5. Environmental Analysis

5.4 NOISE

This section discusses the fundamentals of sound; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; and evaluates potential noise impacts associated with the Etiwanda Avenue/Country Village Road Truck Restriction Ordinance (project).

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the project to result in noise impacts in the City of Jurupa Valley as well as the surrounding cities of Ontario, Fontana, and Eastvale. It also assesses the potential project-related noise impacts on Caltrans facilities. Analysis associated with this section is based on the guidelines provided by the Federal Transit Authority.

The analysis in this section is based in part on the following technical report:

 Etiwanda Avenue and Country Village Truck Restriction Traffic Analysis Study (and associated ADT and LOS Data Sheets), Iteris, May 2018

A complete copy of this study is included in the Technical Appendices to this Draft EIR (Appendix F).

5.4.1 Environmental Setting

5.4.1.1 SOUND FUNDAMENTALS

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dB are detectable under quiet, controlled conditions, and changes of less than 1 dBA are usually indiscernible. A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernable to most people in an exterior environment, and a 10 dBA change is perceived as a doubling (or halving) of the sound (Bies and Hansen 2009).

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Sound Measurement

Sound intensity is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale as points on a sharply rising curve. On a logarithmic scale, an increase of 10 dB is 10 times more intense than 1 dB, 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dB for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2 , L_8 , and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a city's noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max} . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, an artificial dB increment is typically added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 p.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The L_{dn} descriptor uses the same methodology except that no artificial increment is added to the hours between 7:00 p.m. and 10:00 p.m. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher), and they are used interchangeably in this assessment.

5. Environmental Analysis Noise

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 our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions and affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA can result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the sensation becomes painful. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear.

5.4.1.2 REGULATORY FRAMEWORK

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.

Federal Regulations

Federal Noise Control Act of 1972

The US Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published "Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety." "Levels of Environmental Noise" recommended that the L_{dn} should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, "Levels of Environmental Noise" identified 5 dB as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dB L_{dn} (i.e., there would not be a noticeable increase in adverse community reaction with an increase of 5 dB or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at morelocal levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations in EPA rulings in prior years remain in place, allowing more individualized control for specific issues by designated federal, state, and local government agencies.

Federal Highway Administration (FHWA)

The FHWA values are the maximum desirable values by land use type and area based on a "trade-off" of what is desirable and what is reasonably feasible. These values recognize that in many cases lower noise exposures would result in greater community benefits. The FHWA design noise levels are in Table 5.4 1. It should be

noted that these design guidelines are provided for informational purposes and are not directly relevant to the project, which is not federally funded.

| Activity | Design No | ise Levels 1 | |
|-------------|-----------------------|-----------------------|---|
| Category | L _{eq} (dBA) | L ₁₀ (dBA) | Description of Activity Category |
| A | 57 (exterior) | 60 (exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| В | 67 (exterior) | 70 (exterior) | Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. |
| С | 72 (exterior) | 75 (exterior) | Developed lands, properties, or activities not included in Categories A or B, above |
| D | - | - | Undeveloped lands. |
| E | 52 (interior) | 55 (interior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums. |
| Source: EHM | /Δ | | |

Table 5.4-1 FHWA Design Noise Levels

¹ Either Leq or L10 (but not both) design noise levels may be used on a project

State Noise Standards

California Noise Control Act of 1973

Sections 46000 to 46080 of the California Health and Safety Code-known as the California Noise Control Act of 1973-find that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

Local Noise Standards

Jurupa Valley General Plan

The City of Jurupa Valley General Plan (adopted 2017) includes a noise element that identifies noise issues in the community, quantifies existing and projected noise levels, addresses excessive noise exposure, and provides goals, policies, and programs to reduce noise to acceptable levels. The noise element also presents a land use compatibility chart for community noise that provides urban planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels. Table 5.4-2 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.

