

5. Environmental Analysis

5.9 LAND USE AND PLANNING

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to land use in the Town of Yucca Valley (Town) from implementation of the Yucca Valley General Plan Update (proposed project). This section is based on the proposed land use plan, described in detail in Chapter 3, *Project Description*, and shown in Figure 3-5, *Proposed Land Use Plan*. The proposed goals and policies have been evaluated to determine their consistency with other relevant sections of the General Plan. In addition, compatibility of the proposed land use changes with the existing land uses in the surrounding area is discussed in this section. The proposed project is also evaluated for consistency with the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Airport Comprehensive Land Use Plan (ACLUP) for Yucca Valley Airport.

Land use impacts can be either direct or indirect. Direct impacts result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans, including habitat or wildlife conservation plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or increased traffic on roadways. Indirect impacts are addressed in other topical sections of this DEIR.

5.9.1 Environmental Setting

5.9.1.1 Regulatory Setting

State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Yucca Valley General Plan Update are summarized below.

State

State Planning Law and California Complete Streets Act

State planning law (California Government Code Section 65300) requires every city in California to adopt a comprehensive, long-term general plan for physical development of the city and its sphere of influence. A general plan should consist of an integrated and internally consistent set of goals and policies that are grouped by topic into a set of elements and are guided by a citywide vision. State law requires that a general plan address seven elements or topics (land use, circulation, housing, conservation, open space, noise, and safety), but allows some discretion on the arrangement and content. Additionally, each of the specific and applicable requirements in the state planning law (as provided California Government Code Section 65300) should be examined to determine if there are environmental issues within the community that the general plan should address, including but not limited to hazards and flooding.

Additionally, on September 30, 2008, Assembly Bill 1358 (AB 1358), the California Complete Streets Act, was signed into law and became effective January 1, 2011. AB 1358 places the planning, designing, and building of complete streets into the larger planning framework of the general plan by requiring jurisdictions to amend their circulation elements to plan for multimodal transportation networks.

The proposed project's consistency with state planning law and the California Complete Streets Act is provided in the analysis for Impact 5.10-2, and the Town's Circulation Plan (as shown in Figure 5.15-14, *Roadway Classifications*, and identified in Section 5.14, *Transportation and Traffic*) provides for safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the roadways.



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Regional

Southern California Association of Governments

SCAG is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's MPO, SCAG cooperates with the Southern California Air Quality Management District (SCAQMD), the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the proposed project are discussed below.

The Yucca Valley General Plan Update is considered a project of regionwide significance pursuant to the criteria outlined in SCAG's Intergovernmental Review Procedures Handbook (November 1995) and Section 15206 of the California Environmental Quality Act (CEQA) Guidelines. Therefore, this section addresses the proposed project's consistency with the applicable SCAG regional planning guidelines and policies.

Regional Transportation Plan/Sustainable Communities Strategy

On April 4, 2012, SCAG adopted the 2012–2035 RTP/SCS: Towards a Sustainable Future. SCAG has placed greater emphasis than ever before on sustainability and integrated planning in the 2012–2035 RTP/SCS. The 2012–2035 RTP/SCS vision encompasses three principles that collectively work as the key to the region's future: mobility, economy, and sustainability. The 2012–2035 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. The 2012–2035 RTP/SCS provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play, and how they will move around (SCAG 2012a). The proposed project's consistency with the applicable RTP/SCS goals is analyzed in detail in Table 5.9-1.

Compass Growth Vision

In 2004, SCAG adopted the Compass Growth Vision (CGV), which is a response, supported by a regional consensus, to the land use and transportation challenges facing southern California. SCAG developed the CGV in an effort to maintain the region's prosperity, continue to expand its economy, house its residents affordably, and protect its environmental setting as a whole. The CGV is a framework that helps local jurisdictions address growth management cooperatively and also helps coordinate regional land use and transportation planning.

In conjunction with the CGV, SCAG also adopted the Compass Blueprint 2% Strategy, which is the part of the 2004 regional growth forecast policy that attempts to reduce emissions and increase mobility through strategic land use changes. The 2% Strategy is a guideline for how and where the CGV for southern California's future can be implemented toward improving measures of mobility, livability, prosperity, and sustainability for local neighborhoods and their residents. Through extensive public participation and land use and transportation modeling and analysis, the program has resulted in a plan that identifies strategic growth opportunity areas (2% Strategy Opportunity Areas). These opportunity areas are roughly 2 percent of the land area in the southern California region. These are the areas where the 2% Strategy will help cities and counties reap the maximum benefits from regional planning implemented in cooperation and partnership with the local community. Goals for the 2% Strategy Opportunity Areas include locating new housing near existing jobs and new jobs near existing housing, encouraging infill development, promoting development with a mix of uses, creating walkable communities, providing a mix of housing types, and focusing development in urban areas. The Town is not within a designated

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Compass 2% Strategy Opportunity Area (SCAG 2012b). Therefore, the proposed project is not required to address the project's consistency with the advisory Compass Growth Vision policies.

Local

Airport Comprehensive Land Use Plan for Yucca Valley Airport

Yucca Valley Airport is a privately owned public use airport leased and operated by the Yucca Valley Airport District. The airport is classified a general aviation, basic utility facility and is used for aircraft storage, maintenance, use, and training. San Bernardino County adopted the Airport Comprehensive Land Use Plan (ACLUP) for the Yucca Valley Airport in 1992. The ACLUP is a land use compatibility plan that is intended to protect the public from adverse effects of aircraft noise, ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect navigable space. The ACLUP identifies standards for development in the airport's planning area based on noise contours, safety zones, and building heights.

Prior to the passage of Senate Bill 443 (enacted and effective June 30, 1993), Section 21670 of the California Public Utilities Code required the establishment of an Airport Land Use Commission (ALUC) in every county in which an airport served by a scheduled airline is located. ALUC's are authorized under state law to assist local agencies in ensuring compatible land uses in the vicinity of airports and have primary responsibility for preparation, adoption and amendment of the established airport land use plans. Primary areas of concern for ALUC are noise, safety hazards, and airport operational integrity. Under a Joint Powers Agreement (JPA), San Bernardino County had established the East, West, and Mountain/Desert Airport Land Use Commissions (ALUC), which oversaw land use decisions of the various airports in the county, including the Yucca Valley Airport. In October of 1993, the San Bernardino County Board of Supervisor, by adoption of Resolution No. 93-295, withdrew from the JPA, which established these three ALUCs. Assembly Bill No. 2831 (effective January 1, 1995) amended Section 21670 of the California Public Utilities Code to provide an alternative procedure to the requirement for the establishment of an ALUC, which allows local jurisdictions to make land use decisions for areas within the land use plan of a public use airport. In April of 1995, the Town Council of the Town of Yucca Valley, by adoption of Resolution No. 95-18, determined that the Town's Community Development Department would be the agency responsible for the preparation, adoption, and amendment of the ACLUP.

As shown in Figure 3-2, *Townwide Aerial*, the Yucca Valley Airport is in the central portion of the Town. Portions of the Town fall within the safety compatibility and noise contour zones of the airport. The proposed project's consistency with the ACLUP is provided in the analysis for Impact 5.10-2.

Town Yucca Valley

Current General Plan and Land Use Designations

The current Town of Yucca Valley General Plan was adopted on December 14, 1995, and contains 22 elements organized into four broad issue areas, which are outlined in Chapter 3, *Project Description*. The current General Plan provides the basis for land use designations in the Town. Table 3-1, *Current General Plan Land Use Designations*, provides acreage statistics for land uses under the current General Plan.

Existing Zoning

The Town of Yucca Valley Development Code (Municipal Code, Title 9), which is currently being updated, provides the basis for current zoning in the Town. The Town's Official Zoning District Map contains 29 zoning districts: 15 residential, 10 commercial, 1 industrial, 3 public use (including public facilities and open space), and 1 overlay zone (Highway Environs Overlay).



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5.9.1.2 Existing Setting

The Town is near the southern boundary of the central portion of San Bernardino County, approximately 30 miles north of downtown Palm Springs in neighboring Riverside County (see Figure 3-1, *Regional Location*). As shown in Figure 3-1, the Town is surrounded by portions of unincorporated San Bernardino County and is near the City of Twentynine Palms and the unincorporated communities of Morongo Valley and Joshua Tree. The southern boundary of Yucca Valley is adjacent to Joshua Tree National Park. State Route 62 (SR-62) traverses the Town from east to west, and State Route 247 (SR-247) crosses the northern half of the Town from north to south.

Existing Land Uses

The Town encompasses approximately 25,000 acres (or 39 square miles). As shown in Table 4-1, *Existing Land Use Summary*, and Figure 3-3, *Existing Land Use*, the vast majority of Town land is either single-family land uses (24.8 percent) or vacant (65.4 percent). This is due to the Town's low density residential character and isolated, high desert location. The Town's abundant vacant land generally consists of undeveloped desert saltbrush scrub, Joshua tree woodland, and pinyon-juniper woodland. The majority of roadways in the less developed portions of the Town are unimproved (i.e., dirt roads).

The most extensively developed area of Yucca Valley lies along SR-62, which generally coincides with the axis of the central valley. With a few exceptions, existing commercial and industrial uses are generally within one-half mile of the SR-62 corridor and concentrated in the Old Town and Mid-Town areas (see Figure 3-2, *Townwide Aerial*). Development near the highway is predominantly commercial with a few multifamily residential units. Single family homes comprise most of the remaining development away from SR-62, with the highest concentration of homes spreading across the valley floor and up the gently sloping alluvial fans. Scattered rural and semirural residential development has spread out into hilly areas to the north and south. More than half of the Town's area is still undeveloped, however, including many of the steeper hills and ridgelines. The mountains that border the Town on the south are dedicated to open space and recreation as part of Joshua Tree National Park and Big Morongo Canyon Preserve.

Existing Surrounding Land Uses

The Town is largely surrounded by undeveloped areas of the Mojave Desert. As shown in Figure 3-2, *Townwide Aerial*, the Town is bordered by a mixture of undeveloped and low density residential areas to the north and east, including the unincorporated communities of Pioneertown and Joshua Tree; Joshua Tree National Park to the south; and undeveloped areas to the west.

5.9.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- LU-1 Physically divide an established community.
- LU-2 Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- LU-3 Conflict with any applicable habitat conservation plan or natural community conservation plan.

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5.9.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.10-1: IMPLEMENTATION OF THE GENERAL PLAN UPDATE WOULD NOT DIVIDE AN ESTABLISHED COMMUNITY. [THRESHOLD LU-1]

Impact Analysis: As shown in Table 4-1, *Existing Land Use Summary*, and Figure 3-3, *Existing Land Use*, the vast majority of land in the Town is either single-family land uses (24.8 percent) or vacant (65.4 percent). This is due to the Town's low density residential character and isolated, high desert location.

The General Plan Update is intended to shape development within the Town for at least the next 20 years. The changes in existing land use designations (see Figure 3-4, *Current Land Use Plan*) that would occur with implementation of the General Plan Update land use plan (see Figure 3-5, *Proposed Land Use Plan*) would not result in the physical division of an established community. As shown in Figures 3-4 and 3-5, proposed land use designations would generally remain similar. For example, existing rural residential land uses in the Town would remain, and the land use designations of these areas would also remain. Additionally, the majority of the existing low, medium, and medium-high density residential land use designations within the Town boundary would remain the same under the proposed General Plan Update land use plan.

Some changes to existing residential land use designations would occur in certain areas of the Town. However, the changes involve mostly swapping one residential land use designation for another. For example, two areas in the western portion of the Town currently designated rural residential would be changed to hillside residential. However, the proposed land use changes would not divide an established community because the areas that would undergo changes to the land use designations are for the most part vacant land or consist of existing residences. In turn, the change in land use designations would help create a sense of community and attractive communities for local citizens and visitors.

Additionally, the change in land use designations (e.g., rural residential to hillside residential) would still permit residential land uses, although at different density levels than are currently permitted (depending on the land use designation proposed). Development in the Town would also be guided by policies outlined in the General Plan Update and specific development standards outlined in the City's ordinances. City enforcement of the policies and development standards help ensure the compatibility of land uses. Furthermore, as outlined in Chapter 3, *Project Description*, one of the goals of the General Plan Update is to maintain the community's safe and established residential neighborhoods.

The General Plan Update also contains policies that encourage the preservation or enhancement of the existing residential communities through development of compatible uses that would enhance the existing character of the Town. For example, the land use element and housing element outline specific policies for neighborhood identify and preservation and for compatibility that would reduce the amount of conflict between contrasting land uses (see housing element policy H4-1, land use element policies LU 1-2, LU 1-7, LU1-12, LU 1-19, LU 1-23, LU 2-3, LU 2-6, LU 2-10, and LU 2-11, and open space and conservation element policy OSC 1-5 at the end of this section). Implementation of the pertinent policies of the General Plan Update would help ensure the development of cohesive communities, while maintaining the features that make each neighborhood unique.



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IMPACT 5.10-2: IMPLEMENTATION OF THE GENERAL PLAN UPDATE WOULD NOT CONFLICT WITH APPLICABLE PLANS ADOPTED FOR THE PURPOSE OF AVOIDING OR MITIGATING AN ENVIRONMENTAL EFFECT. [THRESHOLD LU-2]

Impact Analysis: The proposed project is an update to the Yucca Valley General Plan. The General Plan Update is intended to shape development within the Town for at least the next 20 years.

Following is an analysis of the proposed project's consistency with the applicable state, regional and local laws, regulations, plans, and guidelines.

State Planning Law and California Complete Streets Act Consistency

The General Plan Update has been prepared in accordance with state planning law, as provided in California Government Code Section 65300. The General Plan Update is meant to be a framework for guiding planning and development in the Town for at least the next 20 years and can be thought of as the blueprint for the Town's growth and development. The update is comprehensive both in its geography and subject matter. It addresses the entire territory within the Town's boundary and also addresses the full spectrum of issues associated with management of the Town.

The General Plan Update is consistent with California Government Code Section 65302 because it addresses the seven required elements. More specifically, the General Plan Update involves a revision to the land use map and all 22 existing elements. The update would reorganized the current General Plan into the following elements: Land Use, Circulation, Safety, Noise, Open Space and Conservation, and Housing.

The General Plan Update also includes forecasts of long-term conditions and outlines development goals and policies; exhibits and diagrams; and objectives, principles, standards, and plan proposals throughout the various elements of the General Plan Update. The proposed land use plan and the goals and policies in the General Plan Update strive to preserve and ensure land use compatibility throughout the Town. Additionally, the General Plan Update is consistent with AB 1358 because Complete Streets is one of the key components in the Circulation Element of the General Plan Update. Refer to Section 5.14, *Transportation and Traffic*, for a detailed discussion of the proposed project's consistency with AB 1358.

Furthermore, each of the specific and applicable requirements in state planning law (California Government Code Section 65300) have been examined to determine if there are environmental issues within the community that the General Plan Update should address, including but not limited to hazards and flooding. These environmental issues (air quality, hazards, flooding, traffic, etc.) are addressed in their respective elements of the General Plan Update and in their respective topical sections in Chapter 5, *Environmental Analysis*, of this DEIR.

