

## **Revised Appendix I.1**

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Noise Calculations: Methodology and  
Worksheets

## **Westfield Promenade Project**

# **Noise Calculations: Methodology and Worksheets**

Provided by Acoustical Engineering Services

# Ambient Noise Measurements

## Noise Measurements

To establish baseline noise conditions, existing ambient noise levels were monitored at eight representative locations (identified as R1 to R4 and P1 to P4) in the vicinity of the Project Site. Four of these locations, R1 to R4, represent existing noise sensitive receptor locations. The baseline noise monitoring program was conducted on November 2, 2016, using a Quest Technologies Model 2900 Integrating/Logging Sound Level Meter. Two 15-minute measurements were conducted at each of the receptor locations, one during daytime and another during nighttime hours. The daytime ambient noise levels were taken between 10:00 A.M. and 2:00 P.M., and the nighttime ambient noise levels were taken between 10:00 P.M. and 1:00 A.M.

## Existing Traffic Noise Levels

In addition to the ambient noise measurements in the vicinity of the Project Site, the existing traffic noise on local roadways in the surrounding area was calculated to quantify the 24-hour CNEL noise levels using information provided by the Traffic Study prepared for the Project.<sup>1</sup> Thirty-nine (39) roadway segments were selected for the existing off-site traffic noise analysis included in this section based on proximity to noise-sensitive uses along the roadway segments and potential increases in traffic volumes from the Project. Traffic noise levels were calculated using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) and traffic volume data from the Traffic Study prepared for the Project. The TNM traffic noise prediction model calculates the hourly  $L_{eq}$  noise levels based on specific information including the hourly traffic volume, vehicle type mix, vehicle speed, and lateral distance between the noise receptor and the roadway. To calculate the 24-hour CNEL levels, the hourly  $L_{eq}$  levels were calculated during daytime hours (7:00 A.M. to 7:00 P.M.), evening hours (7:00 P.M. to 10:00 P.M.), and nighttime hours (10:00 P.M. to 7:00 A.M.).

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<sup>1</sup> Gibson Transportation Consulting, Inc., *Transportation Impact Study for Promenade 2035*, March 2018.





Westfield Promenade EIR – Noise Monitoring Locations



Westfield Promenade Project - Ambient Noise Measurements

Leq Receptor	Measured Leq Levels		Estimated CNEL Levels			
	Daytime	Nighttime	CNEL	Ld	Le	Ln
P1	63.4	58.9	64.9	63.4	63.4	58.9
P2	65.2	59.2	65.8	65.2	65.2	59.2
P3	65.1	62.3	67.7	65.1	65.1	62.3
P4	70.0	62.2	69.8	70.0	70.0	62.2
R1	70.3	59.1	69.0	70.3	70.3	59.1
R2	59.6	56.0	61.6	59.6	59.6	56.0
R3	63.7	54.9	63.1	63.7	63.7	54.9
R4	59.2	52.4	59.5	59.2	59.2	52.4

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CNEL levels estimated based on FTA guidelines (Transit Noise and Vibration Impact Assessment, 2006)

Location: P1  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
10:21:32 AM	No	64	70.3	67.8	57.7
10:22:32 AM	No	67.2	79.6	71.8	56.6
10:23:32 AM	No	63.1	71.9	68.1	55.1
10:24:32 AM	No	62.6	70.2	67.6	53.4
10:25:32 AM	No	62.2	71.1	66.3	54.9
10:26:32 AM	No	60.7	70.1	65.2	53.2
10:27:32 AM	No	66.9	74.2	70.9	57.6
10:28:32 AM	No	62	69.9	67.2	56.4
10:29:32 AM	No	62.3	69.3	66.2	56.1
10:30:32 AM	No	62.4	70.5	68.3	52.7
10:31:32 AM	No	63.4	72	68.5	56.9
10:32:32 AM	No	60.7	68.7	65.9	54.1
10:33:32 AM	No	60.6	67.4	65.1	54
10:34:32 AM	No	61.8	67	64.5	54.8
10:35:32 AM	No	65.7	73.5	70.4	56.4
		<b>63.4</b>			