| Table 5.4-2 C | Community Noise and Land Use C | ompatibility |
|---------------|--------------------------------|--------------|
|---------------|--------------------------------|--------------|

| | | | C | NEL (dB/ | A) | | |
|--|---|------|----|----------|------|------|---|
| Land Uses | 5 | 5 60 | 65 | 5 7(| 0 75 | 5 80 |) |
| Residential-Low Density Single Family, Duplex, Mobile Homes | | | | | | | |
| Residential- Multiple Family | | | | | | | |
| Transient Lodging: Hotels and Motels | | | | | | | |
| Schools, Libraries, Churches, Hospitals, Nursing Homes | | | | | | | |
| Auditoriums, Concert Halls, Amphitheaters | | | | | | | |
| Sports Arena, Outdoor Spectator Sports | | | | | | | |
| Playground, Neighborhood Parks | | | | | | | |
| Golf Courses, Riding Stables, Water Recreation, Cemeteries | | | | | | | |
| Office Buildings, Businesses, Commercial and Professional | | | | | | | |
| Industrial, Manufacturing, Utilities, Agricultural | | | | | | | |
| Frankrans Natar | | | 1 | | | 1 | |

| Normally Acceptable: With no special noise reduction requirements assuming standard construction. | Normally Unacceptable: New construction is discouraged. If new construction does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. |
|--|---|
| Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed | Clearly Unacceptable: New construction or development should generally not be undertaken. |

Goals and Policies

The following goals and policies are directly relevant to the proposed project:

Goal NE 3 Minimize excessive noise levels and community health risk due to mobile noise sources.

Program NE 2.1.1 Truck Routes. Prepare and adopt truck routes to direct commercial trucks away from sensitive noise receptors.

Ontario General Plan

Goals and Policies

The following goals and policies are directly relevant to the proposed project:

Goal S4 An environment where noise does not adversely affect the public's health safety, and welfare.

Policy S4-4 Truck Traffic. We manage truck traffic to minimize noise impacts on sensitive land uses.

Eastvale General Plan

Goals and Policies

The following goals and policies are directly relevant to the proposed project:

Goal N-1 Prevent and mitigate the adverse impacts of excessive noise exposure to residents, employees, visitors, and noise-sensitive uses of Eastvale.

Fontana General Plan

Goals and Policies

The following goals and policies are directly relevant to the proposed project:

Goal 9 The City of Fontana provides a diverse and efficiently operated ground transportation system that generates the minimum feasible noise on its residents through 2035

Policy All noise sections of the State Motor Vehicle Code shall be enforced.

Action A. On-road trucking activities shall continue to be regulated in the City to ensure noise impacts are minimized, including the implementation of truck routes based on traffic studies.

Local Municipal Code Traffic Noise Regulations

The project traffic study area is within the cities of Jurupa Valley, Ontario, Fontana, and Eastvale (Iteris 2018). However, the municipal code noise ordinances for these jurisdictions are specifically related to stationary noise sources and do not include noise limits for roadway noise and/or limits for relative increases in transportation noise.

5. Environmental Analysis Noise

5.4.1.3 EXISTING CONDITIONS

Traffic conditions information was based on the traffic study prepared by Iteris. Existing traffic noise levels within the project study area were modeled based on this traffic data.

Roadway noise was modeled using SoundPLAN sound propagation analysis software. SoundPLAN uses industry-accepted propagation algorithms based on International Organization for Standardization (ISO) and ÖAL-28 standards for outdoor sound propagation. The modeling calculations account for classical sound wave divergence (spreading loss with adjustments for source directivity) plus attenuation factors due to air absorption, ground effects, and barrier/shielding. Additionally, SoundPLAN provides for other correction factors, including level increases due to reflections, correction of source impulsiveness, source tonality, meteorological correction, propagation in limited special angle(s), and correction due to source operation time. A complete list of existing daytime and nighttime roadways noise levels for the study area roadways is included in Appendix E, Table 1, *Existing Roadway Noise Levels 50 feet from Roadway Centerline (SoundPLAN)*. Table 5.4-3, below, *Existing Roadway Noise Levels, Etiwanda Avenue and Country Village Road* shows current noise levels for the proposed truck restriction segments of Etiwanda Avenue and Country Village Road based on February 2018 traffic counts.

