

4.5

NOISE

INTRODUCTION

This section discusses the existing noise environment in the immediate project vicinity and identifies potential noise-related impacts and mitigation measures associated with the proposed project. Specifically, this section analyzes potential noise impacts due to and upon development within the project site relative to applicable noise criteria and to the existing ambient noise environment. This section is primarily based on an *Environmental Noise Assessment* prepared by Bollard Acoustical Consultants, Inc.,¹ as well as the *City of Davis General Plan*.²

ENVIRONMENTAL SETTING

Acoustical Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect (see Table 4.5-1, Acoustical Terminology.) The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, or Hertz (Hz). Human hearing is generally capable of detecting sound between 20 Hz and 20,000 Hz.

Human hearing is generally capable of processing these pressure variations (sound) over an extremely broad dynamic range; therefore, the measurement of sound directly in terms of pressure would require a very large and awkward range of numbers. The logarithmic treatment of these numbers - converting measured sound pressure (Pa) into sound pressure level (decibels - dB) - was devised primarily to limit the range of numbers; the decibel scale allows for 5 orders of magnitude in sound pressure to be expressed as a range of 100 dB.

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by the A-weighting network. A strong correlation exists between A-weighted sound levels (expressed as dBA) and the way the human ear perceives noise. For this reason, the A-weighted sound level has become a standard tool for environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state, A-weighted sound level containing

the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation for the Day/Night Average Noise Level (L_{dn}).

**Table 4.5-1
 Acoustical Terminology**

Acoustics	The science (or physics) of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response filter that conditions a given sound signal to approximate human response.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours (10 p.m. - 7 a.m.) weighted by a factor of 10 prior to averaging.
Decibel or dB	A Bel is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bel.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
L_n	The measured sound pressure level exceeded (n) percent of the time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	A single-number rating indicating the total energy of a discrete noise event compressed into a 1-second time duration.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB at 1,000 Hz for persons with good hearing.
<i>Source:</i> Bollard Acoustical Consulting, Inc.	

The L_{dn} is based on the average noise level over a continuous 24-hour period, with a +10 dB weighting applied to noise occurring during nighttime (10 p.m. to 7 a.m.) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, L_{dn} tends to disguise short-term variations in the noise environment.

Existing Land Uses in the Project Vicinity

The project site is currently vacant and undeveloped. The project site is bordered to the north by residential uses (single- and multi-family), to the east by commercial/industrial uses, to the west by vacant land, and to the south by I-80 and commercial/industrial uses. Noise sensitive land uses in the immediate project vicinity include the existing single-family and multi-family residences to the north. Residential uses adjacent to the project site may be affected by increased project-related traffic noise on local area roadways and on-site project-related noise sources, as well as temporary noise due to construction of the project.

Existing Ambient Noise Environment in the Project Vicinity

The existing ambient noise environment in the immediate project vicinity is defined primarily by operations of I-80 and the Union Pacific Railroad (UPRR). Noise from the existing commercial/industrial operations to the south and east are insignificant when compared to noise from the transportation noise sources.

To quantify the existing ambient noise environment in the project vicinity, ambient noise level measurement surveys were conducted at three locations in the project area on July 18-19, 2005. The noise measurement locations are shown in Figure 4.5-1. Long-term (24-hour) measurements were completed at 4210 Arroyo Avenue, north of the project site, while short-term (15-minute) samples were collected at Sites 1 and 2 to the south and east, respectively.

A Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the noise level measurement surveys. The meter was calibrated before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters (ANSI S1.4.).

Ambient noise level survey results are presented in Figure 4.5-2 and Table 4.5-2. The ambient noise measurement surveys revealed that existing noise levels in the immediate project vicinity were consistent with typical commercial/industrial land uses in urban/suburban settings.