Time	Overload	Leq	Lmax	L10	L90
10:00:50 PM	No	60.5	65.4	64	54.5
10:01:50 PM	No	58.4	67.2	62.9	50.2
10:02:50 PM	No	53.5	62	60.4	47.6
10:03:50 PM	No	52.7	62.2	57.7	47.9
10:04:50 PM	No	56.6	65.5	61.2	48.3
10:05:50 PM	No	58.2	66.9	64.8	47.3
10:06:50 PM	No	57.1	66.5	64.2	49.2
10:07:50 PM	No	60.1	66.2	64.5	52.8
10:08:50 PM	No	58	65.6	63.8	48.1
10:09:50 PM	No	63.1	70.3	68	52
10:10:50 PM	No	61.1	73.9	66.6	50.8
10:11:50 PM	No	58.9	66.3	63.4	51.7
10:12:50 PM	No	54.7	64.6	60.7	47.9
10:13:50 PM	No	59.1	67	64.3	52
10:14:50 PM	No	61.2	70.9	65.9	53.1
		<b>58.9</b>			

Location: P2  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
10:43:25 AM	No	65.2	70.8	69.7	52.6
10:44:25 AM	No	58.9	67.7	63.5	51.1
10:45:25 AM	No	65.8	75	68.5	54.6
10:46:25 AM	No	63.8	71.5	69.1	54.9
10:47:25 AM	No	65.4	71.9	70	57.1
10:48:25 AM	No	67	72.2	71.2	54.3
10:49:25 AM	No	64.8	72.1	69.5	54.2
10:50:25 AM	No	65.8	72.3	70.8	54.4
10:51:25 AM	No	60.5	71.8	66.6	51.4
10:52:25 AM	No	67.4	78	72.2	51.5
10:53:25 AM	No	64.3	70.1	68.5	55
10:54:25 AM	No	63.1	72	68.6	52.4
10:55:25 AM	No	66.9	72.7	70.5	54.5
10:56:25 AM	No	68.3	75.5	71	62.9
10:57:25 AM	No	63.4	70.9	68.5	54.6
		<b>65.2</b>			

Time	Overload	Leq	Lmax	L10	L90
10:20:58 PM	No	62.9	71.6	67.9	50
10:21:58 PM	No	51.3	62.2	54.1	48.1
10:22:58 PM	No	63.9	70.6	67.3	56
10:23:58 PM	No	60.8	67.2	65.5	52.8
10:24:58 PM	No	59.1	72.1	65.9	48
10:25:58 PM	No	53.6	64.5	58.5	46.8
10:26:58 PM	No	56.3	67.3	63.5	46.9
10:27:58 PM	No	54.8	66.8	58.4	48.1
10:28:58 PM	No	55.7	68.8	61.1	47.1
10:29:58 PM	No	58.9	70.8	65.2	48.3
10:30:58 PM	No	62.6	70.2	67.6	51.4
10:31:58 PM	No	56.6	67.3	62.4	47.5
10:32:58 PM	No	61	69.8	65.7	49.9
10:33:58 PM	No	55.3	66.8	60.9	48.7
10:34:58 PM	No	59.6	70.1	66.1	48.1
		<b>59.2</b>			