| Roadway Segment (south to north) | Jurisdiction | ADT (Heavy Trucks Only) | Daytime Leq at 50 ft from Centerline |
|--|---------------|----------------------------|---|
| Etiwanda Avenue | | | |
| SR-60 to Iberia St | Jurupa Valley | 4878 | 83.1 |
| Iberia St to Hopkins St | Jurupa Valley | 4696 | 83.1 |
| Country Village Road / Mulberry Avenue | | | |
| WB SR-60 to Philadelphia Ave | Jurupa Valley | 1759 | 79.4 |
| Philadelphia Ave to Cherry Ave | Fontana | 1759 | 79.1 |
| Cherry Ave to Marlay Ave | Fontana | 1542 | 78.2 |
| Marlay Ave to Jurupa Ave | Fontana | 1551 | 78.2 |

Table 5.4-3 Existing Roadway Noise Levels, Etiwanda Avenue and Country Village Road

Existing noise levels for Etiwanda Avenue and Country Village Road are visually depicted on Figures 5.4-1 and 5.4-2, respectively. These noise contours represent traffic noise generated by heavy trucks only. As shown in the table above and on the two figures, existing noise levels for these segments at 50 feet from the roadways centerline range from 79.4 dBA to 83.1 dBA. The Mira Loma Village residences currently experience noise levels within the 60 dBA to 80 dBA contours, and many homes exceed the 'clearly unacceptable' level for residential uses of 75 dBA from truck traffic. Many of the multiple family residences along Country Village Road experience noise levels exceeding 60 dBA and some exceed 65 dBA (levels above 60 dBA are considered conditionally acceptable).

5.4.2 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-3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

As noted previously, the City's General Plan and Municipal Code do not stipulate noise standards for mobile sources. For purposes of this EIR, the standard applied is the threshold used for the City's General Plan EIR (2017): If a project's contribution to increases in the ambient noise environment equals 3.0 dBA or more, it is considered a significant noise impact. For context, a change of 3.0 dBA is considered "barely perceptible" by the human ear, and changes of less than 3.0 dBA generally cannot be perceived except in carefully controlled laboratory environments (Jurupa Valley 2017, p. 4.12-41).

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

| Threshold N-2 | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. |
|---------------|---|
| Threshold N-4 | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. |
| Threshold 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, expose people residing or working in the project area to excessive noise levels. |
| Threshold N-6 | For a project within the vicinity of a private airstrip, expose people residing or working the project area to excessive noise levels. |

These impacts will not be addressed in the following analysis.

5.4.3 Existing Regulations and Standard Conditions

- Federal Transit Administration Transit Noise and Vibration Impact Assessment, Chapter 3, Noise Impact Criteria
- Federal Noise Control Act of 1972
- California Noise Control Act of 1973
- California Noise Insulation Standards (CCR TITLE 24)



Figure 5.4-1 Etiwanda Avenue - Existing Traffic Noise Levels

| No | ise l | Leve | el Le | eq ir | n dB | (A) | |
|----|-------|------|-------|-------|------|-----|--|
| | | | | | | | |
| 60 | 65 | 70 | 75 | 80 | 85 | 90 | |







PlaceWorks



Figure 5.4-2 Country Village Road - Existing Traffic Noise Levels

PlaceWorks

5.4.4 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 5.4-1 Long-term operational-related noise impacts due to implementation of the truck restriction ordinance would not exceed local noise standards or result in substantial increases in noise above levels without the project for sensitive receptors. [Thresholds N-1 and N-3]

Impact Analysis:

Methodology/Analysis Approach

The noise analysis was conducted based on information from the traffic study that projected average daily traffic (ADT) categorized by standard autos, light trucks, and heavy trucks. The traffic study area included 196 roadway segments and analyzed the following scenarios:

- Opening Year 2020 Without Project Conditions
- Opening Year 2020 With Project Conditions
- Future Year 2035 Without Project Conditions
- Future Year 2035 With Project Conditions

The proposed truck restriction along Etiwanda Avenue and Country Village Road would result in a redistribution of truck and passenger car traffic. All 196 study area roadway segments are expected to experience some degree of ADT change due to project implementation. The noise modeling was conducted for 2035 conditions with and without the truck restriction (project). The 2035 scenario represents the most conservative analysis since it represents cumulative conditions and the highest trip volume increases.

Study Area Noise Results

Table 5.4-4, *Existing and Projected Roadway Noise Levels With and Without Proposed Project* shows existing noise levels and projected noise levels in 2035. As previously mentioned, a significant impact would occur if a sensitive receptor experiences a project-related noise increase of 3 dB or more. An audible increase of 3 dB or more would generally require a doubling of existing roadway volumes (FTA 2018).

