Appendix H

NOISE IMPACT ANALYSIS

HOLLY STREET PARKING LOT

SAN BERNARDINO COUNTY, CALIFORNIA

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NOISE SETTING

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally considered to be unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The decibel (dB) scale is used to quantify sound pressure levels. Although decibels are most commonly associated with sound, "dB" is a generic descriptor that is equal to ten times the logarithmic ratio of any physical parameter versus some reference quantity. For sound, the reference level is the faintest sound detectable by a young person with good auditory acuity.

Since the human ear is not equally sensitive to all sound frequencies within the entire auditory spectrum, human response is factored into sound descriptions by weighting sounds within the range of maximum human sensitivity more heavily in a process called “A-weighting,” written as dB(A). Any further reference in this discussion to decibels written as "dB" should be understood to be A-weighted.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called LEQ), or alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dBA increment be added to quiet time noise levels in a 24-hour noise descriptor called the Ldn (day-night) or the Community Noise Equivalent Level (CNEL). The CNEL metric has gradually replaced the Ldn factor, but the two descriptors are essentially identical.

CNEL-based standards are generally applied to transportation-related sources because local jurisdictions are pre-empted from exercising direct noise control over vehicles on public streets, aircraft, trains, etc. The County of San Bernardino therefore regulates the noise exposure of the receiving property through land use controls.

For “stationary” noise sources, or noise sources emanating from private property, such as a HVAC equipment, the County does have legal authority to establish noise performance standards designed to not adversely impact adjoining uses. These standards are typically articulated in the jurisdictional County Code. These standards recognize the varying noise sensitivity of both transmitting and receiving land uses. The property line noise performance standards are normally structured according to land use and time-of-day.

NOISE COMPATIBILITY GUIDELINES

Siting standards for noise exposure for sources that are pre-empted from local control are articulated in the Noise Element of the County Development Code shown in **Table 1**. Industrial uses are not considered noise-sensitive. Guidelines consider most non-residential uses to be “compatible with noise environments up to 65 dB(A) CNEL. Sensitive receptors such as residential uses are recommended to achieve a 60 dB CNEL or lower thresholds.

Table 1

Table 83-3
Noise Standards for Adjacent Mobile Noise Sources

Land Use		Ldn (or CNEL) dB(A)	
Categories	Uses	Interior (1)	Exterior (2)
Residential	Single and multi-family, duplex, mobile homes	45	60 (3)
Commercial	Hotel, motel, transient housing	45	60 (3)
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

Notes:
(1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.
(2) The outdoor environment shall be limited to:
- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks
- Multi-family private patios or balconies
- Park picnic areas
- Private yard of single-family dwellings
- School playgrounds

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

CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and 10 decibels to sound levels in the night from 10 p.m. to 7 a.m.

NOISE STANDARDS

San Bernardino County, in Section 87.0905 of the County Code, has developed noise performance standards for a variety of land uses that are designed to achieve acceptable interior and/or exterior noise exposures for the affected use. These guidelines for exposure from stationary sources are designed to regulate the level of sound that one use may broadcast across the property line of an adjacent use. Source regulations most commonly use the energy-weighted noisiest single hour called “Leq”. The applicable one-hour allowable maximum property line exposures in San Bernardino County for stationary sources are shown below. If the background already exceeds any of the specified levels in the table below, the allowable thresholds are adjusted upward to equal the background. The industrial property line standard is 70 dB(A) Leq. The residential standard is 55 dB(A) by day, and 45 dB(A) Leq at night. These standards are shown in **Table 2**.

Table 2
County of San Bernardino Noise Ordinance Limits – Stationary Sources

Affected Land Uses (Receiving Noise)	7 a.m. to 10 p.m. Leq[1] dB(A)[2]	10 p.m. to 7 a.m. Leq[1] dB(A)[2]
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

[1]Leq=(Equivalent Energy Level): The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically 1.8 or 24 hours.
[2]dB(A)=(A-weighted Sound Pressure Level): The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

Source: County of San Bernardino General Design Standards, Section 87.0905.

Noise from temporary construction activities is exempt from the above ordinance levels if the construction activities are between the hours of 7 a.m. and 7 p.m., Monday through Saturday, with no activity on Sundays or Federal Holidays.