Airport Comprehensive Land Use Plan Consistency

Airport operations and their accompanying noise and safety hazards require careful land use planning on adjacent and nearby lands to protect the residential and business communities of Yucca Valley from the potential hazards that could be created by airport operations. As shown in Figure 3-2, *Townwide Aerial*, the Yucca Valley Airport is in the central portion of the Town, and portions of the Town fall within the safety compatibility and noise contour zones of the airport.

Airport safety hazards include hazards posed to aircraft and hazards posed by aircraft to people and property on the ground. With proper land use planning, aircraft safety risks can be reduced, primarily by avoiding incompatible land uses. As shown in Figure 3-4, *Current Land Use Plan*, the areas nearest to the airport consist of a mix of industrial, commercial, public/quasi-public, and rural, low-, and medium-density residential land use designations. Under the proposed General Plan Update, the land uses designations of these areas would remain the same for the most part.

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Only minor changes to land use designations of a few areas would occur: for example, swapping one residential land use for another or changing industrial land use to commercial. Additionally, new or more intense development in the areas surrounding the airport is not anticipated, since a good portion of the area is already developed with a mix of residential, commercial, and industrial uses, as shown in Figure 3-3, *Existing Land Uses*. New or more intense development is also not anticipated since the land use designations of the vacant sites surrounding the airport would remain the same for the most part. Therefore, the proposed project would not place greater numbers of people in proximity to the airport.

The ACLUP also outlines land use review criteria and development standards related to noise, overflight, safety, and air space protection to help reduce the potential impacts on land uses surrounding the airport. For example, certain development actions (e.g., amendments to the general plan, rezoning applications, conditional use permits, and major variances) for properties within the boundaries of the airport land use plan require formal review by ALUC (SBCPD 1992). Per the discussion provided above in Section 5.9.1.1, *Regulatory Setting*, the Town Council of the Town of Yucca Valley, by adoption of Resolution No. 95-18 in April of 1995, determined that the Town's Community Development Department would be the agency responsible for the preparation, adoption, and amendment of the ACLUP. Therefore, the Community Development Department would have review authority of development proposals within the ACLUP and not ALUC. Additionally, as outlined in the ACLUP, all proposed projects that fall within the airport land use plan are subject to a number of development standards, including but not limited to:

- The proposed structures and the normal mature height of any vegetation shall not exceed the height limitations provided by Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace.
- Development of residential or other sensitive land uses shall require interior noise exposure levels of 45 dBA CNEL or less with windows and doors closed. Interior noise levels of retail commercial, banks, and restaurants shall be 50 dBA CNEL and industrial uses shall be 55 dBA CNEL.
- The proposed use or structure shall not reflect glare, emit electronic interference or produce smoke that would endanger aircraft operations.
- The proposed use does not involve the storage or dispensing of volatile or otherwise hazardous substances that would endanger aircraft operations.
- The proposed use or structure complies with the policies of the Yucca Valley General Plan and the standards of the Yucca Valley Development Code.



Consistency with the ACLUP development standards and review by ALUC (if required) is ensured through the Town's development review process for individual project proposals.

Policies are also provided in the General Plan Update (land use element policies LU 3-1 and LU 3-2), which are designed to minimize public exposure to risks associated with airport operations and to minimize the siting of land uses near airports that might interfere with airport operations.

SCAG 2012–2035 RTP/SCS Consistency

Table 5.9-1 provides an assessment of the proposed project's relationship to pertinent 2012–2035 SCAG RTP/SCS goals. The analysis in Table 5.9-1 concludes that the proposed project would be consistent with the applicable RTP/SCS goals. Therefore, implementation of the proposed project would not result in significant land use impacts related to relevant RTP/SCS goals. Related policies and implementation actions in column 3 of the table are provided in Section 5.10.4, *Relevant General Plan Policies and Implementation Actions*.

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Table 5.9-1
SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
Goals Consistency Analysis

Goals	Project Compliance	Sample Related General Plan Update Policies and Implementation Actions
<p>RTP/SCS G1: Align the plan investments and policies with improving regional economic development and competitiveness.</p>	<p>Not Applicable: This is not a project-specific goal and is therefore not applicable.</p>	<p>Not applicable</p>
<p>RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region.</p>	<p>Consistent: The transportation networks in Yucca Valley would be designed, developed, and maintained to meet the needs of local and regional transportation and to ensure efficient mobility and accessibility. A number of regional and local plans and programs would be used to guide development and maintenance of transportation networks in the Town, including but not limited to:</p> <ul style="list-style-type: none"> • San Bernardino Associated Governments Congestion Management Program • Town of Yucca Valley and County of San Bernardino Traffic Impact Analysis Guidelines • Caltrans Traffic Impact Studies Guidelines • Caltrans Highway Capacity Manual • SCAG's 2012–2035 RTP/SCS <p>Additionally, the Town is required by the California Government Code to coordinate its circulation element with regional transportation plans, including the RTP/SCS. The circulation element is a comprehensive transportation management strategy that addresses infrastructure capacity.</p> <p>The housing, land use, open space and conservation, and circulation elements of the General Plan Update contain policies that provide specific guidance on how to improve mobility in the Town</p>	<p>Policies H1-2, H2-1, LU 2-4, OSC 3-1, OSC 3-2, C 1-7 through C-1-13</p> <p>Actions OSC 11, OSC 12, C-5 through C-13</p>

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Table 5.9-1
SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
Goals Consistency Analysis

Goals	Project Compliance	Sample Related General Plan Update Policies and Implementation Actions
	Refer to Section 5.14, <i>Transportation and Traffic</i> , which addresses local and regional transportation, traffic, circulation, and mobility in more detail.	
RTP/SCS G3: Ensure travel safety and reliability for all people and goods in the region.	Consistent: All modes of public and commercial transit throughout the Town would be required to follow safety standards set by corresponding state, regional, and local regulatory documents. For example, pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., Town of Yucca Valley, County of San Bernardino) and regional (e.g., SANBAG, Caltrans) agencies. Roadways for motorists must follow safety standards established for the local and regional plans mentioned in the analysis for RTP/SCS Goal G2. The land use, open space and conservation, and circulation elements of the General Plan Update provide guidance and policies that promote the safe movement of people and goods, with importance placed on pedestrian as well as vehicular.	Policies LU 3-2, OSC 3-2, OSC 10-3, C 1-6, C 1-15 through C 1-18, C 1-24 Actions OSC 11, C-15 through C-18
RTP/SCS G4: Preserve and ensure a sustainable regional transportation system.	Consistent: All new roadway developments and improvements to the Town's existing transportation networks must be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how the developments would impact existing traffic capacities and to determine the needs for improving future traffic capacities. This is ensured through the Town's development review and permitting process. Additionally, the regional plans mentioned in the analysis for	Policies LU 3-2, C 1-6, C 1-10 through C 1-18 Actions C-4, C-9 through C-13, C-15 through C-18



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Table 5.9-1
SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
Goals Consistency Analysis

Goals	Project Compliance	Sample Related General Plan Update Policies and Implementation Actions
	<p>RTP/SCS Goal G2 would be applicable to the design and development of the regional roadway network.</p> <p>The land use and circulation elements of the General Plan Update encourage regional coordination of transportation issues and provide guidance and policies that help preserve and ensure a sustainable regional transportation system.</p>	
<p>RTP/SCS G5: Maximize the productivity of our transportation system.</p>	<p>Consistent: The local and regional transportation system would be improved and maintained to maximize efficiency and productivity. The Town's Public Works/Engineering Department oversees the improvement and maintenance of all aspects of the Town's public rights-of-way on an as-needed basis.</p> <p>The Town also strives to maximize productivity of the region's public transportation system (i.e., bus) for residents, visitors, and workers coming into and out of Yucca Valley. The Town is served by a number of public transit routes provided by Morongo Basin Transit Authority. Additionally, as shown in Figure 5.14-7, <i>Future Bicycle Facilities</i>, many areas of the Town would be served by future bicycle routes and trails.</p> <p>The housing, land use, open space and conservation, and circulation elements of the General Plan Update contain guidance and policies to improve the Town's transportation system.</p>	<p>Policies H2-1, LU 2-4, OSC 3-1, OSC 3-2, OSC 9-6, C 1-1 through C 1-6</p> <p>Actions OSC 11, OSC 12, C-1 through C-4</p>

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Table 5.9-1
SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
Goals Consistency Analysis

Goals	Project Compliance	Sample Related General Plan Update Policies and Implementation Actions
<p>RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).</p>	<p>Consistent: The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development would be encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. For example, individual development projects within the Town are required to comply with the provisions of the 2008 Building and Energy Efficiency Standards and the 2010 Green Building Standards Code (CALGreen). Compliance with these provisions and others would be ensured through the Town’s development review and building plan check process. The Town also strives to maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region’s public transportation system (i.e., bus, bicycle) for residents, visitors, and workers coming into and out of Yucca Valley. The Town is served by a number of public transit routes provided by Morongo Basin Transit Authority. Additionally, as shown in Figure 5.14-7, <i>Future Bicycle Facilities</i>, many areas of the Town would be served by future bicycle routes and trails.</p> <p>Further, the close proximity of existing and future housing units in the Town and in surrounding communities and region to employment, commercial, and mixed uses envisioned by the General Plan Update would reduce vehicle trips, and thereby reduce air quality and</p>	<p>Policies H2-1, H2-5, LU 2-4, OSC 1-5, OSC 3-1, OSC 3-2, OSC 9-1 through 9-3, OSDC 9-6 through 9-19, OSC 10-3, OSC 10-4, C 1-7 through C-1-13</p> <p>Actions OSC 11, OSC 12, OSC 36, OSC 39, OSC 40, OSC 45, OSC 46, C-5 through C-13</p>



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Table 5.9-1
SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
Goals Consistency Analysis

Goals	Project Compliance	Sample Related General Plan Update Policies and Implementation Actions
	<p>traffic impacts and greenhouse gas emissions. As also outlined in Chapter 3, <i>Project Description</i>, one of the goals of the General Plan Update is to adopt and implement a circulation network based on mobility demands and land use patterns, with a variety of mobility options to reduce vehicle miles traveled and minimize greenhouse gas emissions.</p> <p>The conservation and open space, circulation, and land use elements of the General Plan Update contain guidance and policies to improve and protect the region's air quality and environment and promote energy efficiency.</p>	
<p>RTP/SCS G7: Actively encourage and create incentives for energy efficiency, where possible.</p>	<p>Not Applicable: This is not a project-specific policy and is therefore not applicable.</p>	<p>Not applicable</p>
<p>RTP/SCS G8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.</p>	<p>Consistent: See response to RTP/SCS Goal G6.</p>	<p>Policies listed under RTP/SCS Goal G6 apply to this goal.</p>
<p>RTP/SCS G9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.</p>	<p>Consistent: See response to RTP/SCS Goal G3. Additionally, the Town would monitor existing and newly constructed roadways and transit routes (as needed) to determine the adequacy and safety of these systems. Other local and regional agencies (i.e., Caltrans, SANBAG, and Morongo Basin Transit Authority) would work with the Town to manage these systems. Security situations involving roadways and evacuations would be addressed in the Town's emergency management plans (e.g., Yucca Valley Hazards Mitigation Plan) developed in accordance with the state and federal mandated emergency management regulations.</p>	<p>Policies LU 3-2, S 6-10, S 7-4, S 7-5 C 1-23, C 1-24, C 2-1 through Policy C2-5</p> <p>Actions S 35, and C-21 through C-25</p>

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Table 5.9-1
SCAG's 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy
Goals Consistency Analysis

Goals	Project Compliance	Sample Related General Plan Update Policies and Implementation Actions
	The land use, safety, and circulation elements of the General Plan Update contain guidance and policies for a safe and efficient transportation system.	

Source: 2012–2035 SCAG Regional Transportation Plan/Sustainable Communities Strategy.

IMPACT 5.10-3: IMPLEMENTATION OF THE GENERAL PLAN UPDATE WOULD NOT CONFLICT WITH A HABITAT CONSERVATION PLAN OR NATURAL COMMUNITY CONSERVATION PLAN. [THRESHOLD LU-3]

Impact Analysis: The Town is not currently a participating agency in the West Mojave Plan, an interagency habitat conservation plan (HCP) that is being prepared by the Bureau of Land Management in collaboration with federal and state agencies. Additionally, the Town is not in the plan area of any other existing or planned HCP or natural community conservation plan (NCCP). Therefore, implementation of the General Plan Update would not conflict with the West Mojave Plan or any other HCP or NCCP.



5.9.4 Relevant General Plan Policies and Implementation Actions

The following are relevant policies and implementation actions of the General Plan Update that are designed to reduce potential land use and planning impacts of future development in the Town. Policy and action number references are provided in parentheses.

Circulation Element

Circulation Element Policies

- C 1-1 Utilize constraints based planning process to evaluate future transportation improvements.
- C 1-2 Pursue funding, including updating the transportation impact mitigation fee program, to assist in implementing the transportation system by expanding its roadway capacity, pedestrian sidewalk facilities, bicycle facilities, and trail facilities.
- C 1-3 Strive to maintain vehicle level of service (LOS) D on all roadways within the Town. Utilize the roadway capacities, as identified in [the Yucca Valley General Plan] Table 4-1, to evaluate roadway operations.
- C 1-4 Maintain protected intersections and roadways where vehicle capacity will remain less than the service goal as outlined in [the Yucca Valley General Plan] Table 4-1.
- C 1-5 Prioritize low-cost transportation enhancements, such as signal timing improvements, to maximize the Town's return on infrastructure investment related to the efficiency of the transportation system.

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- C 1-6 Protect right of ways for SR-62 and SR-247, major arterials, collectors, residential streets, and for all other planned infrastructure as shown on the figures above.
- C 1-7 Encourage development designs that integrate multiple modes of access including pedestrian, bicycle, and public transportation.
- C 1-8 Apply complete street strategies that accommodate pedestrian, bicycle, transit modes whenever practicable and feasible.
- C 1-9 Require sidewalk improvements concurrent with new development where commercial and school uses are planned and where residential densities exceed two units per acre, or as required by the Planning Commission.
- C 1-10 Encourage MBTA to provide enhanced bus service to employment areas outside of the Town, such as the Coachella Valley or other nearby areas in the County of San Bernardino.
- C 1-11 Encourage MBTA to work with area religious facilities or other sites where underutilized parking or hours of operation could provide opportunities for implementing shared park-and-ride facilities.
- C 1-12 Encourage MBTA to implement regional transportation solutions that reduce vehicle miles traveled and greenhouse gas emissions.
- C 1-13 Work with new development to implement MBTA's Transit Guidelines in Project Development (MBTA, 2005) as appropriate.
- C 1-14 Encourage employers to support Transportation Demand Management techniques, such as bus transit passes or other measures that reduce the reliance of the single occupant vehicle.
- C 1-15 Design designated truck routes such that the pavement, roadway width, and curb return radii support anticipated heavy vehicle use.
- C 1-16 Support and work with Caltrans to coordinate signals along SR-62 and SR-247 in Town.
- C 1-17 Ensure funding is available to implement and maintain signal coordination.
- C 1-18 Maintain truck route designations to support heavy vehicle use and connections to the Yucca Valley Airport as noted on Figure C-4.
- C 1-19 Require traffic calming techniques in residential neighborhoods and in Special Policy Areas to slow and manage traffic volumes as deemed appropriate by the Town Engineer.
- C 1-20 Require future development to pave roadways that will serve 500 or more daily trips as noted in [the Yucca Valley General Plan] Table 4-1 unless paving of that facility is considered infeasible by the Town, there is no funding for the improvement, or when the majority of the residents on that facility desire it to be unpaved.
- C 1-21 Pursue funding to pave unpaved roadways where the traffic volume exceeds 500 daily trips unless paving of that facility is infeasible or when the majority of the residents on that facility desire it to be unpaved.

