 50	71	61.6
Ave. E west of Oak Glen Rd.	5,300	< 50	< 50	98	63.7
Ave. E east of Oak Glen Rd.	9,400	< 50	67	143	66.1
Sand Canyon Rd. north of 16th St.	13,900	< 50	86	186	67.8
Sand Canyon Rd. between 16th St. and E. Campus Dr.	10,400	< 50	71	153	66.6
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	13,400	< 50	84	181	67.7
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	9,700	< 50	68	146	66.3
14th St. south of Yucaipa Blvd.	6,900	< 50	54	116	64.8
16th St. south of Sand Canyon Rd.	4,500	< 50	< 50	88	62.9
E. Campus Dr. north of Sand Canyon Rd.	3,700	< 50	< 50	77	62.1
Chapman Heights Rd. east of Sand Canyon Rd.	5,200	< 50	< 50	97	63.6
Yucaipa Blvd. west of Sand Canyon Rd.	23,400	70	146	313	70.2
Yucaipa Blvd. east of Sand Canyon Rd.	25,900	74	156	335	70.6
California St. north of Yucaipa Blvd.	1,500	< 50	< 50	< 50	58.2
California St. between Yucaipa Blvd. and Ave. E	3,000	< 50	< 50	67	61.2
California St. south of Ave. E	5,300	< 50	< 50	98	63.7
Yucaipa Blvd. west of California St.	13,900	< 50	104	221	67.9
Yucaipa Blvd. east of California St.	12,000	< 50	95	201	67.3
Ave. E west of California St.	6,100	< 50	< 50	107	64.3
Ave. E east of California St.	5,700	< 50	< 50	103	64.0

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
dBA = A-weighted decibel
L_{dn} = day-night average sound level

Table O: 2035 With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 L_{dn} (feet)	Centerline to 65 L_{dn} (feet)	Centerline to 60 L_{dn} (feet)	L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane	Increase in L_{dn} (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	39,300	97	206	442	72.4	0.5
Oak Glen Rd. between Colorado St. and Ave. E	35,800	91	193	415	72.0	0.4
Oak Glen Rd. east of Ave. E	30,400	70	146	313	70.2	0.2
Colorado St. east of Oak Glen Rd.	3,800	< 50	< 50	78	62.2	0.6
Ave. E west of Oak Glen Rd.	6,000	< 50	< 50	106	64.2	0.5
Ave. E east of Oak Glen Rd.	9,900	< 50	69	148	66.4	0.3
Sand Canyon Rd. north of 16th St.	15,400	< 50	92	199	68.3	0.5
Sand Canyon Rd. between 16th St. and E. Campus Dr.	12,000	< 50	78	168	67.2	0.6
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	14,900	< 50	90	194	68.1	0.4
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	11,200	< 50	75	161	66.9	0.6
14th St. south of Yucaipa Blvd.	8,700	< 50	63	136	65.8	1.0
16th St. south of Sand Canyon Rd.	6,000	< 50	< 50	106	64.2	1.3
E. Campus Dr. north of Sand Canyon Rd.	3,700	< 50	< 50	77	62.1	0.0
Chapman Heights Rd. east of Sand Canyon Rd.	5,300	< 50	< 50	98	63.7	0.1
Yucaipa Blvd. west of Sand Canyon Rd.	26,100	75	157	336	70.6	0.4
Yucaipa Blvd. east of Sand Canyon Rd.	28,500	79	166	357	71.0	0.4
California St. north of Yucaipa Blvd.	1,600	< 50	< 50	< 50	58.5	0.3
California St. between Yucaipa Blvd. and Ave. E	3,500	< 50	< 50	74	61.9	0.7
California St. south of Ave. E	6,200	< 50	51	108	64.3	0.6
Yucaipa Blvd. west of California St.	15,000	53	109	233	68.2	0.3
Yucaipa Blvd. east of California St.	12,600	< 50	98	207	67.5	0.2
Ave. E west of California St.	6,400	< 50	52	111	64.5	0.2
Ave. E east of California St.	6,100	< 50	< 50	107	64.3	0.3

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information
ADT = average daily traffic
dBA = A-weighted decibel
L_{dn} = day-night average sound level

specific assumptions used in developing these noise levels and the model printouts are provided in Appendix A.

Tables M and O show that the proposed project would add up to 2.4 dBA or less in 2014 and up to 1.3 dBA or less in 2035 to the baseline without project traffic noise along arterials and major collector roads within the City. These traffic noise level increases are small and would not be discernible by the human ear in an outdoor environment over a long period of time. Therefore, no significant project-related traffic noise impacts would occur on off-site uses.