Location: P3  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
11:08:03 AM	No	65.4	73.8	70.6	55.3
11:09:03 AM	No	64.3	70.8	67.8	56
11:10:03 AM	No	65.7	75.3	72.1	57.5
11:11:03 AM	No	65.5	73.2	71.6	55.9
11:12:03 AM	No	62.1	69.1	65	57.1
11:13:03 AM	No	65.7	76.9	68.7	58
11:14:03 AM	No	64.1	72.2	67.7	57.9
11:15:03 AM	No	66.3	73	71.8	55.3
11:16:03 AM	No	61.3	72.8	66.5	54.5
11:17:03 AM	No	62.6	68.1	66.4	56.4
11:18:03 AM	No	65.1	73.2	70	55.3
11:19:03 AM	No	66.4	73.6	71.1	61.2
11:20:03 AM	No	63.2	73.6	67.9	55.4
11:21:03 AM	No	69.1	75.6	72.4	65.8
11:22:03 AM	No	64	72.2	69	55.3
		<b>65.1</b>			

Time	Overload	Leq	Lmax	L10	L90
10:40:39 PM	No	58.9	67.1	64.1	49.8
10:41:39 PM	No	58	68.2	62.4	49.6
10:42:39 PM	No	58.7	64.5	62.9	50.7
10:43:39 PM	Yes	73.9	89.3	78.8	60.4
10:44:39 PM	No	58.4	64.8	62.9	51.5
10:45:39 PM	No	59.4	71.2	66.2	49.9
10:46:39 PM	No	55.6	66.1	60.7	49
10:47:39 PM	No	59.5	66.5	63.1	52.9
10:48:39 PM	No	58.9	68	64.5	53.1
10:49:39 PM	No	55.7	67.6	61.2	49.8
10:50:39 PM	No	60.9	68.2	66.5	51.3
10:51:39 PM	No	58.3	67.6	64.5	49.2
10:52:39 PM	No	62	72.1	67.4	52.1
10:53:39 PM	No	55.6	66.5	58.7	49.4
10:54:39 PM	No	57.2	63.7	61.4	51.2
		<b>62.3</b>			

Location: P4  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
11:29:31 AM	No	67.7	72.1	71.2	62.2
11:30:31 AM	No	70.7	78.5	74.8	59.9
11:31:31 AM	No	66.1	78.2	72.4	53
11:32:31 AM	No	71.5	78.3	74.9	62.3
11:33:31 AM	No	67.3	74.2	72.8	53.7
11:34:31 AM	No	69	73.4	72.2	63.7
11:35:31 AM	No	68.7	75.8	74.2	54.9
11:36:31 AM	No	74.1	82.5	78.8	65.5
11:37:31 AM	No	71.4	83.6	75.6	56.5
11:38:31 AM	No	72.9	81.4	76.7	64.5
11:39:31 AM	No	67.9	76.8	73.9	56.8
11:40:31 AM	No	72.1	79.5	75.5	62.3
11:41:31 AM	No	64.7	70.5	70	55.4
11:42:31 AM	No	69.9	74.5	73.1	63.1
11:43:31 AM	No	66.2	75.3	70.1	54.8

**70**

Time	Overload	Leq	Lmax	L10	L90
12:49:25 AM	No	62.3	70.8	68.7	54.1
12:50:25 AM	No	61	71.3	67.8	51
12:51:25 AM	No	64.6	74.8	71	52.2
12:52:25 AM	No	58.8	70.2	65.5	50.3
12:53:25 AM	No	61.9	71.9	66.1	51.7
12:54:25 AM	No	63.9	71.6	69.4	51.3
12:55:25 AM	No	63.5	75.1	67	53.9
12:56:25 AM	No	58.9	67.3	64.5	48.2
12:57:25 AM	No	63	71.4	68.8	54.7
12:58:25 AM	No	62.5	71.6	68.7	52.1
12:59:25 AM	No	61	73.4	69.1	48.6
1:00:25 AM	No	64.9	72.1	68.8	56.4
1:01:25 AM	No	61.8	70.5	67.9	49.5
1:02:25 AM	No	62.2	70.2	68.2	48.3
1:03:25 AM	Yes	58.2	65.9	63	53.3