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- C 1-22 Minimize dust emissions on existing and new unpaved roads where traffic volumes exceed 500 daily trips.
- C 1-23 Work with future development between Yucca Trail, Palomar Avenue, La Contenta Road and Juarez Drive to implement appropriate roadway, bicycle, and pedestrian connectivity based on the proposed land uses.
- C 1-24 Work with the park service to the south of Town to appropriately provide connectivity to the Town's roadway network.
- C 2-1 Work with utility providers in the planning, designing and siting of distribution and support facilities to comply with the standards of the General Plan and Development Code.
- C 2-2 Work with utility providers to increase service capacity as demand increases.
- C 2-3 Coordinate public infrastructure improvements through the Town's Capital Improvement Program.
- C 2-4 Encourage the shared use of right-of-way, transmission corridors, and other appropriate measures to minimize the visual impact of utilities infrastructure throughout Town.
- C 2-5 Require that approval of new development be contingent upon the project's ability to secure appropriate infrastructure services.

Circulation Element Implementation Actions

- C 1 Prioritize and implement the changes to the roadway classifications in Town consistent with the Roadway Classification Map (General Plan Figure C-1) and the 2013 Traffic Study for inclusion in the Town's Capital Improvement Program.
- C 2 Review and revise the street and traffic impact mitigation fee program.
- C 3 Develop and maintain a list of the Town's protected intersections and roadways where:
 - Acquiring the right-of-way is not feasible;
 - The segment is in the Old Town Specific Plan area where maintaining vehicle levels of service would not be consistent with the goals and policies of that plan;
 - The improvements would negatively impact the environment;
 - The improvements would negatively impact other community values or policies; and / or
 - Other physical or fiscal factors limit the implementation of the proposed mitigation measure.
- C 4 Apply for regional, state, and federal grant funding to improve the Town's circulation infrastructure.



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- C 5 Provide signs and improve trails, bicycle, equestrian, and pedestrian connections consistent with the Town Trails Master Plan and Park and Recreation Master Plan based on available funding.
- C 6 Close gaps in the existing sidewalk network and provide sidewalks adjacent to schools consistent with the Future Sidewalks Map (Figure 4-3 of the 2013 Transportation Study).
- C 7 Update the Park and Recreation Master Plan to include bicycle and pedestrian facilities that are complementary to the connectivity and trails planning identified in the Town's Trails Master Plan.
- C 8 Apply for funding opportunities to improve pedestrian facilities near schools (such as Safe-Routes-To-School (SR2S) funding).
- C 9 Work with MBTA to plan and provide enhanced bus service to employment areas outside of the Town.
- C 10 Coordinate with MBTA and religious facilities to discuss expanding opportunities for implementing park-and-ride facilities.
- C 11 Consult with MBTA for bus stop placement and design.
- C 12 Consult with MBTA on street design to ensure the street accommodates access for a variety of transit options.
- C 13 Work with MBTA to create a program to expand ridership in Yucca Valley.
- C 14 Establish right-of-way landscaping, signage, and lighting requirements and guidelines to provide an attractive, user-friendly, and safe environment for all users.
- C 15 Update the Truck Routes Map as needed.
- C 16 Work with Marine Corps Air Ground Combat Center Twentynine Palms to notify residents of traffic impacts due to Marine caravans.
- C 17 Coordinate with the Yucca Valley Airport District to provide appropriate level of supporting transportation infrastructure connecting to the Yucca Valley Airport.
- C 18 Work with CalTrans to pursue funding for and implement low-cost transportation improvements such as traffic signal coordination where applicable.
- C 19 Pursue funding to pave unpaved roadways where the traffic volume exceeds 500 daily trips.
- C 20 Update the development code to require the application of non-toxic soil binder annually to minimize dust emissions on existing and new unpaved roads where traffic volumes exceed 500 daily trips if paving is not feasible.
- C 21 Establish a timeframe and parameters for paving unpaved roadways, consistent with implementation action C 19.
- C 22 Reevaluate traffic volumes through the annual Traffic Census Program.

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- C 23 Amend the Development Code to require that all new maintenance areas and utility substations and similar facilities are integrated with surrounding land uses, appropriately buffered, and aesthetically pleasing through the use of design and landscaping.
- C 24 Coordinate with utility providers such as Southern California Edison to identify and estimate future demand and corresponding facilities required to serve projected local and regional growth.
- C 25 Evaluate and prioritize public infrastructure improvements for inclusion in the Town's Capital Improvement Program.

Housing Element

Housing Element Policies

- H 2-2 Encourage new development and rehabilitation efforts to maximize energy efficiency through architectural and landscape design and the use of renewable resources and conservation.

Housing Element Programs

- H 1-2 Adopt the Corridor Residential Overlay, Mixed Use-Town Center, and Mixed Use-Civic Center land use designations in the General Plan and development standards in the Development Code to encourage and facilitate housing types up to 25 dwelling units per acre.
- H 2-1 Concentrate higher density residential development opportunities in proximity to public transit, public facilities, the first phase of wastewater service, and commercial uses. This will create an accessible and convenient living environment for seniors, persons with disabilities, and lower income families.
- H 2-5 Encourage the use of LEED design principles and other energy efficiency programs to lower energy costs for residents in the long term. Applicants shall be encouraged to use LEED principles in their designs during the pre-application meeting and application review process.
- H 4-1 Facilitate the preservation of any deed-restricted affordable housing units by notifying the San Bernardino County Housing Authority and other qualified entities. The Town will be responsible for monitoring at-risk projects on an ongoing basis and will provide relevant information to tenants and the community as needed.



Land Use Element

Land Use Element Policies

- LU 1-2 Require that adjacent land uses and development types complement one another.
- LU 1-7 Preserve and enhance the distinctiveness, character and livability of residential neighborhoods.
- LU 1-12 Preserve the desert character of existing low density residential areas to the greatest extent possible.
- LU 1-19 Encourage the relocation of industrial operations that are not compatible with adjacent uses to areas that are conducive to such operations.

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- LU 1-23 Adequately buffer or otherwise ensure compatibility between commercial and industrial uses and residential areas.
- LU 2-2 Permit a mixture of compatible land uses on a single site or within a single development project in a vertical or horizontal configuration.
- LU 2-3 Provide flexible development standards implemented through a Specific Plan or new Development Code standards for mixed use that ensure compatibility between allowable uses on-site and with adjacent uses.
- LU 2-4 Encourage the inclusion of pedestrian linkages and public amenities to promote walking on site and within clustered development.
- LU 2-6 Require appropriate transitions between residential uses south of Skyline Ranch Road and industrial to ensure compatibility. Transitions could include special landscaping, lighting, fencing treatments and screening of outdoor storage areas.
- LU 2-7 Facilitate the development of master planned industrial and business park uses.
- LU 2-10 Require adequate buffering between the wastewater treatment plant and adjacent uses.
- LU 2-11 Require adequate buffering for residential uses immediately to the west and south of the East Side Special Policy Area.
- LU 2-12 Explore the possibility to integrate recreational opportunities into new development that could serve dually as buffers and new amenities for businesses in the SPA and residents in adjacent neighborhoods.
- LU 2-18 Encourage lot consolidation and master planning for multiple parcels.
- LU 3-1 Allow compatible and supportive land uses around the Yucca Valley Airport as determined in the Airport Comprehensive Land Use Plan.
- LU 3-2 Limit building heights in select areas according to the Avigation Easement map and standards provided in the Airport Compatibility Land Use Plan.

Land Use Element Implementation Actions

- LU 5 Amend the development code to create standards addressing appropriate treatments to buffer industrial and commercial uses from residential and other sensitive uses.
- LU 19 Periodically coordinate with the Yucca Valley Airport District to stay informed of any operational or facility changes that could impact the community.

Open Space and Conservation Element

Open Space and Conservation Element Policies

- OSC 1-4 Offer flexible development standards in exchange for providing open space and trail easements or rights-of-way.
- OSC 1-5 Encourage new development to retain natural open space areas as part of project design to the greatest extent practicable.

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- OSC 2-6 Site and maintain recreational facilities to meet the needs of all segments of the community including use for activities, relaxation and social interaction.
- OSC 3-1 Develop a recreational trail network for hiking, mountain biking and riding that links the Town's parkland, community facilities, and open space areas, and other amenities.
- OSC 3-2 Ensure new development provides adequate pedestrian, equestrian, and bicycle trail facilities to connect to the Town-wide recreational system.
- OSC 9-1 Develop, promote, and implement long-term energy efficiency and demand management policies and standards for Town facilities, vehicles, and new development.
- OSC 9-2 Support the development of renewable energy generation within the Town, provided that significant adverse environmental impacts associated with such development can be successfully mitigated.
- OSC 9-3 Encourage the use of clean and/or renewable alternative energy sources for transportation, heating, and cooling and construction.
- OSC 9-6 Promote use of ride-sharing and mass transit as means of reducing transportation-related energy demand.
- OSC 9-7 Encourage development proposals to participate in state, federal, and/or regional solar rebate and incentive programs.
- OSC 9-8 Encourage new construction provided for in whole or in part with Town funds, to incorporate passive solar design features, such as daylighting and passive solar heating, where feasible.
- OSC 9-9 Promote building design and construction that integrates alternative energy systems, including but not limited to solar, thermal, photovoltaics and other clean energy systems.
- OSC 10-3 Promote the safe and efficient movement of people and materials into and through the Town as a means of reducing the impact of automobiles on local air quality.
- OSC 10-4 Coordinate land use planning efforts to assure that sensitive receptors are reasonably separated from polluting point sources.



Open Space and Conservation Element Implementation Actions

- OSC 11 Promote the development of pedestrian/multi-use/bike paths/lanes as an alternative mode of transportation to vehicular travel.
- OSC 12 Coordinate with local utility purveyors, County Flood Control District and other appropriate parties to include the development of a multi-use trail system within easements and rights-of-way to the greatest extent possible.
- OSC 36 Participate in the regional energy management and conservation efforts and encourage the expanded use of energy efficient and alternative fuels, buses with bike racks, and other system improvements including infrastructure for alternative energy vehicles that enhance overall energy efficiency and conservation.
- OSC 39 Provide informational materials and non-Town incentive program information to residents regarding available alternative energy and energy efficiency programs and rebates.

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- OSC 40 Evaluate the Town's ability to create a program to waive or reduce the permit fees on solar installation projects and promote state, federal, and private rebate programs.
- OSC 45 Establish a goal for solar installations on new and existing homes as well as new commercial/industrial development to be achieved before 2020.
- OSC 46 Pursue partnerships with other governmental entities and with private companies and Southern California Edison to establish incentive programs for renewable energy.

Safety Element

Safety Element Policies

- S 6-10 Coordinate with the San Bernardino County Fire Department and the County Environmental Health Department to assure improved response to, and capability for, handling hazardous materials incidents.
- S 7-4 Update and maintain the Emergency Operations Plan and Hazard Mitigation Plan keeping them current with county, state, and federal requirements, include measures pertaining to man-made and natural hazards such as flood, access, earthquakes, landslides, hazardous materials, evacuation, severe weather and fire.
- S 7-5 Establish emergency evacuation routes and adequate signage.

Safety Element Implementation Actions

- S 35 Maintain the Town of Yucca Valley Hazards Mitigation Plan and update it to include hazardous materials and the emergency evacuation routes with guidance for signage. Continue to make it available to the public at Town Hall and on the Town's website.

5.9.5 Existing Regulations

- Town of Yucca Valley Municipal Code
- State planning law (California Government Code Section 65300)

5.9.6 Level of Significance Before Mitigation

Upon adherence to regulatory requirements and implementation of the General Plan Update policies, the following impacts would be less than significant: 5.10-1, 5.10-2, and 5.10-3.

5.9.7 Mitigation Measures

No significant adverse impacts were identified and no mitigation measures are necessary.

5.9.8 Level of Significance After Mitigation

No significant impacts were identified with regard to land use and planning.

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5.9.9 References

San Bernardino County Planning Department (SBCPD). 1992, February. Airport Comprehensive Land Use Plan, Yucca Valley Airport.

Southern California Association of Governments (SCAG). 2012a. *2012–2035 Regional Transportation Plan/ Sustainable Communities Strategy: Towards a Sustainable Future*.
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5.10 NOISE

This section of the draft environmental impact report (DEIR) discusses the fundamentals of sound; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; evaluates potential noise impacts associated with the Town of Yucca Valley General Plan Update; and provides mitigation to reduce noise impacts at noise-sensitive locations. This section of the DEIR evaluates the potential for implementation of the Town of Yucca Valley General Plan Update to result in noise impacts in the Town. This analysis is based on the noise calculations in Appendix H, *Noise Measurements and Calculations Outputs*.

5.10.1 Environmental Setting

Noise Descriptors

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.”

The following are brief definitions of terminology used in this section:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}).** The mean of the noise level, energy averaged over the measurement period.
- **Statistical Sound Level (L_n).** The sound level that is exceeded “n” percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the “median sound level.” The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the “intrusive sound level.” The L_{90} is the sound level exceeded 90 percent of the time and is often considered the “effective background level” or “residual noise level.”
- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels during a 24-hour period, with 10 dB added to the sound levels during the period from 10:00 PM to 7:00 AM.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels during a 24-hour period, with 5 dB added to the levels from 7:00 PM to 10:00 PM and 10 dB added from 10:00 PM to 7:00 AM.



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Characteristics of Sound

When an object vibrates, it radiates part of its energy as acoustical pressure in the form of a sound wave. Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate the human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The normal range of human hearing extends from approximately 0 dBA (the threshold of detection) to 140 dBA (the threshold of pain).

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale to better account for the large variations in pressure amplitude (the above range of human hearing, 0 to 140 dBA, represents a ratio in pressures of one hundred trillion to one). All noise levels in this study are relative to the industry-standard pressure reference value of 20 micropascals. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 5.10-1 presents the subjective effect of changes in sound pressure levels.

± 3 dB	Threshold of human perceptibility
± 5 dB	Clearly noticeable change in noise level
± 10 dB	Half or twice as loud
± 20 dB	Much quieter or louder

Source: Bies and Hansen 2009.

Sound is generated from a source and the decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as spreading loss or distance attenuation.

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level during that period can be obtained. For example, L_{50} is the noise level that is exceeded 50 percent of the time. Similarly, the L_{02} , L_{08} , and L_{25} values are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. The energy-equivalent sound level (L_{eq}) is the most common parameter associated with community noise measurements. The L_{eq} metric is a single-number noise descriptor of the energy-average sound level over a given period of time. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values are the minimum and maximum root-mean-square (RMS) noise levels obtained over the stated measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and nighttime hours, state law requires that, for planning purposes and to account for this increased receptiveness of noise, an artificial decibel increment is to be added to quiet-time noise levels to calculate the 24-hour CNEL noise metric.