One of the City's policies requires residential uses within the 60 dBA L_{dn} impacted areas to provide regulatory screening or some other noise-inhibiting agent to ensure compliance with the noise ordinance. Since the 2035 with project scenario would result in the highest traffic volumes along most of the roadway segments analyzed, the noise levels shown in Table O are used to determine the future worst-case impact scenario and any mitigation measures identified are based on this worst-case impact scenario.

Outdoor Active Use Areas. Table O shows that the 60 dBA L_{dn} noise contour along arterials and major collector roads in the vicinity of the three potential development project sites would potentially impact the outdoor active use areas, such as patio or balconies, along these roads. All outdoor active use areas proposed within the impact zone of the 60 dBA L_{dn} noise contour would require a sound wall to ensure that the 60 dBA L_{dn} exterior noise standard is not exceeded.

Site 1. This project site is located along Oak Glen Road and Colorado Street, south of Avenue E. As shown in Table O, the roadway segments directly adjacent to this project site—Oak Glen Road, Colorado Street, and Avenue E—have the 60 dBA L_{dn} noise contour extending beyond the roadway right-of-way.

Therefore, outdoor active use areas proposed on this project site that are within the following distances from the roadway centerline would require mitigation measures, such as stand-alone sound barriers along property lines, to reduce the exterior traffic noise to 60 dBA L_{dn} or lower:

- Oak Glen Road: 415 ft
- Colorado Street: 78 ft
- Avenue E west of Oak Glen Road: 106 ft
- Avenue E east of Oak Glen Road: 148 ft

Because the Commercial Retail uses proposed at this project site are not considered noise-sensitive, no significant traffic noise impacts would occur, and no mitigation measures are required.

Site 2. As shown in Table O, segments of Sand Canyon Road and Yucaipa Boulevard in the vicinity of this project site have the 60 dBA L_{dn} traffic noise contour extending beyond the

roadway right-of-way and would have potentially significant noise impacts on the proposed on-site land uses within the following distances from the roadway centerline:

- Sand Canyon Road between 16th Street and East Campus Drive: 168 ft
- Sand Canyon Road between Chapman Heights Road and Yucaipa Boulevard: 161 ft
- Yucaipa Boulevard west of Sand Canyon Road: 336 ft

Because the Commercial and Retail uses proposed at this project site are not considered noise-sensitive, no significant traffic noise impacts would occur, and no mitigation measures are required.

Site 3. As shown in Table O, California Street in the vicinity of this project site would have potential noise impacts of 60 dBA L_{dn} on the proposed land uses within the following distance from the roadway centerline:

- California Street: 108 ft

Interior Noise Levels. Based on the data provided in the EPA's Protective Noise Levels (EPA 550/9-79-100, November 1979), standard homes in Southern California provide at least 12 dBA of exterior to interior noise attenuation with windows open and 24 dBA with windows closed. Therefore, homes exposed to exterior traffic noise levels lower than 69 dBA L_{dn} (45 + 24 = 69 dBA) would not have their interior noise level exceeding the 45 dBA L_{dn} standard with windows closed. With windows open, homes exposed to exterior traffic noise levels exceeding 57 dBA L_{dn} (45 + 12 = 57 dBA) would exceed the 45 dBA L_{dn} interior noise standard.

Site 1. This project site is located along Oak Glen Road, Colorado Street, and Avenue E, but only Oak Glen Road and Avenue E have the potential to have an 69 dBA L_{dn} noise contour extending beyond the roadway right-of-way. Therefore, residential structures proposed on this project site that are within the following distances from the roadway centerline and have no shielding from the traffic would require mitigation measures, such as building facade enhancements, to reduce the interior noise to 45 dBA L_{dn} or lower:

- Oak Glen Road: 104 ft
- Avenue E east of Oak Glen Road, 32 ft

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along Oak Glen Road (within 658 ft of the roadway centerline), Colorado Street (within 124 ft of the roadway centerline), Avenue E west of Oak Glen Road (within 168 ft of the roadway centerline), and Avenue E east of oak Glen Road (within 235 ft of the roadway centerline) to ensure that windows can remain closed for prolonged periods of time.

Site 2. As shown in Table O, Sand Canyon Road and Yucaipa Boulevard in the vicinity of this project site have 69 dBA L_{dn} traffic noise contours extending beyond the roadway right-of-way. Traffic noise from vehicles on these tow roads would have a potentially significant interior noise impact on the proposed residential uses on this project site within the following distances from the roadway centerline and would require mitigation measures, such as building facade enhancements, to reduce the interior noise to 45 dBA L_{dn} or lower:

- Sand Canyon Road between 16th Street and East Campus Drive: 36 ft
- Sand Canyon Road between Chapman Heights Road and Yucaipa Boulevard: 41 ft
- Yucaipa Boulevard west of Sand Canyon Road: 85 ft

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along Sand Canyon Road (within 266 ft of the roadway centerline for the segment between 16th Street and East Campus Drive, and within 255 ft of the roadway centerline for the segment between Chapman Heights Road and Yucaipa Boulevard) and Yucaipa Boulevard (within 533 ft of the roadway centerline) to ensure that windows can remain closed for prolonged periods of time.