**Figure 4.5-1
 Noise Measurement Locations**

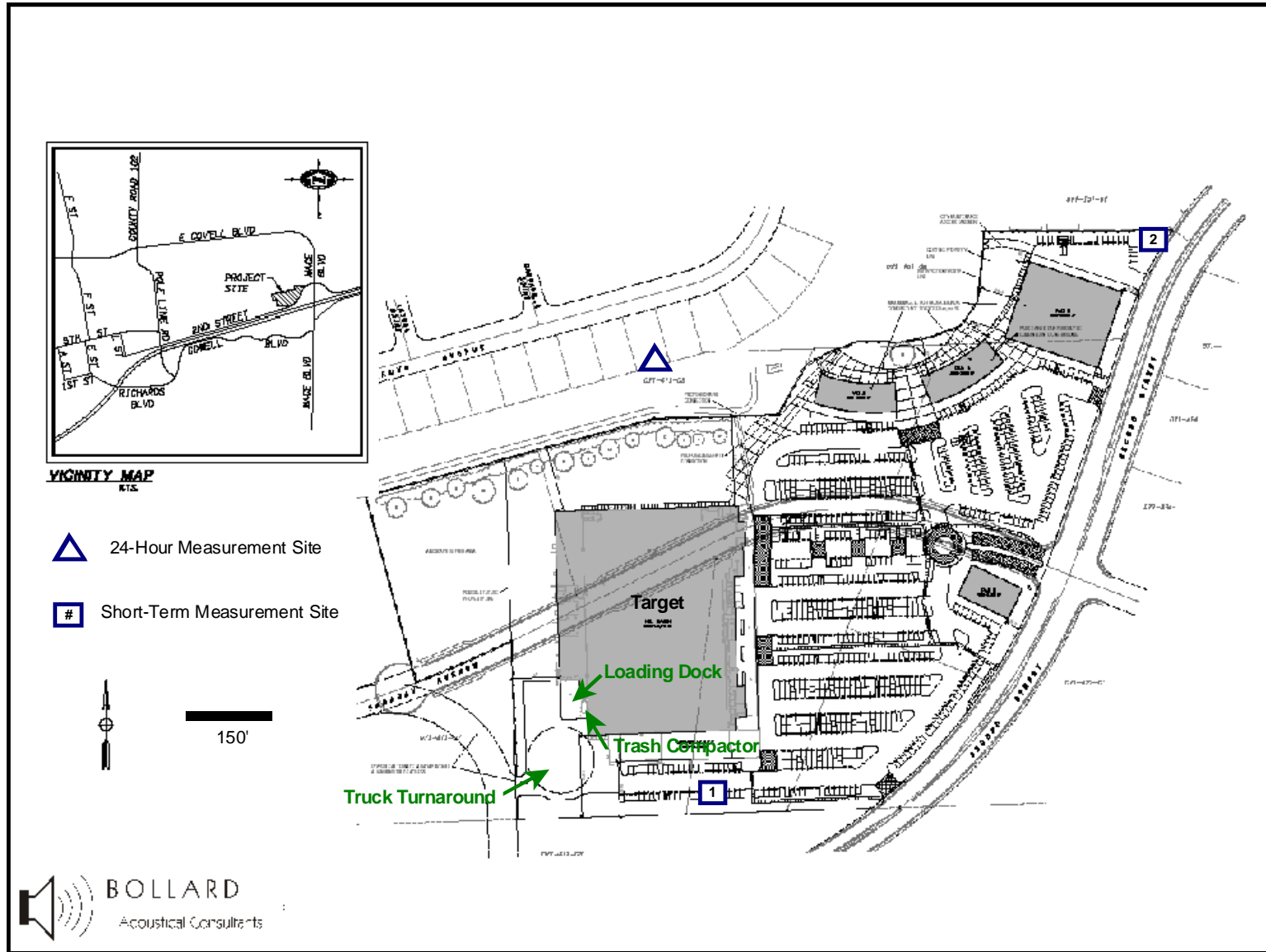


Figure 4.5-2
Measured Ambient Noise Levels

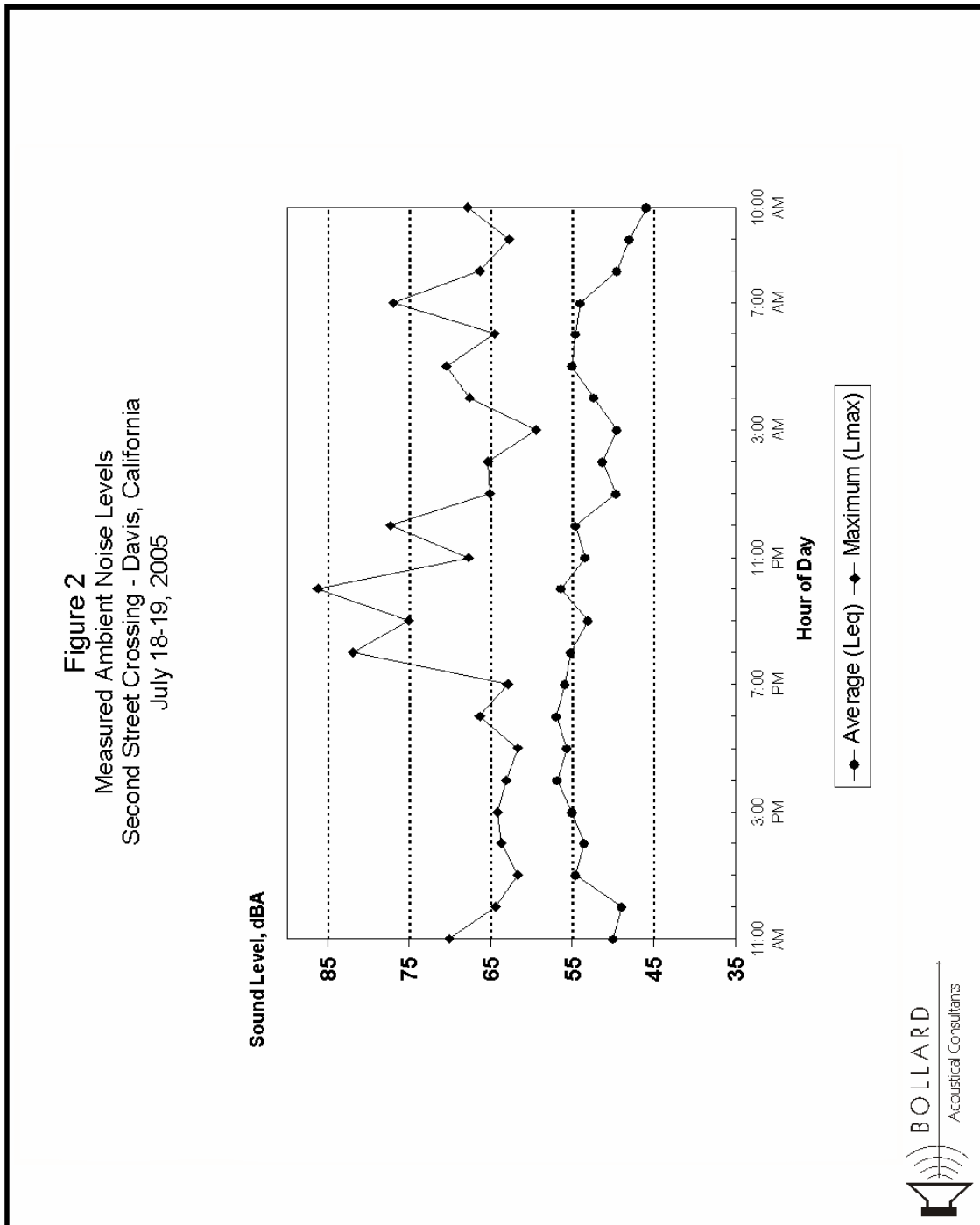


Table 4.5-2
Summary of Ambient Noise Level Measurements
Short-Term Samples – July 18, 2005 (11 a.m. – 12 p.m.)
Second Street Crossing- Davis, California

Site	Location	L _{eq}	L _{max}	Noise Sources
1	South Side	54	62	Traffic on I80. PA system at auto dealership.
2	Northeast Corner	63	77	Traffic on Alhambra Drive and I-80.