PROJECT BACKGROUND

PROPOSED SITE

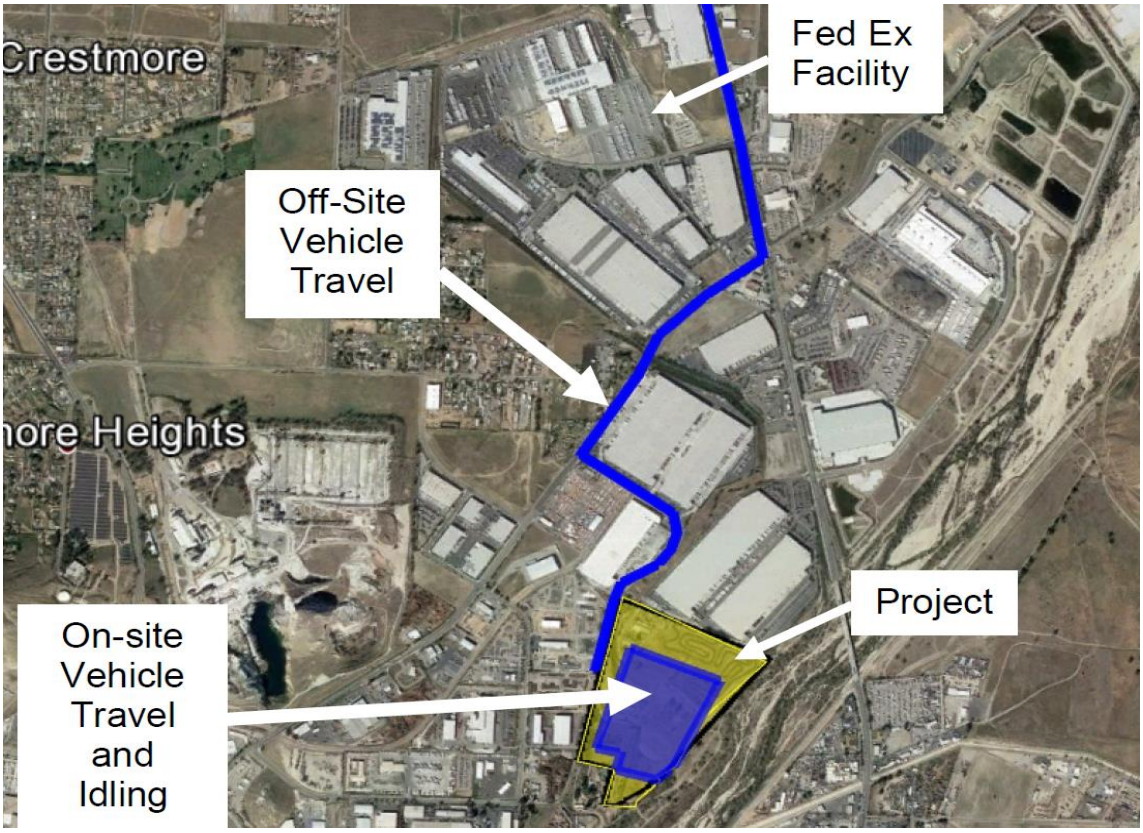
The proposed Holly Street Parking Lot Project is located north of Wilson Street and east of Holly Street in unincorporated County of San Bernardino. The site is currently occupied by Milestone MX Park, Inc. and existing motocross racing activities. Existing land uses near the site include industrial land uses west and north, and the Santa Ana River to the east. The Down River Ranch horse boarding facility is located immediately south of the site on the northeast corner of Holly Street and Wilson Street. State Route 60 is located roughly 1.25 miles southwest of the project site.

PROJECT DESCRIPTION

The proposed project would remove the existing structures on-site and pave approximately 31 acres (approximately 48%) of the site for use as a parking lot for FedEx Ground drivers and for tractor and trailer storage.