Site 3. As shown in Table O, California Street in the vicinity of this project site would have potential interior noise impacts on the proposed residential land uses within the following distance from the roadway centerline and would require mitigation measures, such as building facade enhancements, to reduce the interior noise to 45 dBA CNEL or lower:

- California Street: 28 ft

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along California Street within 171 ft of the roadway centerline to ensure that windows can remain closed for prolonged periods of time.

Stationary Noise Impacts

Off-Site Noise Impacts. Commercial/shopping center uses are proposed for both Site 1 and Site 2. However, only Site 1 has existing residential uses to the east/southeast and to the north/northwest. Depending on the locations of the commercial/shopping center uses and associated loading/unloading areas, there may potentially be noise impacts to off-site noise-sensitive uses immediately adjacent to these loading/unloading areas. More detailed noise analysis would be required when specific information on the loading/unloading areas associated with the proposed commercial/shopping center uses is available to determine whether any noise impacts would occur and to identify the necessary mitigation measures.

On-Site Noise Impacts. No existing commercial or industrial uses are directly adjacent to Site 1 that would result in any potential noise impacts to the residential uses proposed on this project site. Therefore, no mitigation measures are required for stationary-source noise impacts.

There are existing commercial uses to the south of Site 2 that could potentially result in noise impacts to the proposed on-site residential uses. However, more detailed site-specific information would be needed for the proposed on-site residential uses to determine whether there would be any stationary-source noise impacts for these proposed uses.

Similarly, there are existing office and other commercial uses located to the north and the east of Site 3 that could potentially result in noise impacts to the proposed on-site residential uses. However, more detailed site-specific information would be needed for the proposed on-site residential uses to determine whether there would be any stationary-source noise impacts for these proposed uses.

MITIGATION MEASURES

Construction Impacts

Construction will be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday in accordance with the City's Municipal Code noise control ordinance. No construction activities are permitted outside of these hours or on Sundays and legal holidays.

The following measures can be implemented to reduce potential construction noise impacts on sensitive receptors adjacent to the individual project development area:

1. During all site excavation and grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
2. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
3. The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Traffic Noise Impacts

Outdoor Land Uses. All outdoor active-use areas (backyard, patio, or balcony, etc.) proposed within the following distances from the roadway centerline require a sound wall with a minimum wall height of 5 ft:

Site 1.

- Oak Glen Road: 415 ft
- Colorado Street: 78 ft
- Avenue E west of Oak Glen Road: 106 ft
- Avenue E east of Oak Glen Road: 148 ft

Site 2.

- Sand Canyon Road between 16th Street and East Campus Drive: 168 ft
- Sand Canyon Road between Chapman Heights Road and Yucaipa Boulevard: 161 ft
- Yucaipa Boulevard west of Sand Canyon Road: 336 ft

Site 3.

- California Street: 108 ft

Interior Noise. To meet the State's 45 dBA L_{dn} interior-noise standard and to achieve the indoor air-exchange ventilation requirements specified in Chapter 35 of the Uniform Building Code, all residential structures and church buildings along impacted roadway segments will require mechanical ventilation to ensure that windows can remain closed for prolonged periods of time. In addition, residential structures within the following distances from the roadway centerline would require mitigation measures, such as building facade enhancements, to reduce the interior noise to 45 dBA L_{dn} or lower.

Site 1.

- Oak Glen Road: 104 ft
- Avenue E east of Oak Glen Road: 32 ft

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along Oak Glen Road (within 658 ft of the roadway centerline) and Colorado Street (within 124 ft of the roadway centerline) to ensure that windows can remain closed for prolonged periods of time.

Site 2.

- Sand Canyon Road between 16th Street and East Campus Drive: 36 ft
- Sand Canyon Road between Chapman Heights Road and Yucaipa Boulevard: 41 ft
- Yucaipa Boulevard west of Sand Canyon Road: 85 ft

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along Sand Canyon Road (within 307 ft of the roadway centerline for the segment between East Campus Drive and Chapman Heights Road, and within 255 ft of the roadway centerline for the segment between Chapman Heights Road and Yucaipa Boulevard) and Yucaipa Boulevard (within 533 ft of the roadway centerline) to ensure that windows can remain closed for prolonged periods of time.

Site 3.

- California Street: 28 ft

In addition, mechanical ventilation, such as an air-conditioning system, would be required for dwelling units along California Street and within 171 ft of the roadway centerline to ensure that windows can remain closed for prolonged periods of time.