Source: Bollard Acoustical Consultants, Inc.

Roadway Traffic Noise

The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to predict existing noise levels due to traffic. The Model is based on the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given for vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the project site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. A day/night traffic distribution of 83 percent/1percent was factored into the calculations to determine L_{dn}. In addition, a medium/heavy truck split of 2 percent/1 percent was assumed, along with traffic speeds of 30-45 MPH.

Traffic volumes for existing conditions were obtained from the Traffic Impact Study prepared for the project by Fehr & Peers Transportation Consultants (January 2006). The data within that report is in the form of AM/PM peak-hour intersection turning movements, which was converted to ADT by Bollard Acoustical Consultants, Inc. Table 4.5-3 shows the existing traffic noise levels in terms of L_{dn} at a reference distance of 75 feet from the centerlines of existing project-area roadways which would be considered “baseline” conditions. Table 4.5-3 also includes the distances to existing traffic noise contours.

The project uses which would include a Target store and four additional commercial/retail businesses would not be considered to be noise-sensitive and would not be expected to be impacted by perimeter roadway traffic noise exposure because the majority of on-site human activities would occur within the buildings. The project does not include noise-sensitive outdoor use areas, such as residential backyards. Therefore, the impact of traffic noise exposure on the proposed project uses is not included in the following discussion.

Railroad Noise

As described above, the project site is directly adjacent to a branch of the Union Pacific Railroad (UPRR) along the south property boundary. The proposed project is not expected to alter the activity of the Railroad and would therefore not alter the noise

exposure produced by the Railroad. In addition, proposed project uses would not be considered to be noise-sensitive, and would not be expected to be impacted by UPRR noise exposure.

**Table 4.5-3
Existing Traffic Noise Levels and Contour Distances
Second Street Crossing - Davis, California**

Roadway	Segment	L _{dn} @ 75 Feet	Distance to Contours (feet)		
			70 dB	65 dB	60 dB
2 nd Street	West of Cantril	59	15	31	67
2 nd Street	Cantril - Pena	60	16	36	77
2 nd Street	Pena - Cousteau	61	18	39	84
2 nd Street	Cousteau - Faraday	61	18	39	84
2 nd Street	Faraday - Mace	61	19	41	89
2 nd Street	East of Mace	54	7	15	32
Mace Boulevard	2 nd - Alhambra	67	48	104	225
Mace Boulevard	2 nd - I-80	69	63	137	294
Mace Boulevard	I-80 - Chiles	69	60	128	277
Mace Boulevard	South of Chiles	66	38	83	178
Chiles Road	East of Mace	60	17	36	78
Chiles Road	Mace - I-80	62	21	44	96
Chiles Road	West of I-80	61	18	38	81
5 th Street	North of Alhambra	50	4	8	17
5 th Street	Alhambra - Pole Line	62	21	44	96
5 th Street	Pole Line - L	62	21	45	97
5 th Street	West of L	62	21	45	98
Alhambra Drive	North of Loyola	55	8	17	37
Alhambra Drive	Loyola - 5 th Street	58	12	25	54
32A (Webster)	West of I-80	53	6	12	26
32A (Webster)	I-80 WB - I-80 EB	53	5	11	25
32A (Webster)	West of I-80	54	7	14	31

Source: FHWA-RD-77-108 with inputs from Fehr & Peers and Bollard Acoustical Consultants, Inc.

REGULATORY CONTEXT

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. The City of Davis General Plan Noise Element, Noise Ordinance, and CEQA provide regulations regarding noise levels for uses relevant to the proposed project. The following provides a general overview of the existing regulations established by the City and CEQA.