Psychological and 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, thereby affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance,

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disturbance of concentration) and cause annoyance. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level (SPL) number means. To help relate noise level values to common experience, Table 5.10-2 shows typical noise levels from noise sources.

**Table 5.10-2
Typical Noise Levels**

<i>Common Outdoor Activities</i>	<i>Noise Level (dBA)</i>	<i>Common Indoor Activities</i>
	110	Rock Band
Jet Flyover at 1,000 feet	100	
Gas Lawn Mower at three feet	90	
Diesel Truck at 50 feet, at 50 mph	80	Food Blender at 3 feet Garbage Disposal at 3 feet
Noisy Urban Area, Daytime	70	Vacuum Cleaner at 10 feet Normal speech at 3 feet
Commercial Area Heavy Traffic at 300 feet	60	Large Business Office Dishwasher Next Room
Quiet Urban Daytime	50	Theater, Large Conference Room (background)
Quiet Urban Nighttime	40	Library Bedroom at Night, Concert Hall (background)
Quiet Suburban Nighttime	30	Broadcast/Recording Studio
Quiet Rural Nighttime	20	
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2009.



Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities such as railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is the velocity, and the rate of change of the speed is the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During project construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure

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or items within a structure. These types of vibration are best measured and described in terms of velocity and acceleration.

The three main types of waves associated with groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding *cylindrical* wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation.
- Compression or P-waves are body waves that carry their energy along an expanding *spherical* wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.
- Shear or S-waves are also body waves, carrying their energy along an expanding *spherical* wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the RMS velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response.

The units for PPV and RMS velocity are normally inches per second (in/sec). Often, vibration is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV and RMS velocity levels are in in/sec and all vibration levels are in dB relative to one microinch per second (abbreviated as VdB). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Man-made vibration problems are, therefore, usually confined to relatively short distances (500 to 600 feet or less) from the source (FTA 2006).

Construction operations generally include a wide range of activities that can generate groundborne vibration. In general, blasting and demolition of structures generate the highest vibrations. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at up to 200 feet. Heavy trucks can also generate groundborne vibrations, which can vary, depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, etc., all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration from normal traffic flows on streets and freeways with smooth pavement conditions. Trains generate substantial quantities of vibration due to their engines, steel wheels, heavy loads, and wheel-rail interactions.

Noise- and Vibration-Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration, including residential, school, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. Sensitive land uses in the Town of Yucca Valley includes residences, schools, churches, and recreational areas. Commercial and industrial uses are not considered noise- and vibration-sensitive uses for the purposes of this analysis.

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5.10.1.1 *Regulatory Setting*

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

State

State of California Building Code

The state of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, California Building Code. These noise standards are applied to new construction in California for the purpose of interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

Town of Yucca Valley

Noise/Land Use Compatibility Matrix

Table 5.10-3, *Land Use Compatibility for Community Noise Environments*, presents the land use compatibility chart for community noise adopted by the State of California as part of its General Plan Guidelines and has been modified by the Town of Yucca Valley in its General Plan update. This table provides urban planners with a tool to gauge the compatibility of new land uses relative to existing and future noise levels. This table identifies normally acceptable, conditionally acceptable, and clearly unacceptable noise levels for various land uses. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements.



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**Table 5.10-3
Land Use Compatibility for Community Noise Environments**

Land Uses	CNEL (dba)						
	55	60	65	70	75	80	85
Residential—low density single-family, duplexes, mobile homes							
Residential—multifamily							
Transient lodging, motels, hotels							
Schools, libraries, churches, hospitals, nursing homes							
Auditoriums, concert halls, amphitheaters							
Sports arena, outdoor spectator sports							
Playgrounds, neighborhood parks							
Golf courses, riding stables, water recreation, cemeteries							
Office buildings, businesses, commercial and professional							
Industrial, manufacturing, utilities, agricultural							



Normally acceptable. Specified land use is satisfactory based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



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 included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



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 reduction features included in the design.



Clearly unacceptable. New construction or development should generally not be undertaken.

Source: Office of Planning and Research, California, *General Plan Guidelines*, October 2003.

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Development Code

Section 87.0905 of the Town’s Development Code includes noise standards that shall not be exceeded at affected land uses, as shown on Table 5.10-4.

**Table 5.10-4
Development Code Noise Standards**

Affected Land Use (Receiving Land Use)	Noise Level (dBA)¹	Time Period
Residential	55	7 AM–10 PM
	55	10 PM–7 AM
Professional Services	55	Anytime
Other Commercial	60	Anytime
Industrial	70	Anytime

Source: Town of Yucca Valley Development Code Section 87.0905.

¹ Although the Development Code lists the standard as the 24-hour Ldn metric, based on typical municipal code standards and the allowed exceedances provided in Section 87.0905, these standards shall be interpreted as 1 hour L_{eq}.

These standards shall not be exceeded at the receiving property for a cumulative period of more than 30 minutes in an hour; or the noise standard plus 5 dBA for a cumulative period of more than 10 minutes; or the noise standard plus 10 dBA for a cumulative period of more than 5 minutes; or the noise standard plus 15 dBA for a cumulative period of more than 1 minute; or the noise standard plus 20 dBA for any period of time. If the measured ambient noise level exceeds any of the first four noise limit categories above, the allowable noise exposure standard shall be increased to reflect said 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.



The following noise sources are exempt from the noise standards listed above:

- Motor vehicles not under the control of the industrial use
- Emergency equipment, vehicles , or devices
- Temporary construction, repair, or demolition activities between 7 AM and 7 PM, except Sundays and federal holidays.

Ordinance 40, Section 1 states that building- or demolition-related activities are prohibited between the hours of 10 PM to 7 AM in residential areas, and between 10 PM to 5 AM in a commercial or industrial area.

Vibration Criteria

The Federal Transit Administration (FTA) provides criteria for acceptable levels of groundborne vibration for various types of land uses that are sensitive to vibration. These criteria can be separated into annoyance effects and architectural damage effects due to vibration (as discussed below).

Vibration Annoyance

Table 5.10-5, *Groudborne Vibration Impact Criteria: Human Annoyance*, shows the FTA and Caltrans vibration criteria to

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evaluate vibration-related annoyance. These criteria are based on the work of many researchers that suggested that humans are sensitive to vibration velocities in the range of 8 to 80 Hz.

Table 5.10-5
Groundborne Vibration Criteria: Human Annoyance

Land Use Category	Vibration Velocity, in/sec (RMS amplitude)¹	Description
Workshop	0.032	Distinctly felt vibration. Appropriate to workshops and nonsensitive areas
Office	0.016	Felt vibration. Appropriate to offices and nonsensitive areas.
Residential – Daytime	0.008	Barely felt vibration. Adequate for computer equipment.
Residential – Nighttime	0.004	Vibration not felt, but groundborne noise may be audible inside quiet rooms.

Source: FTA 2006 and Caltrans 2004.

¹ As measured in 1/3-octave bands of frequency over the frequency ranges of 8 to 80 Hz.

Vibration-Related Structural Damage

Structures amplify groundborne vibration, and wood-frame buildings, such as typical residential structures, are more affected by ground vibration than heavier buildings. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively. The most conservative estimates are reflected in the FTA standards, shown in Table 5.10-6, *Groundborne Vibration Impact Criteria: Architectural Damage*.

Table 5.10-6
Groundborne Vibration Impact Criteria: Architectural Damage

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2006

Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration. These uses include residential, schools, Churches, nursing homes, hospitals, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. Commercial and industrial uses are generally not considered noise- and vibration-sensitive uses, unless noise and vibration would interfere with their normal operations and business activities.

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5.10.1.2 Existing Setting

Existing Noise Environment

The Town of Yucca Valley is impacted by a multitude of noise sources. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise in most communities; it is the predominant source of noise in Town. The Yucca Valley Airport also generates noise from general aviation aircraft activity. In addition, commercial, industrial and institutional land uses throughout the Town (i.e. schools, fire stations, utilities) generate stationary-source noise.

Local Noise Monitoring Data

The Planning Center|DC&E conducted noise measurements at several locations on Wednesday and Thursday, January 16 and 17, 2013. Measurements at ST-1 to ST-10 were taken for a period of approximately 15 minutes, and measurements at LT-1 and LT-2 were taken for a period of 24 hours. The locations were selected based on the location of sensitive land uses in areas currently experiencing high levels of ambient noise and in areas that would experience the greatest change in noise levels due to planned development. The noise measurement locations are shown in Figure 5.10-1, *Noise Measurement Locations*. The results are presented in Table 5.10-7, *Short-Term Noise Level Measurements*, and in Table 5.10-8, *Long-Term Noise Level Measurements*. The monitoring locations are described below:

**Table 5.10-7
Short-Term Noise Level Measurements**

Noise Monitoring Location ¹	Time	L _{eq}	L _{max}	L _{min}
ST-1	2:15–2:30 PM	46.3	70.2	35.6
ST-2	1:38–11:55 AM	66.4	84.2	34.2
ST-3	2:42–2:57 PM	53.7	76.7	41.1
ST-4	3:31–3:47 PM	64.8	77.6	42.4
ST-5	3:58–4:12 PM	69.4	83.2	48.1
ST-6	4:38–4:53 PM	49.1	73.9	34.4
ST-7	12:28–12:44 PM	59.6	82.6	42.1
ST-8	15:09–15:25 PM	62.7	80.8	39.0
ST-9	12:09–12:23 PM	66.1	83.0	36.3
ST-10	16:17–16:34 PM	56.4	81.0	46.6

Note: Calculations and detailed outputs are included in Appendix H.

¹ See Figure 5.10-1, *Noise Measurement Locations*.



**Table 5.10-8
Long-Term Noise Level Measurements**

Noise Monitoring Location ¹	CNEL	Highest 1-Hour L _{eq}	Hour	Lowest 1-Hour L _{eq}	Hour
LT-1	64.4	62.8	4PM	51.6	1AM
LT-2	70.2	70.3	3PM	52.1	2AM

Note: Calculations and detailed outputs are included in Appendix H.

¹ See Figure 5.10-1, *Noise Measurement Locations*.

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Site ST-1. The sound level meter (SLM) was placed in a residential area along Yucca Trail and approximately 1,000 feet north of Twentynine Palms Highway (SR-62). The primary source of noise was traffic on SR-62, the secondary source of noise was traffic on Yucca Trail.

Site ST-2. The SLM was placed in the southwest corner of Buena Vista Drive and Yucca Mesa Road, approximately 50 feet from the street curbs. The primary noise sources were traffic on Yucca Mesa Road and sporadic traffic on Buena Vista Drive.

Site ST-3. The noise measurement was taken at the Hi Desert Park in the playground area and picnic tables. SLM was placed approximately 135 feet from the centerline of Onaga Trail. The primary noise sources were traffic on Onaga Trail and background activity at the park such as tennis play and use of the playground.

Site ST-4. The sound level meter was placed in a residential area in the northeast corner of Joshua Lane and Pueblo Trail, approximately 50 feet from the centerline of Joshua Lane. The primary noise source was traffic on Joshua Lane; no traffic was observed on Pueblo Trail during the measurement period.

Site ST-5. The sound level meter was placed in a residential area approximately 50 feet from the centerline of Yucca Trail. The primary noise sources were traffic on Yucca Trail and background noise from traffic on SR-62.

Site ST-6. Near single-family homes along Crestview Drive facing the Yucca Valley Airport. The SLM was approximately 300 feet from the runway. There was no activity at the airport during the noise measurement period; the primary noise source was background traffic noise on SR-247.

Site ST-7. In a residential area adjacent to Paxton Road. The SLM was 15 feet from the road and approximately 600 feet from SR-62. The primary source of noise was traffic on SR-62; sporadic noise came from traffic on Avalon Avenue.

Site ST-8. In a residential area in the corner of Golden Bee Road and Joshua Lane. The SLM was 50 feet from Joshua Lane. The primary source of noise was traffic on Joshua Lane; sporadic noise came from traffic on Golden Bee Road.

Site ST-9. In a residential area in the southwest corner of Palomar Avenue and Onaga Trail. The SLM was 50 feet from the roads. The primary sources of noise were traffic on Palomar Avenue and Onaga Trail.

Site ST-10. By a church building east of Airway Avenue, approximately 300 feet north of SR-62. The primary source of noise was traffic on SR-62; sporadic noise came from traffic on Airway Avenue.

As shown in Table 5.10-7, the average noise levels during the daytime where short-term measurements were taken ranged from 46.3 to 69.4 dBA Leq. During the noise monitoring and field reconnaissance, it was observed that the existing noise levels in the Town are dominated mostly by transportation noise. The highest noise levels were observed in areas near SR-62 and SR-247 and major Town roads, including Yucca Trail, Onaga Trail, Joshua Lane, Yucca Mesa Road, and Indio Avenue.

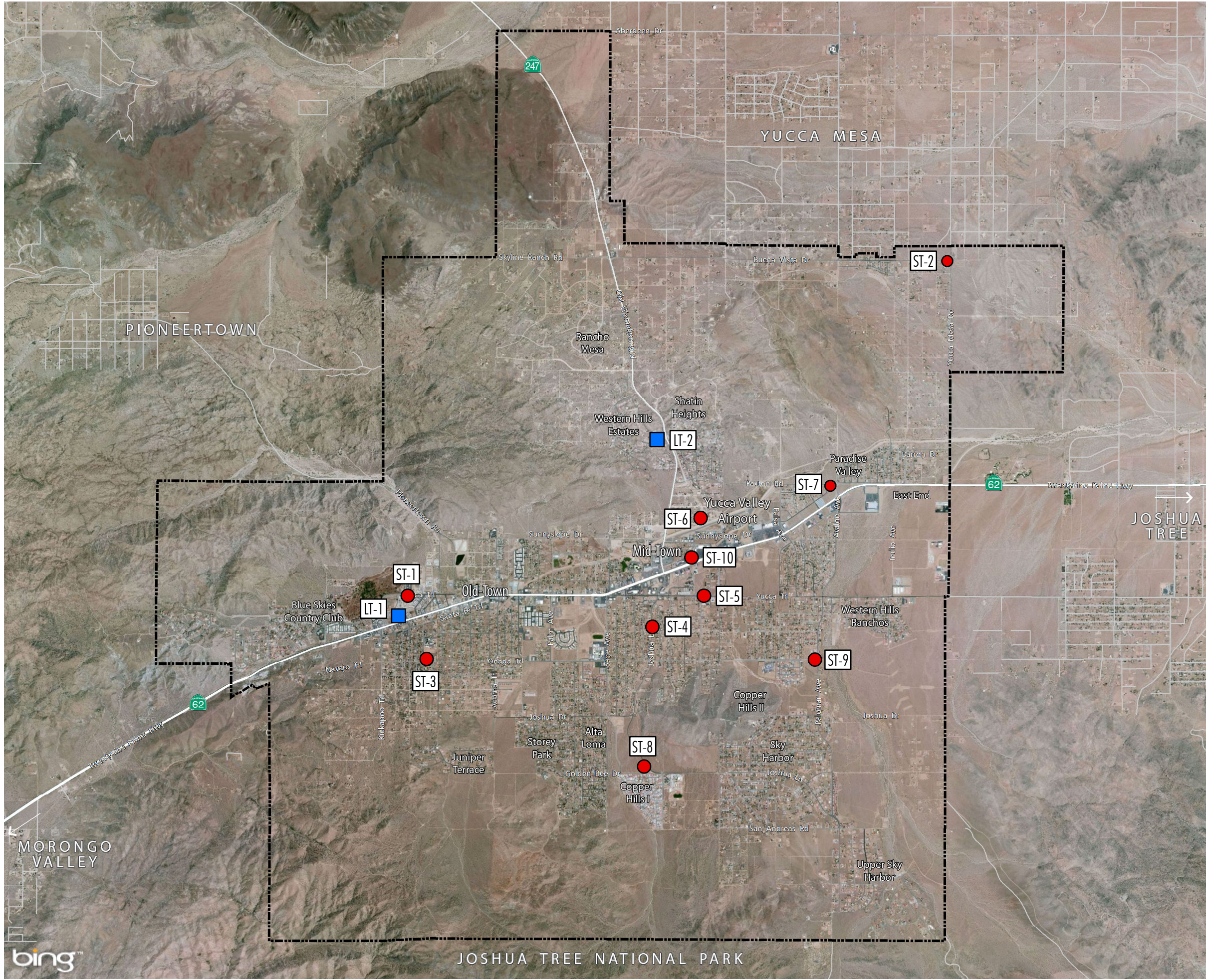
The following locations were monitored for a period of 24-hours:




Site LT-1. At a vacant property east of Kickapoo Trail, the SLM was approximately 100 feet from the centerline of SR-62. The primary source of noise was traffic on the SR-62.