Approximately 1,005 parking stalls will be provided for automobiles and long-haul tractors. An additional 556 trailer spaces will be provided. The parking lot will be used for FedEx Ground drivers (Contracted Service Providers – CSPs). The CSPs would arrive in their personal vehicles and park, then drive a tractor to the FedEx Rialto Hub located 330 Resource Drive, Bloomington, CA or the West Rialto Station located at 11600 Cactus Ave., Bloomington, CA. Travel to the FedEx facility would utilize the route shown in Figure 1. CSPs would then pick up a trailer and dispatch from the hub. Drivers would return to drop their trailers at the Rialto Hub or West Rialto station then drive the tractor back to the proposed Holly Street lot. When the FedEx facilities are congested, some trailers would be returned to the Holly Street lot along with the tractor. Access to the site would be provided via a transponder-operated gate. Security from the FedEx facility would roam between the FedEx site and the proposed Holly Street parking lot and would patrol the site on a regular basis, approximately every 2 hours or 12 times per day.

FIGURE 1 SHUTTLE ROUTE FROM SITE TO FEDEX



BASELINE NOISE LEVELS

Noise Measurements were provided in a report prepared by Urban Crossroads, in September of 2017, for an alternative site use. Urban Crossroads obtained noise measurements at five area locations as shown in **Figure 2**.

- Location L1 represents the noise levels north of the site, on El Rivino Road, near existing residential homes. The noise level measurements collected show an overall 24-hour exterior noise level of 67.3 dBA CNEL. The hourly noise levels measured at location L1 ranged from 57.9 to 63.8 dBA Leq during the daytime hours and from 52.7 to 62.7 dBA Leq during the nighttime hours. The average daytime noise level was calculated at 61.7 dBA Leq with an average nighttime noise level of 60.3 dBA Leq.

- Location L2 is representative of the noise levels measured northeast of the site adjacent to industrial uses in the Santa Ana River area. The noise level measurements collected showed an overall 24-hour exterior noise level of 62.4 dBA CNEL. The hourly noise levels measured at location L2 ranged from 53.9 to 57.8 dBA Leq during the daytime hours and from 52.2 to 58.4 dBA Leq during the nighttime hours. The average daytime noise level was calculated at 56.0 dBA Leq with an average nighttime noise level of 55.7 dBA Leq.

- Location L3 is representative of the noise levels within the existing Milestone MX Park to capture motocross dirt trail activities. The 24-hour CNEL showed an overall exterior noise

level of 66.3 dBA CNEL. The background ambient noise levels ranged from 49.7 to 76.6 dBA Leq during the daytime hours to levels of 49.5 to 59.9 dBA Leq during the nighttime hours. The average daytime noise level was calculated to be 67.1 dBA Leq with an average nighttime noise level of 54.4 dBA Leq.

- Located southwest of the site, location L4 is representative of the noise levels near existing residential homes on Brown Avenue and Wilson Street. The noise level measurements collected showed an overall 24-hour exterior noise level of 65.9 dBA CNEL. The hourly noise levels ranged from 55.1 to 64.5 dBA Leq during the daytime hours and from 53.0 to 62.3 dBA Leq during the nighttime hours. The average daytime noise level was calculated at 61.6 dBA Leq with an average nighttime noise level of 58.9 dBA Leq.

- Location L5 was selected to be representative of the noise levels south of the site on Alamo Street near existing and planned residential homes. The 24-hour CNEL indicated that the overall exterior noise level is 61.0 dBA CNEL and the background ambient noise levels ranged from 48.5 to 66.0 dBA Leq during the daytime hours to levels of 49.3 to 54.6 dBA Leq during the nighttime hours. The average daytime noise level was calculated at 59.9 dBA Leq with an average nighttime noise level of 52.1 dBA Leq.

Table 3 summarizes the above information.

Table 3
Monitoring Site Locations and Results

Location	Distance to Site Boundary (feet)	Description	Energy Average Hourly Noise Levels (dBA Leq)		dBA CNEL
			Daytime	Nighttime	
L1	2,775	North of site on El Rivino Road near existing residential homes.	61.7	60.3	67.3
L2	735	Northeast of site adjacent to existing industrial uses in the Santa Ana River area.	56.0	55.7	62.4
L3	0	Within the existing Milestone MX Park use at the site adjacent to motocross dirt trail activities.	67.1	54.4	66.3
L4	838	Southwest of site near existing residential homes on Brown Avenue and Wilson Street.	61.6	58.9	65.9
L5	2,096	South of site on Alamo Street near existing and planned residential homes	59.9	52.1	61.0

Source: Urban Crossroads, 2017

Figure 2
Noise Monitoring Locations

Source: Urban Crossroads, 2017

ADJACENT SENSITIVE USES

The following residential uses are in proximity to the project site. These residences were used to determine project related impacts in this analysis.