State Regulations

The California Environmental Quality Act (CEQA) Guidelines in Appendix G, indicates that a significant noise impact may occur if a project exposes persons to noise levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels.

Local Regulations

City of Davis General Plan

The City of Davis General Plan Noise Element requires that interior noise exposure from exterior noise sources (traffic) within residential dwellings not exceed 45 dB L_{dn} (or CNEL), regardless of exterior noise exposure.

The City of Davis has established an exterior noise level criterion of less than 60 dB L_{dn} (or CNEL) within outdoor activity areas of residential land uses (i.e. back yards). This standard is adjusted to a level less than 65 dB L_{dn} for office/professional uses. These are considered to be the “Normally Acceptable” criteria, and may be adjusted upward (60-70 dB L_{dn}) based on compliance with the interior noise criterion and the City’s discretion.

The following are applicable goals and policies from the City of Davis General Plan related to noise:

- | | |
|------------------|--|
| Goal NOISE 1 | Maintain community noise levels that meet health guidelines and allow for a high quality of life. |
| Policy NOISE 1.1 | Minimize vehicular and stationary noise sources, and noise emanating from temporary activities. |
| Policy NOISE 1.2 | Discourage the use of sound walls whenever alternative mitigation measures are feasible, while also facilitating the construction of sound walls where desired by the neighborhood and there is no other way to reduce noise to acceptable exterior levels shown in Table 19. See the separate General Plan policy interpretation document titled “Major Arterial Landscaping, Noise Attenuation Design and Greenstreets”. |
| Policy NOISE 1.3 | Develop and implement procedures for the accurate measurement and prediction of noise levels in Davis. |
| Goal NOISE 2 | Provide for indoor noise environments that are conducive to living and working. |
| Policy NOISE 2.1 | Take all technically feasible steps to ensure that interior noise levels can be maintained at the levels shown in Table 20. |

City of Davis Noise Ordinance

The City of Davis Noise Ordinance establishes a maximum stationary noise level standard of 55 dB during the hours of 7:00 a.m. to 9:00 p.m., and 50 dB during the hours of 9:00 p.m. to 7:00 a.m. These “maximum” criteria are interpreted by Bollard Acoustical Consultants, Inc. to be average hourly levels (L_{eq}).

IMPACTS AND MITIGATION MEASURES

Standards of Significance

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels at adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed, as discussed previously in the Regulatory Context section above. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local planning criteria, or substantially increase noise levels at noise-sensitive land uses. For this analysis, noise impacts associated with the proposed project would be considered significant if they:

- exceed the City of Davis General Plan Noise Element thresholds;
- exceed the City of Davis Noise Ordinance significance thresholds; or
- expose existing noise-sensitive land uses to a traffic noise level increase of 3 dB or more.

City of Davis Noise Element Criteria

The City of Davis General Plan Noise Element requires that interior noise exposure from exterior transportation noise sources (i.e., traffic, trains) within residential dwellings not exceed 45 dB L_{dn} (or CNEL) regardless of exterior noise exposure.

The City of Davis has established an exterior noise level criterion of 60 dB L_{dn} (or CNEL) or less within outdoor activity areas of residential land uses. This is considered to be the “Normally Acceptable” criterion, and may be adjusted upward (60 – 70 dB L_{dn}) based on compliance with the interior noise criterion and the City’s discretion.

City of Davis Noise Ordinance Criteria

The City of Davis Noise Ordinance establishes a maximum noise level standard of 55 dB during the hours of 7:00 a.m – 9:00 p.m. and 50 dB during the hours of 9:00 p.m. – 7:00 a.m. These “maximum” criteria are interpreted by Bollard Acoustical Consultants, Inc. to be average hourly levels (Hourly L_{eq}).

Method of Analysis

The identified primary noise-producing elements associated with the proposed project include increased traffic on the local roadway network, on-site heavy truck equipment, loading dock activities, rooftop mechanical equipment, and project-related construction. The following discussion focuses on these noise sources.