Of the 196 roadway segments in the traffic study, 58 segments are expected to experience a traffic volume increase of 1 percent or less (in terms of standard autos, light trucks, *or* heavy trucks); many of these segments are expected to experience a decrease in volume. A traffic flow increase of less than 1 percent equates to a less than 0.05 dB noise increase, which is inaudible to the human ear (Jurupa Valley 2017, p. 4.12-41). Therefore, Table 5.4-4 includes only roadway segments expected to experience a total traffic volume increase of 20 percent or greater. A roadway volume increase of 20 percent generally results in a noise increase of less than 1 dB (i.e., inaudible) (Caltrans 2013b).

| | | Existing | | Year 2035 Without Truck Restriction | | Year 2035 Rest | With Truck | Net Change in Noise Levels (dBA) | | |
|--|------------------------|-------------------------------|---|--|---|-------------------------------|---|--|---|--|
| Roadway Segment (south to north) | Jurisdiction | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | Year 2035 With Project Compared to Existing | Year 2035 With Project Compared to 2035 Without Project | |
| Etiwanda Avenue | • | • | <u>.</u> | • | <u>.</u> | | | - | | |
| Jurupa Rd to Bellegrave Ave | Jurupa Valley | 175 | 73.3 | 186 | 72.99 | 168 | 73.01 | -0.3 | 0.02 | |
| Bellegrave Ave to Cantu Galleano Ranch Rd | Jurupa Valley | 496 | 75.3 | 531 | 75.61 | 356 | 74.8 | -0.5 | -0.81 | |
| North of Cantu Galleano Ranch Road | Jurupa Valley | 1348 | 78.8 | 1727 | 79.82 | 960 | 78.19 | -0.6 | -1.63 | |
| Cantu Galleano Ranch Rd to Riverside Dr | Jurupa Valley | 1688 | 72.3 | 2515 | 81.08 | 1585 | 80.12 | 7.8 | -0.96 | |
| Riverside Dr to SR-60 WB | Jurupa Valley | 3660 | 81.8 | 2990 | 81.74 | 1956 | 80.72 | -1.1 | -1.02 | |
| SR-60 WB to Iberia St | Jurupa Valley | 4878 | 83.1 | 3863 | 82.6 | 2343 | 80.86 | -2.3 | -1.74 | |
| Iberia St to Hopkins St | Jurupa Valley | 4696 | 83.1 | 3366 | 82.34 | 992 | 79.3 | -3.8 | -3.04 | |
| Hopkins St to Philadelphia Ave | Jurupa Valley | 3653 | 81.9 | 2681 | 81.42 | 1074 | 79.22 | -2.7 | -2.2 | |
| Philadelphia Ave to Marlay Ave | Fontana and Ontario | 4200 | 82.7 | 2565 | 80.97 | 1589 | 79.11 | -3.6 | -1.86 | |
| Marlay Ave to Jurupa Ave | Fontana and Ontario | 3522 | 81.6 | 2336 | 80.66 | 1881 | 79.81 | -1.8 | -0.85 | |
| Jurupa Ave to Santa Ana Ave | Fontana and Ontario | 2852 | 80.7 | 1913 | 79.48 | 1770 | 79.07 | -1.6 | -0.41 | |
| Santa Ana Ave to Slover Avenue | Fontana and Ontario | 3818 | 82.2 | 2440 | 80.68 | 2147 | 80.27 | -1.9 | -0.41 | |
| Slover Ave to Valley Blvd | Fontana and Ontario | 5494 | 83.8 | 3130 | 81.9 | 2875 | 81.48 | -2.3 | -0.42 | |
| Country Village Road / Mulberry Aven | ue | | | | | | | | | |
| Conning St to WB SR-60 | Jurupa Valley | 1502 | 78.3 | 1472 | 79.08 | 704 | 76.96 | -1.3 | -2.12 | |
| WB SR-60 to Philadelphia Ave | Jurupa Valley | 1759 | 79.4 | 1998 | 80.44 | 785 | 78.27 | -1.1 | -2.17 | |
| Philadelphia Ave to El Contento Ave | Fontana | 1759 | 79.1 | 2041 | 80.4 | 982 | 77.9 | -1.2 | -2.5 | |
| El Contento Ave to Marlay Ave | Fontana | 1542 | 78.2 | 1735 | 79.1 | 800 | 77.9 | -0.3 | -1.2 | |
| Marlay Ave to Jurupa Ave | Fontana | 1551 | 78.2 | 1727 | 79.9 | 795 | 77.1 | -1.1 | -2.8 | |