Stationary-Source Noise Impacts

An additional acoustical impact study shall be prepared when site-specific information is available to determine whether any noise impacts would occur from stationary sources, such as loading/unloading activities, on on-site or off-site noise-sensitive land uses.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the identified mitigation measures, potential short-term and long-term noise impacts would be reduced to below the level of significance.

REFERENCES

Bolt, Beranek & Newman, Noise Control for Buildings and Manufacturing Plants, 1987.

City of Yucaipa, Municipal Code, Noise Control Ordinance.

City of Yucaipa, General Plan Noise Element.

Federal Highway Administration, Highway Traffic Noise Prediction Model, FHWA RD-77-108, 1977.

LSA Associates, Inc., *Traffic Study*, March 2010.

APPENDIX A

FHWA TRAFFIC NOISE MODEL PRINTOUTS

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

EXISTING BASELINE CONDITIONS

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. west of Colorado St.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17000 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
57.3	118.5	253.0	543.8

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. between Colorado St. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15400 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
54.0	111.1	236.9	509.2

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. east of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	83.4	176.3	378.1

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Colorado St. east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	86.7

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	75.6	162.5

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	60.9	130.6	281.1

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. north of 16th St.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	62.8	134.8	290.2

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between 16th St. and E. Campus Dr.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	55.9	119.8	257.8

TABLE Existing-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	71.7	154.0	331.4

TABLE Existing-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	58.4	125.3	269.6

TABLE Existing-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 14 St. south of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	89.0	191.3

TABLE Existing-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 16th St. south of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

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* * CALCULATED NOISE LEVELS * *

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

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	51.3	109.9

TABLE Existing-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: E. Campus Dr. north of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	78.4	168.4

TABLE Existing-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Chapman Heights Rd. east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3900 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES	
	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	79.7	171.4

TABLE Existing-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17300 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
57.9	119.9	255.9	550.2

TABLE Existing-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18900 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

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

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
61.1	127.0	271.4	583.6

TABLE Existing-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. north of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	94.8

TABLE Existing-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. between Yucaipa Blvd. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4800 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES	
	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	91.5	196.8

TABLE Existing-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. south of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	103.8	223.2

TABLE Existing-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of California St.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11900 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	94.1	199.8	429.0

TABLE Existing-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of California St.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9500 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	81.5	172.2	369.3

TABLE Existing-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of California St.
NOTES: Yucaipa Housing Element Implementation Project - Existing

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	87.7	188.5

TABLE Existing-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of California St.
NOTES: Yucaipa Housing Element Implementation Project - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	72.8	156.4

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

OPENING YEAR (2014) WITHOUT PROJECT SCENARIO

TABLE 2014 w/o Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. west of Colorado St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18000 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
59.3	123.0	262.7	564.9

TABLE 2014 w/o Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. between Colorado St. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16300 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
55.9	115.3	246.0	528.8

TABLE 2014 w/o Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. east of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	86.6	183.5	393.7

TABLE 2014 w/o Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Colorado St. east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	86.7

TABLE 2014 w/o Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	78.4	168.4

TABLE 2014 w/o Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	63.3	135.9	292.4

TABLE 2014 w/o Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. north of 16th St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	65.2	140.0	301.3

TABLE 2014 w/o Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between 16th St. and E. Campus Dr.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	57.9	124.2	267.2

TABLE 2014 w/o Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	74.4	159.8	344.0

TABLE 2014 w/o Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	60.9	130.6	281.1

TABLE 2014 w/o Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 14 St. south of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	92.8	199.5

TABLE 2014 w/o Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 16th St. south of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	53.0	113.5

TABLE 2014 w/o Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: E. Campus Dr. north of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	81.1	174.3

TABLE 2014 w/o Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Chapman Heights Rd. east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	83.8	180.0

TABLE 2014 w/o Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18400 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
60.1	124.8	266.6	573.2

TABLE 2014 w/o Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20100 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

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

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
63.4	132.2	282.7	608.0

TABLE 2014 w/o Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. north of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	98.7

TABLE 2014 w/o Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. between Yucaipa Blvd. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	95.3	204.9

TABLE 2014 w/o Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. south of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	107.3	230.9

TABLE 2014 w/o Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12600 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	97.6	207.5	445.6

TABLE 2014 w/o Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10100 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	84.7	179.3	384.6

TABLE 2014 w/o Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	91.5	196.8

TABLE 2014 w/o Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	75.6	162.5

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

OPENING YEAR (2014) WITH PROJECT SCENARIO

TABLE 2014 with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. west of Colorado St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22100 SPEED (MPH): 50 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES	
	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

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

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
67.2	140.7	301.1	647.6

TABLE 2014 with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. between Colorado St. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
62.6	130.5	279.0	599.9

TABLE 2014 with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. east of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	91.9	194.9	418.3

TABLE 2014 with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Colorado St. east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	106.2

TABLE 2014 with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4500 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES	
	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	87.7	188.5

TABLE 2014 with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9200 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES	
	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