Traffic Noise Assessment

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels were predicted at a representative distances (75 feet from the roadway centerlines) for the Existing Plus Project, Cumulative (2015), and Cumulative (2015) Plus Project conditions.

The traffic noise levels were predicted using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The Model is based on the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the project site. Results of this analysis are summarized in Table 4.5-4.

Project Operational Noise Sources

To assess noise impacts associated with the operational phase of the project, loading dock activity noise levels as well as rooftop equipment noise levels were predicted and compared with the distance to the nearest sensitive receptors.

Project Construction Noise Impact Assessment

Noise would also be generated during the construction phase by increased truck traffic on local area roadways. Furthermore, a significant project-generated noise source would be truck traffic associated with the transport of heavy materials and equipment to and from the construction site.

During the construction phases of the project, noise from building equipment would be expected to add to the noise environment in the immediate project vicinity. Activities involved in construction would likely generate maximum noise levels, as indicated in Table 4.5-5, ranging from 85-88 dB at a distance of 50 feet. Construction activities would be temporary in nature and would be anticipated to occur during normal daytime working hours (7:00 a.m. – 5:00 p.m.). Still, existing residences located along the north side of the project site would likely be affected by this noise.

Table 4.5-4			
Predicted Traffic Noise Levels at 75 Feet from Roadway Centerlines			
- Second Street Crossing – Davis, California			
Roadway	Segment	L_{dn}, dB (change, dB)	
		Existing + Project	Cumulative (2015) + Project
2 nd Street	West of Cantril	60 (+1)	63 (+1)
2 nd Street	Cantril – Pena	62 (+2)	63 (+1)
2 nd Street.	Pena – Cousteau	62 (+1)	63 (0)
2 nd Street	Cousteau – Faraday	62 (+1)	63 (+1)
2 nd Street	Faraday – Mace	63 (+2)	64 (+1)
2 nd Street	East of Mace	55 (+1)	56 (0)
Mace Blvd.	2 nd – Alhambra	68 (+1)	69 (0)
Mace Blvd.	2 nd – I-80	70 (+1)	71 (+1)
Mace Blvd.	1-80 – Chiles	69 (0)	70 (0)
Mace Blvd.	South of Chiles	66 (0)	68 (0)
Chiles Road	East of Mace	60 (0)	61 (0)
Chiles Road	Mace – I-80	62 (0)	63 (0)
Chiles Road	West of I-80	61 (0)	62 (0)
5 th Street	North of Alhambra	50 (0)	54 (0)
5 th Street	Alhambra – Pole Line	62 (0)	63 (+1)
5 th Street	Pole Line – L	62 (0)	62 (0)
5 th Street	West of L	62 (0)	63 (+1)
Alhambra Drive	North of Loyola	56 (+1)	57 (+1)
Alhambra Drive	Loyola – 5 th	57 (+1)	59 (+1)
32A (Webster)	West of I-80	64 (+1)	55 (+1)
32A (Webster)	I-80 WB – I-80 EB	53 (+1)	54 (0)
32A (Webster)	West of I-80	54 (0)	56 (0)

Note: ***Bold/Italic*** represents possible significant impact.
Source: FHWA-RD-77-108 with inputs from Fehr & Peers and Bollard Acoustical Consultants, Inc.

Table 4.5-5	
Construction Equipment Noise Levels	
Type of Equipment	L_{max}, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Source: Environmental Noise Pollution, Patrick R. Cunniff, 1977.

Project Impacts and Mitigation Measures

4.5-1 An increase in existing traffic noise levels on surrounding roadways.