Site LT-2. At a vacant property in the southeast corner of the SR-247 and Buena Suerte Road. The SLM was near single-family homes approximately 70 feet from the centerline of SR-247. The primary source of noise was traffic on SR-247.

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Figure 5.10-1
NOISE MEASUREMENT LOCATIONS



-  Town Limits
-  LT-1 Short-Term Noise Measurement Locations
-  ST-1 Long-Term Noise Measurement Locations

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As shown on Table 5.10-8, the average noise levels ranged from 64.4 to 70.2 dBA CNEL. At both locations noise was dominated by traffic. The noise pattern observed is typical of street traffic with the highest levels close to the traffic AM and PM peak hours. The detailed noise measurement outputs in a tabular and graphical format are included in Appendix H.

On-Road Vehicles

The SR-62 and the SR-247 are the major regional traffic thoroughfares that cross the Town east–west and north–south, respectively. The circulation network serving the Town is essentially a grid system of roadways generally oriented north–south and east–west. Yucca Trail, Onaga Trail, Joshua Lane, Yucca Mesa Road, and Indio Avenue are the major arterial roads in the Town. Traffic noise level contours were estimated using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (RD-77-108). The distances to the 70, 65, and 60 CNEL contours for selected roadway segments in the study area are included in Appendix H. Figure 5.10-2, *Existing Noise Level Contours*, shows the existing 65 dBA CNEL noise contours for surface transportation (vehicular traffic).

Aircraft Noise

The Yucca Valley Airport is a public use general aviation facility leased and operated by the Yucca Valley Airport District. It is operated with one primary runway, oriented east–west. The airport is used for general aviation aircraft storage, maintenance, use, and training, but it does not have any commercial passenger services. The airport has 56 aircraft based on the field and supports up to 40 aircraft operations per day on average (Ainnav 2013). The airport is unique in that homes with attached and detached hangars are located on the property for the convenience of residents with privately owned aircraft. The airport recommends noise abatement procedures to minimize noise impacts to Town. Most notably, the airport recommends that users voluntarily avoid arrivals and departures between the hours of 10:00 PM and 7:00 AM and that they reduce power settings as soon as practical. It also recommends flight traffic patterns for arriving at and departing from the airport.

The State Aeronautics Act of the California Public Utilities Code establishes statewide requirements for the airport land use compatibility planning and requires nearly every county to create an Airport Land Use Commission (ALUC) or other alternative. San Bernardino County opted for an alternative to the ALUC and delegated responsibility to prepare an Airport Comprehensive Land Use Plan (ACLUP) for each airport jurisdiction. The Yucca Valley's ACLUP prepared by the San Bernardino County Planning Department in 1992 includes noise levels contours for the airport (San Bernardino County 1992). The 60 dBA CNEL noise contours do not extend outside the homes located immediately adjacent to the airport to the north and south, or west of the SR-247 and east of Balsa Road. These noise contours are shown on Figure 5.10-3, *Airport Noise Contours*.

The locations of CNEL contours are among the factors used to define compatibility zone boundaries and criteria. According to guidelines included in the ACLUP, areas exposed to aircraft noise levels above 65 dBA CNEL are considered clearly unacceptable for new residential land uses, schools, libraries, churches, nursing homes, and hospitals. For auditoriums, concert halls, auditoriums, and amphitheatres, noise levels above 70 dBA CNEL are clearly unacceptable (San Bernardino County 1992). The interior noise standard established under the ACLUP for residential land uses, schools, hospitals, nursing homes, churches, and libraries is 45 dBA CNEL or less with windows and doors closed. Retail commercial, banks, and restaurants are subject to a 50 dBA CNEL interior noise standard. The interior noise standard for industrial uses is 55 dBA CNEL.

Stationary Sources of Noise

Whereas mobile-source noise affects many receptors along an entire length of roadway, stationary noise sources affect only their immediate areas. Many processes and activities in cities produce noise, most notably the operation of commercial, warehousing, industrial uses, schools, and at-grade railroad crossings. Noise exposure within



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industrial facilities is controlled by federal and state employee health and safety regulations. Noise levels outside of industrial and other facilities are subject to local standards.

Most of the Town's industrial land uses, business parks, and commercial areas are adjacent to SR-62. Schools are considered noise sensitive because of the necessity for quiet in the classroom to provide an adequate environment for learning. However, outdoor activities that occur on school campuses throughout the Town can generate noticeable levels of noise. While it is preferable to have schools in residential areas to support the neighborhood, noise generated on both the weekdays (by physical education classes and sports programs) and weekends (by use of the fields by youth organizations) can elevate noise levels.

Marine Corps Air Ground Combat Center

The Marine Corps Air Ground Combat Center (MCAGCC) is approximately seven miles northeast of Town's limits. This Marine Corps installation is a 24/7, live-fire military installation used for training. Approximately 90 percent of all deployed Marines train at this facility. In addition to routine training, the MCAGCC conducts major training exercises approximately four times per year with divisions from other bases, notably Camp Pendleton. The MCAGCC warns the public before major exercises.

Noise from the MCAGCC is mostly due to aircraft overflights (mostly helicopters) within portions of Town and the use of military equipment at the MCAGCC. Figure 5.7-6, *MCAGCC Helicopter Flight Path*, shows the helicopter flight route through Town. Noise depends on the type and location of training being conducted, and on the atmospheric conditions such as cloud cover, wind speed and direction, atmospheric pressure, and temperature. Because of atmospheric effects and the different types of exercises and locations, it is difficult to predict the noise impacts to Town's residents. However, the MCAGCC conducts periodic analysis of the training sound levels on and off the installation. Based on their analysis (MCAGCC brochure), sound levels above 65 dBA rarely, if ever, leave the installation boundaries. According to Town's officials, complaints from Town residents are not widespread.

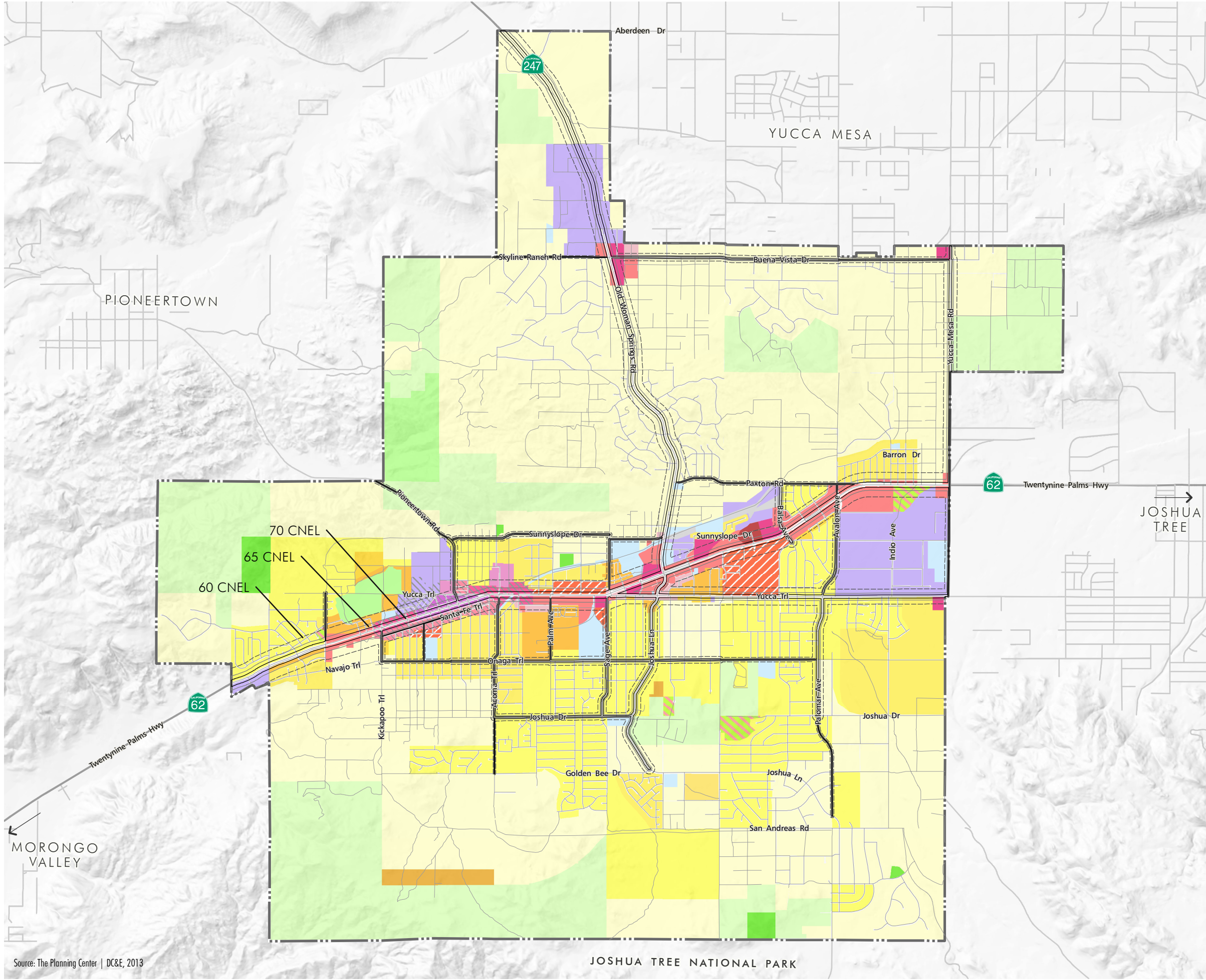
In addition, military convoys passing by the Town on State Route 62 (SR-62) temporarily increase traffic noise on uses along SR-62. These noise impacts to a given receptor are short term during the convoy pass-by and limited to a few days per year.

Vibration

The primary existing source of vibration in Town is truck traffic. Perceptible vibration levels can be caused by heavy trucks hitting discontinuities in the pavement like gaps and potholes. However, under normal conditions with well-maintained asphalt, vibration levels are usually not perceptible beyond the road right-of-way. There are no known major sources of vibration such as heavy industrial equipment to cause substantial levels of vibration to nearby sensitive uses.

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Figure 5.10-2
EXISTING NOISE LEVEL
CONTOURS



- Noise Contours**
- 70+ CNEL
 - 65 - 70 CNEL
 - 60 - 65 CNEL
- General Plan Land Use**
- R-HR, Hillside Reserve 0-1 du/ac
 - R-L-10, Rural Living 1 du/10 ac
 - R-L-5, Rural Living 1 du/ 5 ac
 - R-L-2.5, Rural Living 1 du/ 2.5 ac
 - R-L-1, Rural Living 1 du/1 ac
 - R-S-2, Single Family Res. 0-2 du/ac
 - R-S-3.5, Single Family Res. 3.5 du/ac
 - R-S-5, Single Family Res. 5 du/ac
 - R-S-5 Senior, Single Family Res. Senior 0-5 du/ac
 - R-M-4, Multi-Family Residential 0-4 du/ac
 - R-M-8 Multi-Family Residential 0-8 du/ac
 - R-M-10 Multi-Family Residential 0-10 du/ac
 - R-M-14 Multi-Family Residential 0-14 du/ac
 - C-MU Mixed Use Commercial
 - C-S Service Commercial
 - C-N Neighborhood Commercial
 - C-G General Commercial
 - C-C Community Commercial
 - C-O Office Commercial
 - C-RR Resort/Recreation Commercial
 - I Industrial
 - P/QP Public/Quasi-Public
 - AP Airport
 - OTMU, Old Town Mixed Use
 - OTC/R, Old Town Commercial/Residential
 - OTHC, Old Town Highway Commercial
 - OTI/C, Old Town Industrial/Commercial
 - O-S-P Public Parks
 - O-S Open Space