Table 5.4-4 Existing and Projected Roadway Noise Levels With and Without Proposed Project

| | | | | Year 2035 \ | Without Truck | Year 2035 | With Truck | | |
|--------------------------------------|-------------------------|-------------------------------|--|-------------------------------|---|-------------------------------|---|--|---|
| Roadway Segment (south to north) | Jurisdiction | ADT (Heavy Trucks Only) | sting Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | Year 2035 With Year 2035 With Project Compared to Existing | Vear 2035 With Project Compared to 2035 Without Project |
| Jurupa Ave to Santa Ana Ave | Fontana | 1399 | | 1332 | | 914 | | Ē | |
| Santa Ana Ave to Slover Ave | Fontana | 965 | | 1106 | | 805 | | | |
| Milliken Avenue (south to north) | | | | | | | | | |
| Micro Dr to Samantha Dr | Ontario and Eastvale | 455 | 73.9 | 873 | 77.44 | 1136 | 78 | 4.1 | 0.56 |
| Samantha Dr to Riverside Dr | Ontario and Eastvale | 1955 | 72 | 414 | 72.9 | 544 | 73.76 | 1.8 | 0.86 |
| Riverside Dr to SR-60 Ramps | Ontario and Eastvale | 1951 | 78.9 | 1383 | 77.78 | 1795 | 78.87 | 0 | 1.09 |
| SR-60 Ramps to Greystone Dr | Ontario and Eastvale | 2089 | 79.4 | 1417 | 77.83 | 2085 | 79.43 | 0.1 | 1.6 |
| Greystone Dr to Philadelphia St | Ontario | 2089 | 79.4 | 1417 | 77.83 | 2085 | 79.43 | 0.1 | 1.6 |
| Philadelphia St to Francis St | Ontario | 2921 | 80.7 | 2454 | 80.58 | 3989 | 82.28 | 1.6 | 1.7 |
| Jurupa St to Santa Ana St | Ontario | 2 | 50.6 | 42 | 63.75 | 82 | 66.09 | 15.5 | 2.34 |
| Santa Ana St to E Guasti Rd | Ontario | 2 | 50.6 | 45 | 63.86 | 85 | 66.21 | 15.6 | 2.35 |
| Philadelphia Avenue (east to west) | - | | | - | | - | | | |
| Cabernet Dr to Grapevine St | Jurupa Valley | 752 | 75.5 | 640 | 75.59 | 913 | 77.71 | 2.3 | 2.12 |
| Grapevine St to Etiwanda Ave | Jurupa Valley | 524 | 73.4 | 542 | 73.85 | 782 | 75.27 | 1.9 | 1.42 |
| Etiwanda Ave to Vintage Ave | Jurupa Valley | 269 | 73.4 | 542 | 73.85 | 782 | 75.27 | 1.9 | 1.42 |
| Vintage Ave to Wineville Ave | Jurupa Valley | 269 | 70.4 | 121 | 67.37 | 691 | 74.26 | 3.9 | 6.89 |
| Wineville Ave to Rochester Ave | Jurupa Valley | 2349 | 79.8 | 1643 | 78.6 | 3,100 | 81.1 | 1.3 | 2.5 |
| Jurupa Avenue/Jurupa Street (east to | west) | | | | | | | | |
| Sierra Ave to Citrus Ave | Fontana | 227 | 71.9 | 627 | 75.15 | 858 | 77.71 | 5.81 | 2.56 |
| Mulberry Ave to Etiwanda Ave | Fontana | 896 | 76 | 565 | 74.62 | 746 | 75.73 | -0.27 | 1.11 |
| Etiwanda Ave to Vintage Ave (S) | Ontario | 462 | 73.3 | 266 | 71.38 | 781 | 75.16 | 1.86 | 3.78 |
| Vintage Ave (S) to Vintage Ave (N) | Ontario | 227 | 80.3 | 1,422 | 77.94 | 1,987 | 79.36 | -0.94 | 1.42 |