The development of the proposed project would result in the construction of a 126,842 sq. ft. Target store as well as four (4) building pads for future retail development. Development of the project site would generate increased traffic on existing local area roadways. Table 4.5-4 illustrates that project traffic would not result in a noise level increase of 3 dB or greater on surrounding roadways. However, as shown in Table 4.5-4, project-related traffic relative to existing volumes on 2nd Street between Cantril Drive and Pena Drive, could elevate traffic noise above the City's 60 dB L_{dn} criterion by increasing noise levels along this segment from 60 dB to 62 dB. However, land uses on this section of roadway are not considered noise-sensitive. Therefore, the increase in traffic noise levels due to the project would result in a *less-than-significant* impact.

Mitigation Measure(s)

None required.

4.5-2 On-site Noise Sources at Existing Residences.

The on-site noise-producing elements of the proposed project consist primarily of heavy truck movements (Target store), loading dock activities (Target store), and rooftop mechanical equipment (HVAC). Although the residential development north of the project site is buffered from adjacent noises by a masonry wall, project-related noise exposures vary in significance due to the distance between the on-site noise-producing elements, and the closest home. The following discussion provides a detailed analysis of the above on-site operational noise sources.

Target Heavy Truck Circulation

Daily operations of the proposed Target store would include deliveries of goods to the store via tractor-trailer trucks. Based on information provided by Target, a maximum of 12 heavy trucks per week (approximately 1.7 deliveries or 3.4 trips per day on average) would deliver goods to the project site. These operations would be expected to occur during a single hour after 9:00 p.m. The expected delivery route would be from I-80/Mace Boulevard Exit, to Mace Boulevard, to Second Street, where trucks would enter the site at the southern-most entrance, then access the loading dock area on the south side of the store. The distance between the truck turn-around area on the south side of the store and the closest noise-sensitive residential receivers to the north of the project site is approximately 650 feet. This is the distance used in the analysis of this noise source.

Trucks en route to the loading dock are estimated to produce an average Sound Exposure Level (SEL) of approximately 87 dB at a distance of 50 feet. The typical maximum level (L_{max}) due to a truck event has been measured to be approximately 75 dB at 50 feet. At the nearest residential properties to the north (approximately 650 feet away), unmitigated SEL and L_{max} values associated with truck events on the project site were predicted to be approximately 65 dB and 53 dB, respectively, based on a standard spreading loss factor of -6dB per doubling of distance from the noise source.

Assuming the day's truck deliveries (i.e., approximately 2 truck deliveries or 4 total truck trips) could occur during a continuous one-hour period, the calculated Target truck circulation noise exposure (unmitigated) at the closest residential receivers was calculated to be approximately 35 dB L_{eq} (53 dB L_{max}).

Target Loading Dock

The primary noise sources associated with the Target store loading dock include heavy trucks stopping (air brakes), backing into the loading dock (back-up alarm), and pulling out of the loading dock (revving engine). Once a truck has backed into the dock, the truck is unloaded from the inside of the store using a fork lift or hand cart, and most of the unloading noise would be contained within the building and truck trailer.

The proposed loading dock for the Target store is located at the southwest corner of the building, adjacent to the truck-turn-around area, and approximately 540 feet from the nearest noise-sensitive residential receivers to the north. Measured loading dock noise exposure for similar projects was approximately 63 dB L_{eq} and 85 dB L_{max} at a distance of 50 feet from the center of the loading docks. These levels represent continuous activity at the measured loading docks, including activity from all of the above-mentioned noise sources. Assuming a noise attenuation of -6 dB per doubling of distance from the loading dock, unmitigated hourly L_{eq} and L_{max} loading dock noise exposure at the closest residences to the north would be expected to be approximately 42 dB and 64 dB, respectively. This represents a conservative Target loading dock noise exposure at the closest affected residences to the north of the site. It should be noted that the site plan includes an 8-foot masonry wall along the western side of the loading dock area. This noise analysis did not account for the masonry wall; however, the wall is primarily intended for visual screening purposes.