Source: The Planning Center | DC&E, 2013

YUCCA VALLEY
GENERAL PLAN
DRAFT EIR

TVV-01 04.30.13

0 1,500 3,000 6,000 Feet

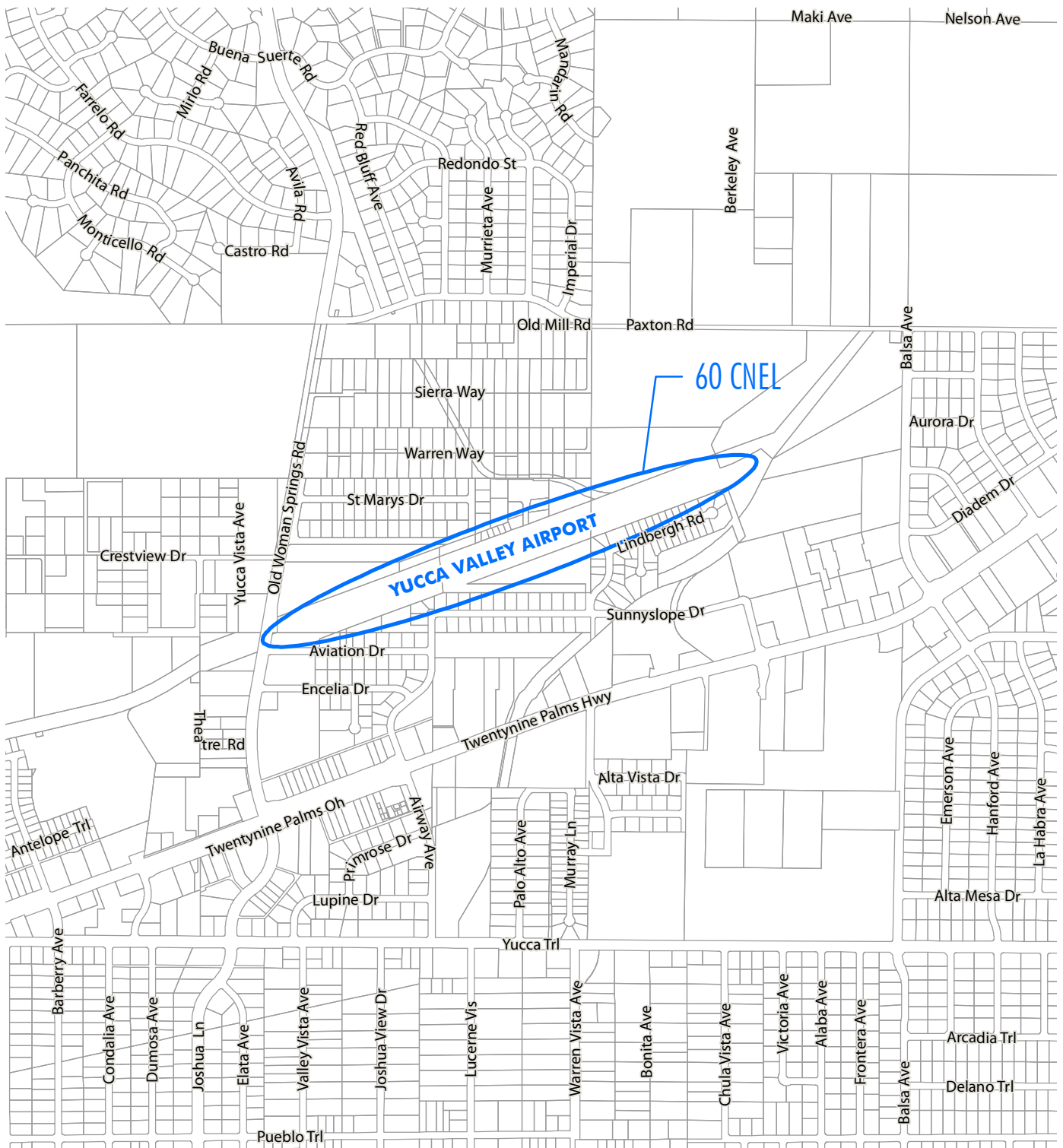
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Figure 5.10-3 AIRPORT NOISE CONTOURS



TYV-01 05.02.13

0 .25 .5 MILES



YUCCA VALLEY GENERAL PLAN

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5.10.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

- N-1 Exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies.
- N-2 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- N-3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- N-4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- N-5 For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public-use airport, exposure of people residing or working in the project area to excessive noise levels.
- N-6 For a project within the vicinity of a private airstrip, exposure of people residing or working the project area to excessive noise levels.

5.10.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.



IMPACT 5.10-1 ***BUILDOUT OF THE PROPOSED LAND USE PLAN WOULD RESULT IN AN INCREASE IN TRAFFIC ON LOCAL ROADWAYS AND STATE ROUTES 62 AND 247 IN THE TOWN OF YUCCA VALLEY, WHICH WOULD SUBSTANTIALLY INCREASE THE EXISTING NOISE ENVIRONMENT. [THRESHOLDS N-1 AND N-3]***

Impact Analysis: Future development in accordance with the General Plan update would cause increases in traffic along local roadways. Traffic on SR-62 and SR-247 is also projected to increase due to regional growth and Town-related traffic. For the purpose of assessing the compatibility of new development with the anticipated ambient noise, the Town utilizes the state’s Community Noise and Land Use Compatibility standards, summarized in Table 5.10-4. A significant impact could occur if the proposed Land Use Plan designates noise-sensitive land uses in areas where the ambient noise level clearly exceeds levels that are compatible for the designated land use, or if the future ambient noise would be incompatible with existing noise-sensitive land uses, including residential, schools, churches, nursing homes, hospitals, and open space/recreation areas. Commercial and industrial areas are not considered noise-sensitive and have much higher tolerances for exterior noise levels.

The traffic noise levels were estimated using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (RD-77-108). The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic flows, vehicle speeds, car/truck mix, length of exposed roadway, and road width. The distances to the 70, 65, and 60 CNEL contours for selected roadway segments in the vicinity of proposed project site are included in Appendix H.

Table 5.10-9 presents the noise level increases on roadways over existing conditions at 100 feet from the centerline of each roadway segment for Post-2035 conditions. Table 5.10-9 shows that traffic noise increases along roadways at Post-2035 conditions due to implementation of the proposed land use plan, the implementation of the circulation

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plan, and regional growth would range from 0.0 to 10.2 dBA CNEL. The affected segments that would experience substantial noise increases greater than 5 dBA over existing conditions, resulting at noise levels greater than 65 dBA CNEL, and that include sensitive receptors along those segments are:

- Acoma Trail from Mountain View Trail to Onaga Trail
- Airway Avenue from SR-62 to Aviation Drive
- Avalon Avenue from Sunnyslope Drive to SR-62
- Camino del Cielo Trail from SR-62 to Yucca Trail
- Joshua Lane east of Anacoma Trail
- La Contenda Road from Yucca Trail to SR-62
- Palomar Avenue from Yucca Trail to Joshua Drive
- Palomar Avenue from Joshua Lane to Joshua Drive
- Paxton Drive from SR-247 to Balsa Avenue
- Pioneertown Road from SR-62 to Sunnyslope Drive
- Sunnyslope Drive from SR-247 to Sage Avenue

The noise increases along roadway segments are related to traffic volumes increases due to population and employment growth in the Town and regional growth. Traffic noise increases would occur over a period of many years and would not be readily discernible on an annual basis because traffic and noise would increase steadily over time over a long period. However, the future ambient noise would be substantially higher when compared to existing conditions at receptors along the roadway segments identified above, and therefore noise impacts are significant.

Table 5.10-9
Traffic Noise Increases (dBA CNEL)

Roadway	Segment	Existing	Post-2035	Increase	Potentially Significant?
Acoma Trail	SR 62 to Onaga Trail	61.9	63.5	1.6	No
Acoma Trail	Mountain View Trail to Onaga Trail	61.8	68.3	6.5	Yes
Acoma Trail	Joshua Drive to Golden Bee Dr	56.6	63.2	6.6	No
Airway Avenue	Yucca Trail to Primrose Dr	60.2	64.9	4.7	No
Airway Avenue	Primrose Dr to SR 62	61.1	63.6	2.5	No
Airway Avenue	SR 62 to Aviation Dr	57.5	66.5	9.0	Yes
Avalon Avenue	SR-62 to Paxton Rd	60.3	66.6	6.3	Yes
Avalon Avenue	Sunnyslope Drive to SR 62	63.2	69.3	6.1	Yes
Balsa Avenue	SR 62 to Paxton Rd	65.9	68.7	2.8	No
Balsa Avenue	SR-62 to Sunnyslope Dr	65.8	71.7	5.9	Yes
Buena Vista Drive	Newton Lane - Rowell Road	63.6	69.3	5.7	Yes
Buena Vista Drive	Balsa Avenue to Indio Ave	63.4	67.0	3.6	No
Buena Vista Drive	Indio Ave to Yucca Mesa Road	61.7	66.6	4.9	No
Buena Vista Drive	Roberts Road - Faith Lane	63.6	68.2	4.6	No

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**Table 5.10-9
Traffic Noise Increases (dBA CNEL)**

Roadway	Segment	Existing	Post-2035	Increase	Potentially Significant?
Camino del Cielo Trail	SR-62 to Yucca Trail	59.9	66.4	6.5	Yes
El Cortez Road	Buena Suerte Road to SR-247	54.9	58.6	3.7	No
Fairview Drive	SR-62 to Cardillo Trail	52.9	56.9	4.0	No
Hilton Avenue	N/ SR-62	65.4	66.5	1.1	No
Hopi Trail	Santa Fe Trail to Onaga Trail	56.4	62.2	5.8	No
Joshua Lane	Onaga Trail to Pueblo Trail	66.6	69.5	2.9	No
Joshua Lane	Pueblo Trail to Yucca Trail	66.7	69.9	3.2	No
Joshua Lane	Joshua Drive to Golden Bee Dr	66.0	70.0	4.0	No
Joshua Lane	E/ Emerson Avenue	60.3	64.2	3.9	No
Joshua Lane	E/ Acoma Trail	62.2	68.6	6.4	Yes
Joshua Lane	Barberry Avenue to Sage Ave	63.2	68.0	4.8	No
Joshua Lane	Yucca Trail to SR-62 Outer Hwy.	68.1	71.2	3.1	No
Kickapoo Trail	SR-62 to Onaga Trail	62.5	66.2	3.7	No
La Contenta Road	Yucca Trail to Sunnyslope Dr	63.8	69.7	5.9	Yes
La Contenta Road	Sunnyslope Dr to SR-62	63.9	73.1	9.2	Yes
Onaga Trail	E/ Elata Avenue	62.8	66.0	3.2	No
Onaga Trail	Acoma Trail to Palm Ave	63.5	63.5	0.0	No
Onaga Trail	Jemez Trail to Kickapoo Trail	60.1	64.4	4.3	No
Onaga Trail	E/ Alaba Avenue	60.5	63.9	3.4	No
Onaga Trail	Elk Trail to Acoma Trail	62.8	65.1	2.3	No
Onaga Trail	Joshua Lane to Sage Ave	63.8	65.3	1.5	No
Onaga Trail	Sage Avenue to Palm Ave	64.8	66.2	1.4	No
Palm Ave	Pueblo Trail to Yucca Trail	59.7	64.8	5.1	No
Palomar Avenue	Yucca Trail to Joshua Dr	66.1	71.3	5.2	Yes
Palomar Avenue	Joshua Lane to Joshua Dr	58.9	66.7	7.8	Yes
Paxton Drive	SR-247 to Balsa Ave	59.9	67.5	7.6	Yes
Piñon Drive	SR-62 to Canyon Dr	52.7	62.8	10.1	No
Pioneertown Road	SR-62 to Sunnyslope Dr	63.2	69.3	6.1	Yes
Pioneertown Road	Sunnyslope Dr to Town Limits	59.6	63.9	4.3	No
Pueblo Trail	Hanford Avenue to Balsa Ave	52.7	54.6	1.9	No
Sage Avenue	W/ Yucca Trail	64.4	66.8	2.4	No
Sage Avenue	N/ Onaga Trail	64.2	66.9	2.7	No



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**Table 5.10-9
Traffic Noise Increases (dBA CNEL)**

Roadway	Segment	Existing	Post-2035	Increase	Potentially Significant?
Sage Avenue	N/ SR-62	61.3	65.8	4.5	No
Santa Fe Trail	Hopi Trail to Cherokee Trail	55.8	63.5	7.7	No
Santa Fe Trail	Kickapoo Trail to Hopi Trail	54.2	59.3	5.1	No
Skyline Ranch Road	Grand Ave to SR-247	57.2	63.9	6.7	No
SR-247	Twentynine Palms Hwy. to Aberdeen Dr	69.7	73.8	4.1	No
SR-62	Camino del Cielo to Fairway Dr	72.3	75.5	3.2	No
SR-62	Yucca Mesa Road to Airway Ave	71.4	74.3	2.9	No
SR-62	Pioneertown Road to Fairway Dr	72.8	76.4	3.6	No
SR-62	Joshua Lane to Pioneertown Road	72.7	76.6	3.9	No
SR-62 Outer Highway	SR-247 - Airway Avenue	56.3	66.5	10.2	Yes
SR-62 Outer Highway	Joshua Lane - Airway Avenue	60.4	68.1	7.7	Yes
Sunnyslope Dr	SR-247 to Sage Ave	61.1	69.2	8.1	Yes
Warren Vista Avenue	SR-62 (Alta Vista Dr - SR 62)	62.5	64.0	1.5	No
Yucca Mesa Road	SR-62 to Douglas Ln	67.3	70.5	3.2	No
Yucca Mesa Road	Buena Vista Drive to Town limits	64.8	67.7	2.9	No
Yucca Trail	W/ Joshua View Drive	69.5	70.9	1.4	No
Yucca Trail	W/ Condalia Avenue	68.8	70.5	1.7	No
Yucca Trail	Miami Trail to Cherokee Trail	63.3	66.9	3.6	No
Yucca Trail	La Contenta Road to Avalon Ave	68.3	71.1	2.8	No
Yucca Trail	Hanford Avenue to Avalon Ave	69.1	72.4	3.3	No
Yucca Trail	Cherokee Trail to Acoma Trail	61.7	67.5	5.8	Yes

Notes:

W/ = west of; E/ = east of; N/ north of; S/ = south of

Traffic Noise Model Calculations included in Appendix H.

IMPACT 5.10-2: SENSITIVE LAND USES WOULD NOT BE EXPOSED TO SUBSTANTIAL LEVELS OF AIRCRAFT NOISE. [THRESHOLDS N-5 AND N-6]

Impact Analysis: Aircraft overflights, takeoffs, and landings at airports and heliports in the region, and aircraft overflights associated with the 29 Palms MCAGCC contribute to the ambient noise environment.

Yucca Valley Airport

As discussed above, the Yucca Valley Airport is a public use general aviation facility. The 60 dBA CNEL noise contours shown on Figure 5.10-3 do not extend outside the homes located immediately adjacent to the airport to the north and south, or west of the SR-247 and east of Balsa Road. According to the noise level contours and guidelines included in the ACLUP, the surrounding areas are compatible with the airport's noise generated by its current

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operations. There are currently no plans to expand the airport's facilities and operations. Adoption or approval of any amendment to a general plan affecting the property within an airport influence area (AIA) is required to be reviewed by the ALUC for determination of consistency with the ACLUP, which in general is determined based on noise and safety compatibility issues. The ACLUP establishes standards for the compatibility between the Yucca Valley Airport and surrounding parcels. The standards identify land uses that are considered incompatible with airport operations and areas where the greatest noise from aircraft is expected to occur, and establish height limits in select areas around the runway. Development within the AIA would be required to comply with the standard outline in the airport's ACLUP.

The Land Use Element of the proposed General Plan is compatible with the Yucca Valley Airport Comprehensive Land Use Plan and contains the following policy aimed at reducing potential hazards relating to the airport.

Policy LU 3-1 Allow compatible and supportive land uses around the Yucca Valley Airport as determined in the Airport Comprehensive Land Use Plan.

Noise impacts related to the Yucca Valley Airport would be less than significant.

Heliports

Southern California Edison's (SCE) privately owned Yucca Valley Service Center Heliport is in Mid-Town Yucca Valley, approximately 500 feet south of the western end of the runway of Yucca Valley Airport. The nearest homes are as near as 500 feet to the east. At this distance, noise from helicopter take-off and landing would be clearly noticeable to the nearest homes. However, as there are no aircraft based at this heliport, and helicopter activity is sporadic, noise impacts related to this heliport would be less than significant.

29 Palms MCAGCC Flight Path

As discussed above, aircraft and helicopter overflights (mostly helicopters) occur within portions of Town. Figure 5.7-6, *MCAGCC Helicopter Flight Path*, shows the helicopter flight route through Town. Flyovers from the MCAGCC are sporadic and occur at a high altitude. While aircraft flyovers from the base would be heard, they occur sporadically. The proposed project would not expose persons to substantial aircraft noise levels from the MCAGCC, these impacts are less than significant.