Table 5.4-4 Existing and Projected Roadway Noise Levels With and Without Proposed Project

5. Environmental Analysis Noise

| | | | | Year 2035 \ | Year 2035 Without Truck | | With Truck | | |
|--|------------------|-------------------------------|---|-------------------------------|---|-------------------------------|---|--|---|
| | | EX | isting | Res | riction | Res | riction | Net Change in No | Year 2035 With |
| Roadway Segment (south to north) | Jurisdiction | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | Year 2035 With Project Compared to Existing | Project Compared to 2035 Without Project |
| Vintage Ave to Auto Center Dr | Ontario | 896 | 81.5 | 1858 | 79.02 | 2,516 | 80.21 | -1.29 | 1.19 |
| Auto Center Dr to I-15 Ramps | Ontario | 1703 | 81.5 | 1,835 | 79.01 | 2,493 | 80.22 | -1.28 | 1.21 |
| Santa Ana Street | | | | | | | | | |
| Santa Ana St WO Vintage Ave | Ontario | 12 | 57 | 49 | 63.62 | 116 | 66.73 | 9.73 | 3.11 |
| Noise level estimated using SoundPLAN 7.3 mo Traffic data from Iteris 2018. | deling software. | | | | | | | | |

Table 5.4-4 Existing and Projected Roadway Noise Levels With and Without Proposed Project

As shown, the truck restriction ordinance would divert traffic volumes and result in noise increases along some roadway segments and decreases along other segments. The noise changes due to implementation of the project are shown in the last column, which compares the change in 2035 conditions without the project to 2035 conditions with the project. Noise changes range from an increase of 6.89 dBA to a decrease of -3.04 dBA.

As shown in the table, Philadelphia Avenue: Vintage Avenue to Wineville Avenue; Jurupa Street: Etiwanda Avenue to S. Vintage Avenue; and Santa Ana Street west of Vintage Avenue are all expected to experience an audible noise increase (3 dBA or greater) due to implementation of the proposed project. However, land uses surrounding these roadway segments are industrial-type buildings, which typically involve truck/loading-dock operations and parking located closest to the roadways. The normally acceptable land use compatibility threshold for industrial uses in the City of Jurupa Valley and Ontario is 75 dBA CNEL. Ambient noise levels along Jurupa Street west of Etiwanda, and Etiwanda Avenue to Vintage Avenue would increase to 77.1 Ldn/CNEL at 50 feet from the center line of the roadway. However, the nearest building from the roadway segment is set back approximately 96 feet from the roadway; at this distance the Ldn/CNEL level would attenuate to 74.3 dBA CNEL, which is within the noise and land use compatibility threshold for industrial. Ambient noise levels along Philadelphia Avenue east of Wineville Avenue and Vintage Avenue to Wineville would increase to 76.2 dBA Ldn/CNEL at 50 feet from the center line of the roadway. However, the nearest building from the roadway segment is set back approximately 100 feet from the roadway; at this distance the Ldn/CNEL level would attenuate to 73.2 dBA Ldn/CNEL, which is within the noise and land use compatibility threshold for industrial. Ambient noise levels along Santa Ana Street west of Vintage Avenue would increase to 68.76 dBA Ldn/CNEL at 50 feet from the center line of the roadway. The nearest building from the roadway segment is approximately 85 feet, at which distance the Ldn/CNEL level would attenuate to 66.4 dBA Ldn/CNEL. Ambient noise levels at the closest industrial buildings along all three segments would remain within the normally acceptable noise and land use compatibility standard of 75 dBA CNEL from the City of Jurupa Valley and Ontario. Therefore, all receivers surrounding these roadway segments would not be significantly impacted by roadway noise associated with the proposed project. Detailed noise modeling results, including computed CNEL/Ldn values, are included in Appendix E.

Noise Impacts to Sensitive Land Uses

Etiwanda Avenue and Country Village Road

As expected, the proposed project would reduce noise levels along the truck-restricted roadway segments (Etiwanda Avenue and Country Village Road). The noise analysis reviewed the beneficial noise impact relative to these segments and the residential land uses abutting these segments. The analysis also reviewed land uses within the study area, including surrounding jurisdictions, to determine if sensitive land uses would be affected by noise level increases due to diverted truck traffic.