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

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	65.7	141.0	303.5

TABLE 2014 with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. north of 16th St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	72.1	154.9	333.5

TABLE 2014 with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between 16th St. and E. Campus Dr.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	66.1	142.0	305.7

TABLE 2014 with Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	80.5	172.9	372.3

TABLE 2014 with Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	68.0	146.1	314.4

TABLE 2014 with Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 14 St. south of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6700 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES	
	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	53.3	114.2	245.7

TABLE 2014 with Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 16th St. south of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	75.6	162.5

TABLE 2014 with Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: E. Campus Dr. north of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	81.1	174.3

TABLE 2014 with Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Chapman Heights Rd. east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	85.1	182.9

TABLE 2014 with Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21100 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
65.3	136.5	292.0	628.0

TABLE 2014 with Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
68.4	143.2	306.5	659.3

TABLE 2014 with Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. north of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	102.5

TABLE 2014 with Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. between Yucaipa Blvd. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	100.2	215.5

TABLE 2014 with Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. south of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	54.8	117.6	253.0

TABLE 2014 with Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	103.1	219.3	471.1

TABLE 2014 with Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10800 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	88.4	187.4	402.2

TABLE 2014 with Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	95.3	204.9

TABLE 2014 with Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2014 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	79.7	171.4

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

FUTURE YEAR (2035) WITHOUT PROJECT SCENARIO

TABLE 2035 w/o Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. west of Colorado St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35200 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
90.2	191.2	410.3	883.1

TABLE 2035 w/o Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. between Colorado St. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32400 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
85.5	181.0	388.3	835.7

TABLE 2035 w/o Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. east of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

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

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
67.8	141.9	303.6	653.1

TABLE 2035 w/o Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Colorado St. east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	71.4	153.3

TABLE 2035 w/o Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	97.7	210.2

TABLE 2035 w/o Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	66.6	143.0	307.9

TABLE 2035 w/o Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. north of 16th St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	86.3	185.6	399.6

TABLE 2035 w/o Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between 16th St. and E. Campus Dr.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	71.2	153.0	329.3

TABLE 2035 w/o Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	84.2	181.1	389.9

TABLE 2035 w/o Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	68.0	146.1	314.4

TABLE 2035 w/o Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 14 St. south of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	54.3	116.4	250.6

TABLE 2035 w/o Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 16th St. south of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	87.7	188.5

TABLE 2035 w/o Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: E. Campus Dr. north of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	77.0	165.5

TABLE 2035 w/o Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Chapman Heights Rd. east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	96.5	207.6

TABLE 2035 w/o Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23400 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
69.7	146.1	312.7	672.8

TABLE 2035 w/o Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25900 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
74.2	156.1	334.6	719.9

TABLE 2035 w/o Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. north of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	90.8

TABLE 2035 w/o Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. between Yucaipa Blvd. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	67.0	143.9

TABLE 2035 w/o Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. south of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	97.7	210.2

TABLE 2035 w/o Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	104.0	221.4	475.7

TABLE 2035 w/o Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12000 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	94.6	200.9	431.4

TABLE 2035 w/o Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	107.3	230.9

TABLE 2035 w/o Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 w/o Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	102.6	220.7

YUCAIPA HOUSING ELEMENT IMPLEMENTATION PLAN

FHWA ROADWAY NOISE LEVEL ANALYSIS

CONTOUR6 MODEL PRINTOUTS

FUTURE YEAR (2035) WITH PROJECT SCENARIO

TABLE 2035 with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. west of Colorado St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 39300 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
96.8	205.6	441.5	950.4

TABLE 2035 with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. between Colorado St. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35800 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
91.1	193.3	414.9	893.1

TABLE 2035 with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Oak Glen Rd. east of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
69.6	146.0	312.6	672.4

TABLE 2035 with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Colorado St. east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	78.4	168.4

TABLE 2035 with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6000 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	106.1	228.3

TABLE 2035 with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of Oak Glen Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	68.9	148.1	318.7

TABLE 2035 with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. north of 16th St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	92.4	198.7	427.8

TABLE 2035 with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between 16th St. and E. Campus Dr.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	78.3	168.3	362.3

TABLE 2035 with Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	90.4	194.4	418.5

TABLE 2035 with Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	74.8	160.7	346.0

TABLE 2035 with Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 14 St. south of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	63.3	135.9	292.4

TABLE 2035 with Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: 16th St. south of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	106.1	228.3

TABLE 2035 with Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: E. Campus Dr. north of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3700 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	77.0	165.5

TABLE 2035 with Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Chapman Heights Rd. east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	97.7	210.2

TABLE 2035 with Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26100 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
74.6	156.9	336.3	723.6

TABLE 2035 with Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of Sand Canyon Rd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28500 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
78.8	166.3	356.5	767.2

TABLE 2035 with Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. north of Yucaipa Blvd.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	0.0	94.8