IMPACT 5.10-3 NOISE-SENSITIVE USES COULD BE EXPOSED TO ELEVATED NOISE LEVELS FROM TRANSPORTATION SOURCES. [THRESHOLDS N-1 AND N-3]

Impact Analysis: An impact could be significant if the proposed land use plan designates noise-sensitive land uses in areas that would not exceed the noise compatibility criteria of the Town. The Town applies the Community Noise and Land Use Compatibility guidelines, summarized in Table 5.10-3, to assess the compatibility of new development with ambient noise. Noise-reducing site design and building construction may be required in low-density residential areas with outdoor CNEL levels in excess of 60 dBA, or 65 dBA CNEL for multi-family uses, schools, libraries, churches, hospitals, nursing homes. Commercial and industrial areas are not considered noise sensitive and have much higher tolerances for exterior noise levels. The building interior of noise-sensitive structures is required to achieve noise levels of 45 dBA CNEL under the California Building Code, and Title 21 of the California Code of Regulations for noise-sensitive structures within the 65 dBA CNEL contour of an airport. Noise-sensitive land uses would be exposed to transportation sources including vehicular traffic and aircraft overflights.

Traffic Noise

As previously discussed in Impact Statement 5.10-1, traffic noise contours were calculated for Post-2035 conditions. Figure 5.10-4 shows the future noise contours from roadway traffic along major thoroughfares and rail within the Town of Yucca Valley at Post-2035 buildout conditions. Noise levels shown in Figure 5.10-4 for the entire Town do



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not account for noise attenuation provided by intervening structures or topographical barriers. Several portions of the Town will be located in areas exposed to noise levels above 60 dBA CNEL.

Development projects would be subject to review under CEQA. For the purpose of assessing the compatibility of new development with the anticipated ambient noise, the Town utilizes the Community Noise and Land Use Compatibility guidelines, summarized in Table 5.10-3. New sensitive land uses would have to demonstrate that it is compatible with the ambient noise levels. A significant impact could occur if the proposed Land Use Plan designates noise-sensitive land uses in areas where the ambient noise level clearly exceeds levels that are compatible for the designated land use.

Aircraft Overflights

As discussed in Impact Statement 5.10-2 above, no portions of the Town are located within the 65 dBA CNEL noise contours of any airport. Implementation of the General Plan would not expose noise-sensitive land uses to incompatible levels of aircraft noise.

Land Use Compatibility

The noise contours for future conditions are presented in Figure 5.10-4, which shows the future noise levels from surface transportation sources, and Figure 5.10-3, which shows airport noise contours within the Town. Policy N 1-6 encourages noise-compatible land uses adjacent to highways and airports. Policy N 1-2 requires noise-reducing site design and building construction in residential and mixed-projects in areas with outdoor levels in excess of 65 dBA CNEL. Implementation of the General Plan Update includes several policies—listed as N 1-1 through N 1-12 (see Section 5.10.4, *Relevant General Plan Policies and Implementation Actions*)—to implement new noise-sensitive land uses and to reduce transportation related noise in Town.

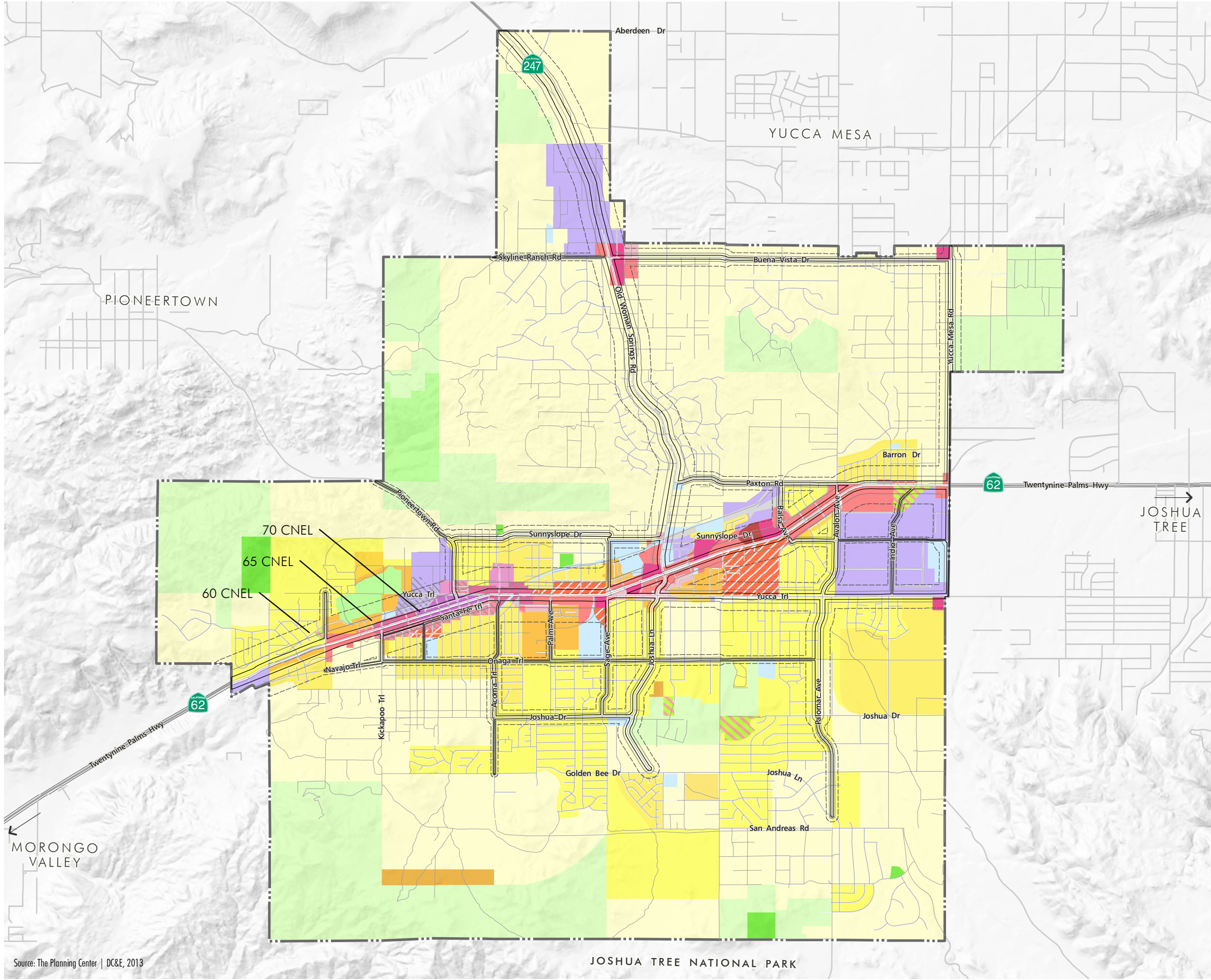
With implementation of these policies, impacts from transportation noise sources would be less than significant.

IMPACT 5.10-4 NOISE-SENSITIVE USES COULD BE EXPOSED TO ELEVATED NOISE LEVELS FROM STATIONARY SOURCES. [THRESHOLDS N-1 AND N-3]

Impact Analysis: Noise is regulated by numerous codes and ordinances across federal, state, and local agencies. In addition, the Town regulates stationary-source noise through the Development Code. Buildout of the proposed land use plan would result in an increase in residential, commercial, industrial, and institutional development within the Town. The primary noise sources from residential, commercial, and institutional land uses are landscaping, maintenance activities, and air conditioning systems. In addition, future commercial uses may include loading docks. Noise generated by residential or commercial uses is generally short and intermittent, and these uses are not a substantial source of noise. The Town of Yucca Valley requires that noise from new stationary sources in the Town comply with the Town's Development Code summarized in Table 5.10-4, which limits the acceptable noise at the property line of the impacted property to reduce nuisances to sensitive land uses. Noise that exceeds the limitations of the Development Code is considered a noise nuisance by the Town and may be punishable. Consequently, stationary-source noise from proposed land uses would not substantially increase the noise environment.

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Figure 5.10-4
FUTURE NOISE LEVEL CONTOURS



Noise Contours

- 60 - 65 CNEL
- 65 - 70 CNEL
- 70+ CNEL

General Plan Land Use

- R-HR, Hillside Reserve 0-1 du/ac
- R-L-10, Rural Living 1 du/10 ac
- R-L-5, Rural Living 1 du/ 5 ac
- R-L-2.5, Rural Living 1 du/ 2.5 ac
- R-L-1, Rural Living 1 du/1 ac
- R-S-2, Single Family Res. 0-2 du/ac
- R-S-3.5, Single Family Res. 3.5 du/ac
- R-S-5, Single Family Res. 5 du/ac
- R-S-5 Senior, Single Family Res. Senior 0-5 du/ac
- R-M-4, Multi-Family Residential 0-4 du/ac
- R-M-8 Multi-Family Residential 0-8 du/ac
- R-M-10 Multi-Family Residential 0-10 du/ac
- R-M-14 Multi-Family Residential 0-14 du/ac
- C-MU Mixed Use Commercial
- C-S Service Commercial
- C-N Neighborhood Commercial
- C-G General Commercial
- C-C Community Commercial
- C-O Office Commercial
- C-RR Resort/Recreation Commercial
- I Industrial
- P/QP Public/Quasi-Public
- AP Airport
- OTMU, Old Town Mixed Use
- OTC/R, Old Town Commercial/Residential
- OTHC, Old Town Highway Commercial
- OTI/C, Old Town Industrial/Commercial
- O-S-P Public Parks
- O-S Open Space

Note: This figure depicts projected surface transportation noise level contours post-2035

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The siting of new industrial and large commercial developments may increase noise levels at nearby residential uses. This can be due to the continual presence of heavy trucks used for the pick-up and delivery of goods and supplies, or from the use of noisy equipment used in the manufacturing or machining process. Though vehicle noise on public roadways is exempt from local regulation, for the purposes of the planning process, it may be regulated as a stationary-source noise while operating on private property. Process equipment and the use of pneumatic tools could also generate elevated noise levels, but this equipment is typically housed within the facilities. Individual new commercial or industrial project would be subject to review under CEQA. To regulate stationary-source noise created by industrial machinery and tools from affecting sensitive land uses, the Town of Yucca Valley requires industrial operations to limit noise to no greater than the maximum allowable noise levels described in the Noise Ordinance. Therefore, compliance with the Town's Noise Ordinance and implementation of Policies N1-13 to 1-20 would result in noise levels that are acceptable to the Town and would result in less than significant noise impacts from stationary sources.

IMPACT 5.10-5: *IMPLEMENTATION OF THE GENERAL PLAN WOULD NOT SUBSTANTIALLY ELEVATE NOISE AND VIBRATION EXPOSURE FROM ACTIVITIES AT THE TWENTYNINE PALMS MARINE CORPS AIR GROUND COMBAT CENTER. [THRESHOLDS N-1 AND N-2]*

Impact Analysis: As discussed previously, the MCAGCC is a 24/7, live-fire military training installation. Noise from the MCAGCC is mostly due to aircraft overflights (mostly helicopters) within portions of Town, military convoys passing by the Town on SR-62, and the use of military equipment at the MCAGCC. Sound levels above 65 dBA rarely, if ever, leave the installation boundaries, and according to Town's officials, complaints from Town residents are not widespread. Temporarily increasing traffic noise on uses along SR-62 would continue to occur sporadically. These noise impacts to a given receptor are short term during the convoy pass-by and limited to a few days per year.

New residents would experience similar noise and vibration impacts as existing residents in Town. Policies N 1-21 to N 1-23 would be implemented to reduce potential noise impacts from the MCAGCC to persons residing and working in Yucca Valley. Existing residents would continue to experience sporadic noise from operations of the MCAGCC. Implementation of the General Plan would not develop new land uses in close proximity to the base, since it is approximately seven miles east of the Town's limits. Therefore, noise and vibration impacts related to the MCAGCC would be less than significant.

IMPACT 5.10-6: *CONSTRUCTION ACTIVITIES ASSOCIATED WITH BUILDOUT OF THE INDIVIDUAL LAND USES AND PROJECTS FOR IMPLEMENTATION OF THE GENERAL PLAN WOULD SUBSTANTIALLY ELEVATE NOISE LEVELS IN THE VICINITY OF NOISE-SENSITIVE LAND USES. [THRESHOLD N-4]*

Impact Analysis: Implementation of the Draft General Plan would result in construction of new residential, commercial, and industrial uses throughout the planning area. Two types of short-term noise impacts could occur during construction. First, the transport of workers and movement of materials to and from the site could incrementally increase noise levels along local access roads. The second type of short-term noise impact is related to demolition, site preparation, grading, and/or physical construction. Construction is performed in distinct steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Table 5.10-10 lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and noise receptor.



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**Table 5.10-10
Construction Equipment Noise Emission Levels**

Construction Equipment	Typical Maximum Noise Level (dBA L_{max})	Construction Equipment	Typical Noise Level¹ (dBA L_{max})
Air Compressor	81	Pile Driver (Impact)	101
Backhoe	80	Pile Driver (Sonic)	96
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	76
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	98
Concrete Pump	71	Roller	74
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	89
Dozer	85	Shovel	82
Generator	81	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	85	Truck	88
Paver	89		

Source: FTA 2006.

¹ Measured 50 feet from the source.

As shown, construction equipment generates high levels of noise ranging 71 dBA to 101 dBA. Construction of individual developments associated with buildout of the proposed land use plan would temporarily increase the ambient noise environment, and would have the potential to affect noise-sensitive land uses in the vicinity of each individual project. The Town of Yucca Valley restricts the hours of construction activities that occur to the least noise-sensitive portions of the day. Construction activities that occur from 7:00 PM and 7:00 AM are exempt from the noise ordinance standards listed in Table 5.10-4. However, construction activities may occur outside of these hours if the Town determines that the maintenance, repair, or improvement is necessary to maintain public services or cannot feasibly be conducted during normal business hours, or if construction activities comply with the stationary source noise standards of the Development Code. Building- or demolition-related activities are prohibited between the hours of 10 PM to 7 AM in residential areas, and between 10 PM to 5 AM in a commercial or industrial area.

Draft General Plan policies require construction noise to remain within acceptable noise limits and protect existing areas with acceptable noise environments. Implementation of the Yucca Valley General Plan policy N 1-18 would reduce construction noise by enforcing the limits on nonemergency construction hours to the less sensitive hours of the day.

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Policy N 1-18 Enforce limits on the hours of operation for nonemergency construction.

Development projects would be subject to environmental review, and specific mitigation measures would be implemented to reduce noise impacts during construction. Even with compliance with the Development Code standards related to construction and implementation of General Plan policy N 1-18, construction noise as it related to implementation of the General Plan would result in a potentially significant noise impact.