Table 5.4-5, *Existing and Projected Roadway Noise Levels, Etiwanda Avenue and Country Village Road*, compares existing noise levels with future 2035 conditions, with and without the truck restriction. As shown, at 50 feet from the respective roadway's centerline, the noise reduction for the City of Jurupa Valley truck restricted segments would range from -1.74 dB to -3.04 dBA for Etiwanda Avenue (between SR 60 and Hopkins Street) and would be -2.17 dBA for Country Village Road (SR-60 to Philadelphia Avenue). Country Village Road becomes

Mulberry Avenue at the Jurupa Valley/Fontana border. Noise levels along Mulberry Avenue between Philadelphia Avenue and Jurupa Street would also experience noise reductions ranging from -1.2 dBA to -2.8 dBA.

| Road | | | | | | | | | |
|--|------------------|----------------------------------|--|----------------------------------|--|----------------------------------|--|--|--|
| | | _ | | Year 20 | 35 Without | Year 203 | 5 With Truck | Net Chang | e in Noise |
| | | Ex | isting | Truck Restriction | | Restriction | | Levels (dBA) | |
| Roadway Segment (south to north) | Jurisdiction | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | ADT (Heavy Trucks Only) | Daytime LEQ at 50 ft from Centerline (dBA) | Year 2035 With Project Compared to Existing | Year 2035 With Project Compared to 2035 Without Project |
| Etiwanda Avenue | | | | | | | | | |
| SR-60 to Iberia St | Jurupa Valley | 4878 | 83.1 | 3863 | 82.6 | 2343 | 80.86 | -2.3 | -1.74 |
| Iberia St to Hopkins St | Jurupa Valley | 4696 | 83.1 | 3366 | 82.34 | 992 | 79.3 | -3.8 | -3.04 |
| Country Village Road / Mu | Iberry Avenue | ; | | | | | | | |
| WB SR-60 to Philadelphia Ave | Jurupa Valley | 1759 | 79.4 | 1998 | 80.44 | 785 | 78.27 | -1.1 | -2.17 |
| Philadelphia Ave to El Contento Ave | Fontana | 1759 | 79.1 | 2041 | 80.4 | 982 | 77.9 | -1.2 | -2.5 |
| El Contento Ave to Marlay Ave | Fontana | 1542 | 78.2 | 1735 | 79.1 | 800 | 77.9 | -0.3 | -1.2 |
| Marlay Ave to Jurupa Ave | Fontana | 1551 | 78.2 | 1727 | 79.9 | 795 | 77.1 | -1.1 | -2.8 |
| Noise level estimated using Soun Traffic data from Iteris 2018. | dPLAN 7.3 model | ing software. | | | | | | | |

| Table 5.4-5 | Existing and Projected Roadway Noise Levels, Etiwanda Avenue and Country Village |
|-------------|--|
| | Road |

The projected noise reductions along these roadways are graphically shown by comparing Figures 5.4-3 and 5.4-4, *Etiwanda Avenue, Traffic Noise Levels*, with and without truck restriction, respectively, and Figures 5.4-5 and 5.4-6, *Country Village Road, Traffic Noise Levels*, with and without truck restriction, respectively. As shown, although each of these segments experiences a reduction in noise level, including an audible reduction for the Etiwanda segment adjacent to Mira Loma Village, the resulting noise levels would still exceed acceptable land use compatibility standards for residential uses. Noise levels at 50 feet from the roadway centerline would exceed 75 dBA.

Noise Level at Buildings

Table 5.4-6 shows the resulting noise levels at residential uses adjacent to the roadways studied. This analysis takes into account the setback of the building from the roadway. The closest residence along Etiwanda Avenue within Mira Loma Village would experience a noise reduction of 1.8 dBA under 2035 conditions with implementation of the truck restriction ordinance. Other sensitive uses, including a religious use, within the roadway study area are also shown. The noise impacts to all non-industrial buildings evaluated, including commercial uses, in the traffic study area are included in Table 2 of Appendix E.