TABLE 2035 with Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. between Yucaipa Blvd. and Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	74.2	159.5

TABLE 2035 with Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: California St. south of Avenue E
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6200 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	50.6	108.5	233.3

TABLE 2035 with Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15000 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
53.2	109.3	232.8	500.3

TABLE 2035 with Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Yucaipa Blvd east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12600 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn

70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	97.6	207.5	445.6

TABLE 2035 with Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E west of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6400 SPEED (MPH): 45 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn 70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	51.7	110.8	238.3

TABLE 2035 with Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/11/2010
ROADWAY SEGMENT: Avenue E east of California St.
NOTES: Yucaipa Housing Element Implementation Project - 2035 with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	NIGHT
AUTOS	88.08	9.34
M-TRUCKS	1.65	0.19
H-TRUCKS	0.66	0.08

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

---

* * CALCULATED NOISE LEVELS * *

Ldn AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO Ldn			
70 Ldn	65 Ldn	60 Ldn	55 Ldn
0.0	0.0	107.3	230.9

SITE SPECIFIC NOISE TABLES

Yucaipa Housing Element Implementation Project
Supplemental Noise Impact Analysis

The traffic noise impact analysis in the Noise Impact Technical Report only assessed the traffic noise impacts from the traffic of all three sites operating together. The following tables show the traffic noise modeling results for each individual site implemented alone. Note that very near a site these individual analyses are nearly identical to the combined analysis shown in the Noise Impact Technical Report, and that further away there are subtle differences due to the combined affects from all three sites.

Tables A and B provide the 2014 without project and with project traffic noise levels, respectively, adjacent to the roadway segments analyzed in the Traffic Impact Study most affected by Site 1 traffic. Tables G and H provide the 2035 without project and with project traffic noise levels, respectively, adjacent to these same roadway segments. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. Tables B and H show that the proposed Site 1 traffic would add up to 1.1 dBA or less in 2014 and up to 0.5 dBA or less in 2035 to the baseline without project traffic noise along arterials and major collector roads within the City. These traffic noise level increases are small and would not be discernible by the human ear in an outdoor environment over a long period of time. Therefore, no significant Site 1-related traffic noise impacts would occur on off-site uses.

Similarly, Tables C and D provide the 2014 without project and with project traffic noise levels, respectively, adjacent to the roadway segments analyzed in the Traffic Impact Study most affected by Site 2 traffic. Tables I and J provide the 2035 without project and with project traffic noise levels, respectively, adjacent to these same roadway segments. Tables D and J show that the proposed Site 2 traffic would add up to 2.4 dBA or less in 2014 and up to 1.3 dBA or less in 2035 to the baseline without project traffic noise along arterials and major collector roads within the City. These traffic noise level increases are small and would not be discernible by the human ear in an outdoor environment over a long period of time. Therefore, no significant Site 2-related traffic noise impacts would occur on off-site uses.

Lastly, Tables E and F provide the 2014 without project and with project traffic noise levels, respectively, adjacent to the roadway segments analyzed in the Traffic Impact Study most affected by Site 3 traffic. Tables K and L provide the 2035 without project and with project traffic noise levels, respectively, adjacent to these same roadway segments. Tables F and L show that the proposed Site 3 traffic would add up to 0.6 dBA or less in 2014 and 2035 to the baseline without project traffic noise along arterials and major collector roads within the City. These traffic noise level increases are small and would not be discernible by the human ear in an outdoor environment over a long period of time. Therefore, no significant Site 3-related traffic noise impacts would occur on off-site uses.

Because no offsite traffic noise impacts would occur, none of the individual sites would have a significant impact on offsite noise levels and no mitigation measures would be required.

The traffic noise impacts to onsite land uses will be unchanged from the analysis performed in the Noise Impact Technical Report because the traffic noise impacts to the onsite land uses are almost exclusively caused by the traffic related to that site. Thus, all mitigation measures identified in the Noise Impact Technical Report still apply to each individual site.

Table A: 2014 Site 1 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 LDN (Feet)	Centerline to 65 LDN (Feet)	Centerline to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	18,000	59	123	263	69.0
Oak Glen Rd. between Colorado St. and Avenue E	16,300	56	115	246	68.6
Oak Glen Rd. east of Avenue E	13,600	< 50	87	183	66.7
Colorado St. east of Oak Glen Rd.	1,400	< 50	< 50	< 50	57.9
Avenue E west of Oak Glen Rd.	3,800	< 50	< 50	78	62.2
Avenue E east of Oak Glen Rd.	8,700	< 50	63	136	65.8