R1: Represents the existing residential home at the El Rivino Road and Aqua Mansa Road intersection at Noise Meter Location L1. The observed 24-hour noise measurement at this location was 67.3 dB CNEL. This home is 2,330 feet from the closest site perimeter.

R2: Location R2 reflects current noise levels at the existing residential home on industrial-designated land use approximately, 789 feet west of the site on the corner of Wilson Street and Brown Avenue. The 24-hour noise measurement taken near this location, L4, showed a noise level of 65.9 dBA CNEL. This home has an 838-foot separation distance from the project site.

R3: Location R3 represents the existing and future residential homes south of the site, across the Santa Ana River, on Alamo Street. The 24-hour noise measurement taken near this location, L5, showed the observed noise level was 61.0 dBA CNEL. Homes at this location have a 1,944-distance separation from the closest project boundary.

LAND USE NOISE IMPACTS

THRESHOLDS OF SIGNIFICANCE

According to the current CEQA Appendix G guidelines, noise impacts are considered potentially significant if they cause:

a. 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. Noise levels exceeding County Noise Standards would be considered significant.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Two characteristic noise sources are typically identified with land use intensification. Construction activities, especially heavy equipment, will create short-term noise increases near the project site. Such impacts may be important if there are nearby noise-sensitive receptors. Upon completion, project-related traffic will cause an incremental increase in area-wide noise levels throughout the project area. Traffic noise is the only operational impact associated with this project.

CONSTRUCTION THRESHOLDS

To analyze noise impacts originating from the construction of the Holly Street Parking Lot, noise from construction activities are typically limited to the hours of operation established under a jurisdiction's Municipal Code. Section 83.01.080 of the County of San Bernardino Development Code indicates that construction activity is considered exempt from the noise level standards between the hours of 7:00a.m. to 7:00 p.m. except on Sundays and Federal holidays. However, neither the County of San Bernardino General Plan or County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase.*

To evaluate whether the project will generate potentially significant construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the *Criteria for Recommended Standard: Occupational Noise Exposure* prepared by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3-dBA increase, the exposure time is cut in half. This results

in noise thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA Leq is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as Leq noise levels. Therefore, the noise level threshold of 85 dBA Leq over a period of eight hours or more is used to evaluate the potential project-related construction noise level impacts at the nearby sensitive receiver locations identified as R1-R4.

PROJECT CONSTRUCTION

In 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model that includes a national database of construction equipment reference noise emissions levels. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power during a construction phase. The usage factor is a key input variable that is used to calculate the average Leq noise levels.

Table 4 identifies highest (Lmax) noise levels associated with each type of equipment identified for use, then adjusts this noise level for distance to the closest sensitive receptor and the extent of equipment usage (usage factor), which is represented as Leq. The table is organized by construction activity and equipment associated with each activity

Quantitatively, the primary noise prediction equation is expressed as follows for the hourly average noise level (Leq) at distance D between the source and receiver (dBA):

Leq = Lmax @ 50’ – 20 log (D/50’) + 10log (U.F%/100) – I.L.(bar)
Where:
Lmax @ 50’ is the published reference noise level at 50 feet
U.F.% is the usage factor for full power operation per hour
I.L.(bar) is the insertion loss for intervening barriers

For a construction project such as the proposed project, the construction fleet would include equipment such as shown in **Table 4,** which describes the noise level for each individual piece of equipment at a reference 50-foot distance.

Table 4
Construction Equipment Noise Levels

Phase Name	Equipment	Usage Factor[1]	Hours of Operation[2]	Published Noise @ 50 feet (dB)	Actual Measured Noise @ 50 feet (dB)	Average Noise Level @ 50 feet (dB))
Demolition	Excavator	40%	3.2	85	81	78
	Concrete Saw	20%	1.6	90	90	84
	Dozer	40%	3.2	85	82	78
Site Prep/Grading	Tractor	40%	3.2	84	84	80
	Grader	40%	3.2	85	85	81
	Excavator	40%	3.2	85	81	78
	Dozer	40%	3.2	85	82	78
Paving	Paver	50%	4.0	85	77	74
	Paving Equip	40%	3.2	76	76	72
	Roller	38%	3.0	85	80	76