Rooftop Heating, Ventilation, and Air Conditioning (HVAC) Equipment

The HVAC systems for maintaining comfortable shopping environments within the proposed Target store and other commercial/retail buildings (Pads A-D) would consist of packaged rooftop units. Each unit for the Target store is expected to produce a noise level of approximately 58 dB at 15 feet, as specified by Target. This reference noise level, an HVAC roof plan for the Target building,

and estimates of required HVAC equipment for Pads A-D were used to calculate project-related HVAC noise exposure at the closest residential properties to the north.

Using the above-described information, Bollard Acoustical Consultants, Inc. calculated a conservative, unmitigated HVAC noise exposure (all units running and no acoustical shielding by project buildings) of approximately 40-42 dB at the closest residential properties. Acoustical shielding provided by the project buildings was calculated to be approximately 7-9 dB, reducing the expected HVAC noise exposure to approximately 31-35 dB at the nearest existing residences to the north, with a majority of the noise exposure produced by proposed HVAC units on the north side of the Target building roof.

Trash Compactor

The proposed Target store would utilize a trash compactor located on the southwest corner of the building near the loading dock (see Figure 4.5-1). Target has indicated that the proposed compactor produces an unmitigated noise exposure level of approximately 50 dB at a distance of 100 feet. Accounting for the distance between the trash compactor and the nearest residences to the north, the noise consultant estimated an unmitigated noise exposure of approximately 35 dB.

Cumulative Noise Exposure from On-Site Noise Sources

Cumulative noise exposure from the expected dominant on-site noise sources (i.e., Target truck movements, Target loading dock, Target trash compactor, and rooftop HVAC) is expected to be approximately 44 dB Hourly Leq and 64 dB L_{max} at the nearest existing residences immediately north of the project site. The noise exposure is expected to be dominated by Target loading dock activities and rooftop HVAC equipment on the north side of the Target building.

Summary

The on-site noise sources are predicted to generate noise levels up to 44 dB Hourly L_{eq} and 64 dB L_{max} at the nearest existing residential property to the north of the project site. These levels are within the City's noise exposure limits and are generally below the existing ambient noise levels recorded in the project vicinity (see Figure 4.5-2). As a result, on-site noise sources would have a ***less-than-significant*** impact to adjacent residences.

Mitigation Measure(s)

None required.

4.5-3 Short-term noise impacts from construction activities.

Activities associated with project construction would result in elevated noise levels, with maximum noise levels ranging from 85-88 dB at 50 feet, as shown in Table 4.5-5. Although these levels would be audible at the nearest existing residences, they would be temporary in nature, approximately one year, and would likely occur during normal daytime working hours. Nonetheless, because construction activities would result in periods of elevated noise levels, this impact is considered to be *significant*.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.5-3 *The project applicant shall place a note on the improvement plans and within construction contracts which requires:*

- *Construction activities shall be scheduled to occur during normal daytime working hours, i.e. 7:00 AM to 9:00 PM. These criteria shall be included in the improvement plans prior to initiation of construction. Exceptions to allow expanded construction activity hours shall be reviewed on a case-by-case basis as determined by the Community Development Director.*
- *All heavy construction equipment and all stationary noise sources (such as diesel generators) shall be fitted with factory-specified mufflers.*
- *Equipment warm up areas, water tanks, and equipment storage areas shall be located in an area as far away from existing residences as is feasible.*

The note shall be reviewed and approved by the Building Official prior to the issuance of permits.

Cumulative Impacts and Mitigation Measures

4.5-4 Cumulative Increase in Traffic Noise Levels.

The proposed project would contribute to cumulative traffic on the local roadway network. Project-related traffic noise increases in the project vicinity, relative to Cumulative (2015) No Project noise levels, would not exceed the 3 dB criterion as shown in Table 4.5-4. The noise-level increases for the Cumulative (2015) Plus Project setting would range from 0 to 1 dB. Therefore, cumulative increases in traffic noise levels would be considered *less-than-significant*.

Mitigation Measure(s)
None required.

Endnotes

¹ Bollard Acoustical Consultants, Inc., *Environmental Noise Assessment*. January 5, 2006.

² *City of Davis General Plan*. May 2001.