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table B: 2014 Site 1 With Project Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 LDN (Feet)	Center-line to 65 LDN (Feet)	Center-line to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane	Increase LDN (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	21,900	67	140	299	69.9	0.9
Oak Glen Rd. between Colorado St. and Avenue E	19,600	62	130	278	69.4	0.8
Oak Glen Rd. east of Avenue E	14,900	< 50	92	195	67.1	0.4
Colorado St. east of Oak Glen Rd.	1,800	< 50	< 50	< 50	59.0	1.1
Avenue E west of Oak Glen Rd.	4,400	< 50	< 50	86	62.8	0.6
Avenue E east of Oak Glen Rd.	9,100	< 50	65	140	66.0	0.2

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table C: 2014 Site 2 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 LDN (Feet)	Centerline to 65 LDN (Feet)	Centerline to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane
Sand Canyon Rd. north of 16th St.	9,100	< 50	65	140	66.0
Sand Canyon Rd. between 16th St. and E. Campus Dr.	7,600	< 50	58	124	65.2
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	11,100	< 50	74	160	66.9
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	8,200	< 50	61	131	65.6
14 St. south of Yucaipa Blvd.	4,900	< 50	< 50	93	63.3
16th St. south of Sand Canyon Rd.	2,100	< 50	< 50	53	59.6
E. Campus Dr. north of Sand Canyon Rd.	4,000	< 50	< 50	81	62.4
Chapman Heights Rd. east of Sand Canyon Rd.	4,200	< 50	< 50	84	62.6
Yucaipa Blvd west of Sand Canyon Rd.	18,400	60	125	267	69.1
Yucaipa Blvd east of Sand Canyon Rd.	20,100	63	132	283	69.5

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table D: 2014 Site 2 With Project Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 LDN (Feet)	Center-line to 65 LDN (Feet)	Center-line to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane	Increase LDN (dBA) 50 Feet from Centerline of Outermost Lane
Sand Canyon Rd. north of 16th St.	10,300	< 50	71	152	66.5	0.5
Sand Canyon Rd. between 16th St. and E. Campus Dr.	9,000	< 50	65	139	66.0	0.8
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	12,200	< 50	79	170	67.3	0.4
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	9,400	< 50	67	143	66.1	0.5
14 St. south of Yucaipa Blvd.	6,500	< 50	52	112	64.5	1.2
16th St. south of Sand Canyon Rd.	3,600	< 50	< 50	76	62.0	2.4
E. Campus Dr. north of Sand Canyon Rd.	4,000	< 50	< 50	81	62.4	0.0
Chapman Heights Rd. east of Sand Canyon Rd.	4,300	< 50	< 50	85	62.7	0.1
Yucaipa Blvd west of Sand Canyon Rd.	20,800	65	135	289	69.7	0.6
Yucaipa Blvd east of Sand Canyon Rd.	22,200	67	141	302	69.9	0.4

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table E: 2014 Site 3 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 LDN (Feet)	Centerline to 65 LDN (Feet)	Centerline to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane
California St. north of Yucaipa Blvd.	1,700	< 50	< 50	< 50	58.7
California St. between Yucaipa Blvd. and Avenue E	5,100	< 50	< 50	95	63.5
California St. south of Avenue E	6,100	< 50	< 50	107	64.3
Yucaipa Blvd west of California St.	12,600	< 50	98	207	67.5
Yucaipa Blvd east of California St.	10,100	< 50	85	179	66.5
Avenue E west of California St.	4,800	< 50	< 50	92	63.2
Avenue E east of California St.	3,600	< 50	< 50	76	62.0

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table F: 2014 Site 3 With Project Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 LDN (Feet)	Center-line to 65 LDN (Feet)	Center-line to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane	Increase LDN (dBA) 50 Feet from Centerline of Outermost Lane
California St. north of Yucaipa Blvd.	1,800	< 50	< 50	< 50	59.0	0.3
California St. between Yucaipa Blvd. and Avenue E	5,400	< 50	< 50	99	63.7	0.2
California St. south of Avenue E	7,000	< 50	55	118	64.9	0.6
Yucaipa Blvd west of California St.	12,900	< 50	99	211	67.6	0.1
Yucaipa Blvd east of California St.	10,100	< 50	85	179	66.5	0.0
Avenue E west of California St.	5,000	< 50	< 50	94	63.4	0.2
Avenue E east of California St.	3,800	< 50	< 50	78	62.2	0.2

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table G: 2035 Site 1 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 LDN (Feet)	Centerline to 65 LDN (Feet)	Centerline to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	35,200	90	191	410	71.9
Oak Glen Rd. between Colorado St. and Avenue E	32,400	86	181	388	71.6
Oak Glen Rd. east of Avenue E	29,100	68	142	304	70.0
Colorado St. east of Oak Glen Rd.	3,300	< 50	< 50	71	61.6
Avenue E west of Oak Glen Rd.	5,300	< 50	< 50	98	63.7
Avenue E east of Oak Glen Rd.	9,400	< 50	67	143	66.1