Source: FHWA's Roadway Construction Noise Model, 2006
Estimates the fraction of time each piece of equipment is operating at full power during a construction operation
Represents the actual hours of peak construction equipment activity out of a typical 8-hour day

As discussed, there are three locations with residential use in the project proximity**.** The table below provides the expected attenuation afforded by the distance separation to the construction site. **Table 5** shows the anticipated construction noise level due to distance attenuation at these homes

Number	Location	Distance to Construction Activity (feet)	Distance Attenuation (dBA)
R1	Home on El Ravino and Agua Mansa	2,330	-33
R2	Home on Wilson St and Brown Ave	838	-25
R3	Residences S of Site on Alamo Street	1,944	-32

Note: Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

Table 5
Construction Equipment Noise Levels at Closest Uses

Phase	Equipment	R1 Home on El Ravino	R2 Home on Wilson St	R3 Home S of Site
Demolition	Concrete Saw	44.6	53.5	46.2
	Excavator	50.6	59.5	52.2
	Dozer	44.6	53.5	46.2
Site Prep/Grading	Tractor	46.6	55.5	48.2
	Grader	47.6	56.5	49.2
	Excavator	44.6	53.5	46.2
	Dozer	44.6	53.5	46.2
Paving	Paver	40.6	49.5	42.2
	Paving Equip	38.6	47.5	40.2
	Roller	42.6	51.5	44.2

The highest construction noise levels at the maximally impacted residential receiver location is expected to approach 60.0 dBA Leq and will satisfy the NIOSH 85 dBA Leq significance threshold during temporary construction activities. The noise impact due to unmitigated construction noise levels is, therefore, considered a less than significant impact at all nearby sensitive receiver locations.

CONSTRUCTION ACTIVITY VIBRATION

Construction activities and street traffic are some of the most common external sources of vibration that can be perceptible inside adjacent sensitive uses. Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Within the "soft" sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Groundborne vibration is almost never annoying to people who are outdoors (FTA 2006).

Groundborne vibrations from construction activities rarely reach levels that can damage structures. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

Vibration is most commonly expressed in terms of the root mean square (RMS) velocity of a vibrating object. RMS velocities are expressed in units of vibration decibels. The range of vibration decibels (VdB) is as follows:

65 VdB	-	threshold of human perception
72 VdB	-	annoyance due to frequent events
80 VdB	-	annoyance due to infrequent events
94-98 VdB	-	minor cosmetic damage

To determine potential impacts of the project's construction activities, estimates of vibration levels induced by the construction equipment at various distances are presented below:

	Approximate Vibration Levels (VdB)*		
Equipment	**25 feet**	**50 feet**	**800 feet**
Large Bulldozer	87	81	57
Loaded Truck	86	80	56
Jackhammer	79	73	49
Small Bulldozer	58	52	28

* (FTA Transit Noise & Vibration Assessment, Chapter 12, Construction, 2006)

A pile driver is not anticipated for use at this site. The nearest sensitive use is more than 800 feet from any construction activity. Therefore, construction vibration will be well below any structural

damage threshold and less than the threshold of human perception. Project vibration is considered to be less than significant.

CONSTRUCTION-RELATED VEHICULAR NOISE IMPACTS

During construction, the project site requires the demolition of 85,500 square feet of existing building debris that will be hauled and processed off site. The project will also require approximately 298,000 cubic yards of soil import. Although the haul route has yet to be determined it is likely that vehicles will head south to the SR-60 which is the closest freeway. Therefore, the maximally impacted use will be immediately adjacent to the site.

Approximately 1,039 haul trips are expected during demolition and 37,250 haul trips during grading. Demolition is estimated to require 20 days, while grading is expected to occur over a period of 98 days. Therefore, there could be up to 52 demo trips per day and 380 grading trips per day. Spread over an 8-hour day this would yield 7 demo trips per hour and 48 grading trips per hour which would equate to an hourly noise level of 58.0 dBA Leq during demolition and 66.2 dBA Leq during grading. The existing daytime hourly noise level as measured at the project site by Urban Crossroads in 2017 was 67.1 dBA Leq. Even if all haul trips were to pass-by a single site adjacent receptor, noise levels would be less than the current ambient noise level. Therefore, noise resulting from haul trips during construction is less than significant.