| | 2035 without truck restriction | 2035 with\ truck restriction | Change in Noise Level | | |
|--|-----------------------------------|---------------------------------|--------------------------|---------------|--|
| Sensitive Receptor | L _{dn} (dBA) | L _{dn} (dBA) | (dB) | Jurisdiction | |
| Home along Etiwanda between SR-60 and Iberia | 77.2 | 75.4 | -1.8 | Jurupa Valley | |
| Home along Springfield Dr (near Milliken) | 55.2 | 56.1 | 0.9 | Ontario | |
| Home at Mulberry/Marlay (near Marlay) | 52.2 | 51.1 | -1.1 | Fontana | |
| Home at Philadelphia/Chardonay (near Philadelphia) | 58.7 | 59.4 | 0.7 | Jurupa Valley | |
| Homes off Etiwanda (near 50th St) | 69.1 | 68.9 | -0.2 | Jurupa Valley | |
| Home along Celeste Ct (near Jurupa)* | 60.4 | 61.9 | 1.5 | Fontana | |
| Homes near 9935 Mission Blvd | 76.6 | 75.6 | -1 | Jurupa Valley | |
| Homes off 27th St (near Sierra)* | 63.5 | 64.4 | 0.9 | Jurupa Valley | |
| Religious Institution: 3300 Cornerstone Dr (SE) | 58.6 | 59.5 | 0.9 | Eastvale | |
| Religious Institution: 3300 Cornerstone Dr (NE) | 60.8 | 62.4 | 1.6 | Eastvale | |

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As shown in Table 5.4-6, the noise levels for homes which homes experiencing 70 dBA or greater noise levels without the truck restriction (normally unacceptable levels) would experience a reduction in noise levels with implementation of the proposed project. The noise reduction would be less than 2 dB in these homes, and would, however, still be within normally unacceptable levels for noise. The remainder of the homes would be within acceptable levels with or without the ordinance. The truck restriction ordinance would result in a slight increase in the noise level at the religious institution in Eastvale, but the noise level would be acceptable with or without the truck restriction ordinance.

Noise level increases of 3 dBA or greater would occur along three roadway segments by 2035 due to implementation of the proposed project:

- Jurupa Street, Etiwanda Avenue to S. Vintage Avenue: +3.78 dBA
- Philadephia Avenue, Vintage Avenue to Wineville Avenue: +6.89 dBA
- Santa Ana Street, west of Vintage Avenue: +3.11 dBA

However, the normally acceptable noise and land use compatibility standard for industrial zone is 75 dBA CNEL, and, as discussed above, the ambient noise levels at the closest industrial buildings to these three roadway segments would remain below this level, which this would result in a less than significant impact.

Level of Significance before Mitigation: Less than Significant

5.4.5 **Cumulative Impacts**

It is not expected that the proposed project would contribute to cumulative impacts with regard to construction noise or operational noise. The analysis with and without the proposed truck restriction in 2035 describes the

estimated change between existing noise levels and project-related noise levels plus ambient growth to 2035. The analysis, therefore, reflects cumulative traffic conditions.

All cumulative increases in noise greater than 3 dB are along roadways adjacent to primarily industrial uses. Further, most of the noise increases shown in Table 5.4-6 are a result of ambient growth. The project would add incremental noise increases that would be cumulatively considerable. Cumulative increases in roadway noise would be less than significant.

5.4.6 Mitigation Measures

No mitigation is required.

5.4.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.4.8 References

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Figure 5.4-3 Etiwanda Avenue - Traffic Noise Levels 2035 without Truck Restriction



| Noise Level Leq in dB(A) | | | | | | | | |
|--------------------------|----|----|----|----|----|----|----|--|
| | | | | | | | | |
| 6 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | |





PlaceWorks

Figure 5.4-4 Etiwanda Avenue - Traffic Noise Levels 2035 with Truck Restriction



| Noise Level Leq in dB(A) | | | | | | | | | | | |
|--------------------------|----|---|---|----|---|---|----|---|---|---|---|
| | | | | | | | | | | | |
| | 60 | 6 | 5 | 70 | 7 | 5 | 80 | 8 | 5 | 9 | 0 |





Figure 5.4-5 Country Village Road - Traffic Noise Levels 2035 without Truck Restriction



Figure 5.4-6 Country Village Road - Traffic Noise Levels 2035 with Truck Restriction