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table H: 2035 Site 1 With Project Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 LDN (Feet)	Center-line to 65 LDN (Feet)	Center-line to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane	Increase LDN (dBA) 50 Feet from Centerline of Outermost Lane
Oak Glen Rd. west of Colorado St.	39,100	96	205	440	72.4	0.5
Oak Glen Rd. between Colorado St. and Avenue E	35,700	91	193	414	72.0	0.4
Oak Glen Rd. east of Avenue E	30,400	70	146	313	70.2	0.2
Colorado St. east of Oak Glen Rd.	3,700	< 50	< 50	77	62.1	0.5
Avenue E west of Oak Glen Rd.	5,900	< 50	< 50	105	64.1	0.4
Avenue E east of Oak Glen Rd.	9,800	< 50	68	147	66.3	0.2

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table I: 2035 Site 2 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 LDN (Feet)	Centerline to 65 LDN (Feet)	Centerline to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane
Sand Canyon Rd. north of 16th St.	13,900	< 50	86	186	67.8
Sand Canyon Rd. between 16th St. and E. Campus Dr.	10,400	< 50	71	153	66.6
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	13,400	< 50	84	181	67.7
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	9,700	< 50	68	146	66.3
14 St. south of Yucaipa Blvd.	6,900	< 50	54	116	64.8
16th St. south of Sand Canyon Rd.	4,500	< 50	< 50	88	62.9
E. Campus Dr. north of Sand Canyon Rd.	3,700	< 50	< 50	77	62.1
Chapman Heights Rd. east of Sand Canyon Rd.	5,200	< 50	< 50	97	63.6
Yucaipa Blvd west of Sand Canyon Rd.	23,400	70	146	313	70.2
Yucaipa Blvd east of Sand Canyon Rd.	25,900	74	156	335	70.6

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table J: 2035 Site 2 With Project Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 LDN (Feet)	Center-line to 65 LDN (Feet)	Center-line to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane	Increase LDN (dBA) 50 Feet from Centerline of Outermost Lane
Sand Canyon Rd. north of 16th St.	15,100	< 50	91	196	68.2	0.4
Sand Canyon Rd. between 16th St. and E. Campus Dr.	11,700	< 50	77	165	67.1	0.5
Sand Canyon Rd. between E. Campus Dr. and Chapman Heights Rd.	14,500	< 50	89	191	68.0	0.3
Sand Canyon Rd. between Chapman Heights Rd. and Yucaipa Blvd.	10,800	< 50	73	157	66.7	0.4
14 St. south of Yucaipa Blvd.	8,500	< 50	62	134	65.7	0.9
16th St. south of Sand Canyon Rd.	6,000	< 50	< 50	106	64.2	1.3
E. Campus Dr. north of Sand Canyon Rd.	3,700	< 50	< 50	77	62.1	0.0
Chapman Heights Rd. east of Sand Canyon Rd.	5,300	< 50	< 50	98	63.7	0.1
Yucaipa Blvd west of Sand Canyon Rd.	25,800	74	156	334	70.6	0.4
Yucaipa Blvd east of Sand Canyon Rd.	28,100	78	165	353	71.0	0.4

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table K: 2035 Site 3 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 LDN (Feet)	Centerline to 65 LDN (Feet)	Centerline to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane
California St. north of Yucaipa Blvd.	1,500	< 50	< 50	< 50	58.2
California St. between Yucaipa Blvd. and Avenue E	3,000	< 50	< 50	67	61.2
California St. south of Avenue E	5,300	< 50	< 50	98	63.7
Yucaipa Blvd west of California St.	13,900	< 50	104	221	67.9
Yucaipa Blvd east of California St.	12,000	< 50	95	201	67.3
Avenue E west of California St.	6,100	< 50	< 50	107	64.3
Avenue E east of California St.	5,700	< 50	< 50	103	64.0

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Table L: 2035 Site 3 With Project Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 LDN (Feet)	Center-line to 65 LDN (Feet)	Center-line to 60 LDN (Feet)	LDN (dBA) 50 Feet from Centerline of Outermost Lane	Increase LDN (dBA) 50 Feet from Centerline of Outermost Lane
California St. north of Yucaipa Blvd.	1,600	< 50	< 50	< 50	58.5	0.3
California St. between Yucaipa Blvd. and Avenue E	3,400	< 50	< 50	73	61.7	0.5
California St. south of Avenue E	6,200	< 50	51	108	64.3	0.6
Yucaipa Blvd west of California St.	14,200	< 50	105	225	68.0	0.1
Yucaipa Blvd east of California St.	12,000	< 50	95	201	67.3	0.0
Avenue E west of California St.	6,400	< 50	52	111	64.5	0.2
Avenue E east of California St.	6,000	< 50	< 50	106	64.2	0.2

Source: LSA Associates, Inc., March 2010.
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.