IMPACT 5.10-7: BUILDOUT OF THE INDIVIDUAL LAND USES AND PROJECTS FOR IMPLEMENTATION OF THE GENERAL PLAN COULD EXPOSE SENSITIVE USES TO STRONG GROUND BORNE VIBRATION. [THRESHOLD N-2]

Impact Analysis:

Transportation-Related Vibration Impacts

Caltrans has studied the effects of propagation of vehicle vibration on sensitive land uses and notes that “heavy trucks, and quite frequently buses, generate the highest earthborn vibrations of normal traffic.” Caltrans further notes that the highest traffic-generated vibrations are along freeways and state routes. Their study finds that “vibrations measured on freeway shoulders (five meters from the centerline of the nearest lane) have never exceeded 0.08 inches per second, with the worst combinations of heavy trucks. This level coincides with the maximum recommended safe level for ruins and ancient monuments (and historic buildings).” Typically, trucks do not generate high levels of vibration because they travel on rubber wheels and do not have vertical movement, which generates ground vibration. Because there are no major of transportation-related vibration sources in Town such as heavy rail, or any freeway, any potential for significant vibration impacts is less than significant.

Stationary-Related Vibration Impacts

The use of heavy equipment associated with heavy industrial operations can create elevated vibration levels in their immediate proximity. As shown in Figure 3-5, *Proposed Land Use Plan*, industrial and business park land uses are designated in portions of the Town adjacent to sensitive uses such as residential areas. In general, the majority of heavy industrial uses would not be immediately adjacent to vibration-sensitive uses. However, heavy industrial uses adjacent to sensitive receptors could generate vibration levels that would be perceptible and annoying, and this would be a potential significant impact.

Construction Vibration Impacts

Construction operations can generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures, but can achieve the audible and perceptible ranges in buildings close to the construction site. Table 5.10-11 lists vibration levels for construction equipment.



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Table 5.10-11
Vibration Levels for Construction Equipment

Equipment	Approximate Velocity Level at 25 Feet (VdB)	Approximate RMS¹ Velocity at 25 Feet (in/sec)
Pile Driver (impact) Upper Range	112	1.518
Pile Driver (impact) Lower Range	104	0.644
Pile Driver (sonic) Upper Range	105	0.734
Pile Driver (sonic) Lower Range	93	0.170
Large Bulldozer	87	0.089
Caisson Drilling	87	0.089
Jackhammer	79	0.035
Small Bulldozer	58	0.003
Loaded Trucks	86	0.076
FTA Criteria – Human Annoyance (Daytime)	78	—
FTA Criteria – Structural Damage	—	0.200

Source: FTA 2006.

¹ RMS velocity calculated from vibration level (VdB) using the reference of 1 microinch/second.

As shown in Table 5.10-11, vibration generated by construction equipment has the potential to be substantial. However, groundborne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers (FTA 2006). Vibration impacts may occur from construction equipment associated with development in accordance with Town of Yucca Valley General Plan. Depending on the use of equipment and distance to the nearest receptors, the use of heavy equipment during construction would have the potential to cause annoyance and architectural damage at nearby uses. This would be a potentially significant impact.

5.10.4 Relevant General Plan Policies and Implementation Actions

Land Use

Land Use Element

- Policy LU 1-19 Encourage the relocation of industrial operations that are not compatible with adjacent uses to areas that are conducive to such operations.
- Policy LU 3-1 Allow compatible and supportive land uses around the Yucca Valley Airport as determined in the Airport Comprehensive Land Use Plan.

Land Use Implementation Actions

- LU 5 Amend the development code to create standards addressing appropriate treatments to buffer industrial and commercial uses from residential and other sensitive uses.
- LU 19 Periodically coordinate with the Yucca Valley Airport District to stay informed of any operational or facility changes that could impact the community.

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Noise Element

Policy N 1-1	Separate excessive noise-generating uses from residential uses and other sensitive receptors through building design and aesthetically pleasing buffers such as landscaping, berms, and setbacks.
Policy N 1-2	Require noise-reducing site design and building construction in residential and mixed-use projects in areas with outdoor CNEL levels in excess of 65 dBA.
Policy N 1-3	Require daytime only truck deliveries to commercial and industrial uses adjacent to residential uses and other sensitive receptors unless there is no feasible alternative.
Policy N 1-4	Encourage the use of alternative transportation such as busing, bicycling, and walking to reduce peak traffic volumes and therefore transportation-related sources of noise.
Policy N 1-5	Encourage traffic-calming road design and engineering methods, where appropriate, to decrease excessive motor vehicle noise.
Policy N 1-6	Encourage noise-compatible land uses and thoughtful site planning and building design adjacent to highways and airports.
Policy N 1-7	Support Caltrans efforts to use attractive landscaping and other buffers and materials to reduce highway traffic noise.
Policy N 1-8	Support the efforts of Caltrans and other agencies in developing and funding roadway noise-mitigation programs.
Policy N 1-9	Encourage the use of landscaping, berms, setbacks and architecture rather than conventional walls to reduce motor vehicle noise in an aesthetically pleasing manner.
Policy N 1-10	Encourage all law enforcement agencies operating within the Town to enforce the State Vehicle Code noise standards.
Policy N 1-11	Encourage civilian airport operators to monitor aircraft noise and implement noise-reducing operation measures.
Policy N 1-12	Consider limiting the development of heliports and helipads to areas where noise impacts on adjacent uses can be properly mitigated and where helicopter access has a demonstrated Townwide benefit and noise will not adversely affect adjacent uses.
Policy N 1-13	Enforce Town noise limits and monitor compliance with noise standards.
Policy N 1-14	Seek public and grant funding for noise mitigation programs for Town facilities and Town projects.
Policy N 1-15	Require the design and construction of industrial and commercial development to minimize excessive offsite noise impacts.



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Policy N 1-16	Encourage existing and proposed industrial uses to use operation methods that minimize excessive noise.
Policy N 1-17	Consider potential noise impacts before purchasing large or heavy equipment for Town facilities and encourage selection of equipment that generates the least noise.
Policy N 1-18	Enforce limits on the hours of operation for nonemergency construction.
Policy N 1-19	Enforce limits on the hours of refuse collection, street and parking lot sweeping, and other property maintenance operations.
Policy N 1-20	Encourage special events to be planned to minimize the potential effects of noise on adjacent properties to the degree feasible.
Policy N 1-21	Encourage military airport operators, to the extent possible, to monitor aircraft noise and implement noise-reducing measures, especially in areas under military flight paths.
Policy N 1-22	Consult Twentynine Palms Base officials on base operations that could adversely affect the noise environment in Yucca Valley.
Policy N 1-23	Notify Yucca Valley residents of periodic base operations that will temporarily increase noise and vibration in the community.

Noise Implementation Actions

N 1	Update the Development Code to: <ul style="list-style-type: none">a) Establish noise exposure standards that trigger project-specific studies for noise-sensitive uses proposed along SR-62 and SR-247.b) Provide development standards and design guidelines that include a variety of mitigation measures to reduce noise impacts to sensitive uses.c) Establish truck delivery times and exterior noise generation limits for commercial, industrial, and mixed-use projects abutting residential development.d) Require new construction of noise-sensitive uses within the 65+ CNEL contour to demonstrate compliance with exterior and interior noise standards.
N 2	Study the cost of installation and maintenance of rubberized asphalt for road improvements and new roads to reduce vehicle-related noise and apply where practicable.
N 3	Conduct traffic studies and speed surveys to evaluate traffic volumes and speeds, use the 85 th percentile speed rationale for determining when to implement speed and noise reduction measures.
N 4	Communicate with Caltrans to: <ul style="list-style-type: none">a) Review and comment on any noise mitigating plans for SR-62 or SR-247.b) Support efforts to reduce highway traffic noise in Yucca Valley.c) Stay aware of funding opportunities for roadway noise mitigation in Town.
N 5	Discuss opportunities to address exposure to motor vehicle noise through project design during the preapplication process.

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- N 6 Annually communicate with all law enforcement agencies operating within the Town to specifically encourage the enforcement of the State Vehicle Code noise standards.
- N 7 Periodically communicate with the Yucca Valley Airport District to encourage the enforcement of aircraft noise monitoring and land use compatibility.
- N 8 Consider updating the Development Code to limit the development of heliports and helipads to projects where helicopter access has a Townwide benefit.
- N 9 Establish a measurable program to monitor noise from stationary sources when complaints or service requests are received.
- N 10 Apply for noise mitigation grants and programs when appropriate.
- N 11 Update the Development Code to:
- a) Include noise generation standards for construction sites.
 - b) Establish time limits for refuse collection, street and parking lot sweeping, and other property maintenance operations.
- N 12 Establish criteria to be considered when purchasing large or heavy equipment for Town facilities, including noise impacts to onsite and adjacent users.
- N 13 Periodically communicate with Twentynine Palms Base about intermittent or stationary sources of noise that have the potential to impact people and property in Yucca Valley.
- N 14 Provide adequate notice of scheduled noise-generating military operations to Yucca Valley residents and businesses through press releases and other appropriate means.



Circulation

Circulation Element

- Policy C 1-15 Design designated truck routes such that the pavement, roadway width, and curb return radii support anticipated heavy vehicle use.
- Policy C 1-18 Maintain truck route designations to support heavy vehicle use and connections to the Yucca Valley Airport as noted on Figure C-4.
- Policy C 1-19 Require traffic calming techniques in residential neighborhoods and in Special Policy Areas to slow and manage traffic volumes and speeds as deemed appropriate by the Town Engineer.
- Policy C 1-20 Require future development to pave roadways that will serve 500 or more daily trips as noted in Table 4 1 unless paving of that facility is infeasible, there is no funding for the improvement, or when the majority of the residents on that facility desire it to be unpaved.
- Policy C 1-21 Pursue funding to pave un-paved roadways where the traffic volume exceeds 500 daily trips unless paving of that facility is infeasible or when the majority of the residents on that facility desire it to be unpaved.

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Policy C 1-25 Maintain truck routes through town for efficient freight transportation service to businesses and industry while limiting impacts to residents and visitors.

Circulation Implementation Actions

- C 3 Develop and maintain a list of the Town's protected intersections and roadways where:
- Acquiring the right-of-way is not feasible;
 - The segment is in the Old Town Specific Plan area where maintaining vehicle levels of service would not be consistent with the goals and policies of that plan;
 - The improvements would negatively impact the environment;
 - The improvements would negatively impact other community values or policies; and / or
 - Other physical or fiscal factors limit the implementation of the proposed mitigation measure.
- C 15 Update the Truck Routes Map as needed.
- C 16 Work with Marine Corps Air Ground Combat Center Twentynine Palms to notify residents of traffic impacts due to Marine caravans.
- C 17 Coordinate with the Yucca Valley Airport District to provide appropriate level of supporting transportation infrastructure connecting to the Yucca Valley Airport.
- C 19 Pursue funding to pave unpaved roadways where the traffic volume exceeds 500 daily trips.
- C 20 Update the development code to require the application of non-toxic soil binder annually to minimize dust emissions on existing and new unpaved roads where traffic volumes exceed 500 daily trips if paving is not feasible.
- C 21 Establish a timeframe and parameters for paving unpaved roadways, consistent with implementation action C 19.

5.10.5 Existing Regulations and Standard Conditions

State

- California Code of Regulations, Title 21, Part 1, Public Utilities Code (Regulation of Airports)
- California Code of Regulations, Title 24, Part 2, California Building Code.

Town of Yucca Valley Development Code

- Town of Yucca Valley Development Code, Chapter 9, Performance Standards; Section 89.0905 -Noise.

5.10.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.10-2, 5.10-3, 5.10-4, and 5.10-5.

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Without mitigation, the following impacts would be **potentially significant**:

- Impact 5.10-1 Buildout of the proposed land use plan would result in an increase in traffic on roadways in the Town of Yucca Valley, which would substantially increase the noise environment.
- Impact 5.10-6 Construction activities associated with buildout of the individual land uses associated with the proposed land use plan would expose sensitive uses to excessive noise levels.
- Impact 5.10-7 Operations at heavy industrial uses in proximity to sensitive uses could have the potential to cause annoyance at nearby uses. Construction activities associated with buildout of the individual land uses associated with the proposed land use plan would expose sensitive uses to strong levels of groundborne vibration.

5.10.7 Mitigation Measures

Impact 5.10-1

Existing noise-sensitive land uses would be affected by the substantial increase in traffic noise levels. Because most homes front the affected streets, sound walls would not be feasible. Rubberized pavement would not be effective because of the relatively low speeds on the roadways. Consequently, there are no feasible effective mitigation measures available that would prevent noise levels along major transportation corridors from increasing as a result of substantial increases in traffic volumes. Though new uses can be designed for the expected noise exposure, there would be no feasible mitigation measures to reduce potential noise impacts to existing noise-sensitive uses.

Impact 5.10-6

10-1 Applicants for new development projects within 500 feet of sensitive receptors shall implement the following best management practices to reduce construction noise levels:

- Install temporary sound barriers for construction activities that occur adjacent to occupied noise-sensitive structures
- Equip construction equipment with mufflers
- Restrict haul routes and construction-related traffic
- Reduce nonessential idling of construction equipment to no more than five minutes

Impact 5.10-7

10-2 Individual projects that involve vibration-intensive construction activities, such as blasting, pile drivers, jack hammers, and vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A study shall be conducted for individual projects where vibration-intensive impacts may occur. If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., nonexplosive blasting methods, drilled piles as opposed to pile driving, etc.).

10-3 Development of heavy industrial projects that involve vibration-intensive machinery or activities occurring near sensitive receptors shall be evaluated for potential vibration impacts. Prior to occupancy



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permits, or issue of business licenses, a study shall be conducted for individual projects where vibration-intensive impacts may occur. Vibration impacts to nearby receptors shall not exceed the levels for annoyance (in RMS inches/second) as follows: Workshop = 0.032, Office = 0.015, Residential Daytime (7AM–10PM)= 0.008, and Residential Nighttime (10PM to 7 AM) = 0.004.

5.10.8 Level of Significance After Mitigation

Impact 5.10-1

Traffic generated by buildout of the General Plan would substantially increase traffic noise along major traffic corridors in the Town and could expose existing and planned residents to substantial noise levels. To reduce potential noise impacts to new sensitive land uses, Noise Element Policy N 1-2 would require noise-reducing, site design and building construction features in residential and mixed-use projects in areas where outdoor average daily noise levels exceed of 65 dBA CNEL. However, there are no feasible mitigation measures available that would prevent impacts to existing homes fronting the major transportation corridors. While new uses can be designed for the expected noise exposure, there would be no feasible mitigation measures to reduce potential noise impacts to existing noise-sensitive uses. Despite the application of mitigation measures, Impact 5.10-1 would remain **significant and unavoidable**.

Impact 5.10-6

Mitigation Measure 10-1 would reduce construction noise impacts to the extent feasible. However, because of distance, source to receiver geometry, and other site conditions that may render implementation of mitigation measure infeasible or ineffective for every future project in Town, Mitigation Measure 10-1 would not guarantee that construction noise impacts would be reduced to less than significant levels. Consequently, Impact 5.10-6 would be significant and unavoidable.

Impact 5.10-7

Mitigation Measure 10-2 would reduce vibration impacts associated with construction to the extent feasible. In addition, Mitigation Measure 10-3 would reduce vibration impacts from the operation of heavy industrial uses to nearby sensitive receptors to less than significant levels. Consequently, Impact 5.10-7 would be less than significant.

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5. Environmental Analysis

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