OPERATIONAL NOISE IMPACT

Long-term noise concerns from the Holly Street Parking Lot center on mobile source emissions. These emissions result from several sources. The lot will be used for parking of FedEx Ground drivers (Contracted Service Providers – CSPs). The CSPs would arrive in their personal vehicles. These trips will be made in personal vehicles and will most likely travel to the site from the adjacent freeways (SR-60 and 215). These personal vehicles could impact users that are not along the tractor and tractor-trailer travel route and could impact sensitive uses that are not along the project travel route shown in **Figure 1**. The CSP employees would then drive a tractor to the FedEx facilities and could only impact uses along that route.

Traffic noise concerns were addressed using the California specific vehicle noise curves (CALVENO) in the federal highway noise prediction model (FHWA-RD-77-108) in a computerized version of the model developed by Caltrans. The model calculates the LEQ noise level for a particular reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, speeds, or noise barriers.

Noise analysis methodology is accurate only to the nearest whole decibel and the human ear can only clearly detect changes of around 3 dBA. Changes of less than 3 dBA, while audible under controlled circumstances, are not readily discernable in an outdoor environment. Thus, a change of 3 dBA is considered as a barely audible change. This threshold was adopted for use in determining significance of operational noise impacts. Any project related noise increase of less than 3 dBA is below significance.

Project related traffic was obtained from the Trip Generation Analysis prepared for this project by EPD Solutions in December 2018. As discussed, not every sensitive receptor is subjected to every project related trip. For example, only sensitive uses along the project travel route shown in **Figure 1**, to and from the FedEx facility, would be exposed to noise from the tractor-trailers. The receptors south of the site would only be exposed to traffic noise from CSP commuting. The sensitive uses and the project elements which could impact noise are shown in **Table 6**. Receptor R3 along Alamo Street to the south is not anticipated to be impacted by project related traffic. Alamo Street is not a thru street and dead ends at the Santa Ana River Trail and would not be used for site access. R3 was not included in this analysis because neither CSP commuting or tractor-trailers to and from FedEx facilities could impact this location.

The lot will operate 24 hours/day. In calculating a daily CNEL noise level, activity that occurs in the evening or at night is penalized. The CNEL provides a penalty of 5 dBA added for the evening hours of 19:00 to 22:00, and a penalty of 10 dBA added for the nighttime hours of 22:00 to 07:00. The daytime is calculated with no associated penalty. For this project, arrivals and departures are more or less averaged equally over the 24-hour day. Therefore, the analysis assumes that of the 744 daily CSP auto trips 31 occur each hour. For the 744 tractor and tractor-trailers 31 trips occur each hour.

The observed noise levels obtained from the Urban Crossroads noise study are also shown in **Table 6**. The impact with project related traffic is then calculated. As shown, the maximum project impact is minimal. Therefore, project operational impacts are less-than-significant because they are less than the +3-dBA significance criteria.

Table 6
Operational Noise Levels

Residential Receptor Location	Daily Project Traffic Impacting Receptor	Project Traffic Noise @ Sensitive Use (dBA CNEL)	Measured Noise Level (dBA CNEL)	Project Related Noise Increase (dBA CNEL)
El Ravino/W of Agua Mansa	744 Tractor or Tractor-Trailer trips	64.7	67.3	<0.1
Wilson St/E of Brown Ave	744 Auto Trips	54.9	61.0	<0.1

SUMMARY

Construction activities are mitigated by required compliance with grading/construction permits. Considerations required for compliance include:

- No construction is to take place between the hours of from 7 a.m. to 7 p.m.

- All construction equipment shall use properly operating mufflers.

Project-related off-site construction traffic noise resulting from haul vehicles will not exceed ambient noise.

Project-related construction vibration will be less than the threshold of perception at the closest sensitive use.

The only project related operational emissions result from CSP drivers traveling to and from the site via automobile and tractors and tractor-trailers traveling to and from the FedEx facility. Operational noise levels from project related trips will not exceed existing noise levels by more than +1 dBA CNEL at any off-site sensitive receptor. Operational emissions are not considered significant.