**62.2**

Location: R1  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
11:56:20 AM	No	69.7	75.2	72.2	65.2
11:57:20 AM	No	70.6	82.2	75.1	61
11:58:20 AM	No	68.4	75.7	73.9	62.3
11:59:20 AM	No	70.1	77.2	73.6	63
12:00:20 PM	No	68.2	77	73.4	59.9
12:01:20 PM	No	70.7	76.4	74.3	61.3
12:02:20 PM	No	70.6	83.4	74.4	59.3
12:03:20 PM	No	69.7	78.4	74.2	64.2
12:04:20 PM	No	66.5	75	71.8	57.4
12:05:20 PM	No	68.7	74.2	72.5	62.8
12:06:20 PM	No	76.9	93.6	81.7	55.1
12:07:20 PM	No	67.8	75.6	71	61.7
12:08:20 PM	No	71.9	78.3	75.7	65.8
12:09:20 PM	No	66.3	76	72.5	56.1
12:10:20 PM	No	68.9	77	73.6	58
<b>70.3</b>					

Time	Overload	Leq	Lmax	L10	L90
11:25:11 PM	No	57.5	67.9	64.2	46.7
11:26:11 PM	No	60	74.6	65.9	44.3
11:27:11 PM	No	51.8	62.2	57.3	44.4
11:28:11 PM	No	55.7	68.5	60.7	44.9
11:29:11 PM	No	54.3	66	59.2	44.7
11:30:11 PM	No	59.4	69.6	64.5	48.1
11:31:11 PM	No	57.4	68.5	63	46.4
11:32:11 PM	No	49.3	60.4	54.7	42.9
11:33:11 PM	No	47.6	55	52.9	43.2
11:34:11 PM	No	63.6	75.8	71.9	44.2
11:35:11 PM	No	55.1	66.6	62.3	44
11:36:11 PM	No	52.1	60.5	55.4	46.9
11:37:11 PM	No	60.1	69.3	65.3	50.8
11:38:11 PM	No	67.9	78.5	73.7	56.3
11:39:11 PM	No	59.4	67.9	64.2	51.7
<b>59.1</b>					



Location: R2  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
12:20:47 PM	No	59.3	63	62	55.7
12:21:47 PM	No	60.6	65.4	62.1	55.6
12:22:47 PM	No	60.1	64.3	62.2	56.4
12:23:47 PM	No	61	66.1	63.9	57.1
12:24:47 PM	No	58.5	62.2	59.9	55.8
12:25:47 PM	No	58.9	61	60.2	56.5
12:26:47 PM	No	59.1	64.4	61.2	56.7
12:27:47 PM	No	61.3	64.6	63.3	59.2
12:28:47 PM	No	59.6	67	61.6	55.5
12:29:47 PM	No	61.1	66.8	64.8	54.3
12:30:47 PM	No	57.8	63.2	60.8	53.9
12:31:47 PM	No	60.1	62.6	61.7	59
12:32:47 PM	No	57.8	60.3	59.3	55.9
12:33:47 PM	No	59.5	62.6	62	56.9
12:34:47 PM	No	58.1	62.9	61.8	54.3
		<b>59.6</b>			

Time	Overload	Leq	Lmax	L10	L90
11:48:35 PM	No	58.3	70.6	60.9	53.2
11:49:35 PM	Yes	60.6	70.4	65.8	53.3
11:50:35 PM	No	53.9	61.2	56.2	51.3
11:51:35 PM	No	55.1	58.9	56	53.8
11:52:35 PM	No	54.5	62	58.3	49.8
11:53:35 PM	No	54.5	61.8	58.6	50.9
11:54:35 PM	No	55.6	64.7	57.8	51
11:55:35 PM	No	55.5	59.1	57.5	53
11:56:35 PM	No	55.6	58.8	58.2	52.3
11:57:35 PM	No	55	58.3	57.2	51.9
11:58:35 PM	No	56.1	59.3	58.8	54.2
11:59:35 PM	No	55.5	64.7	59.5	52.5
12:00:35 AM	No	56.5	64.6	59.4	52.3
12:01:35 AM	No	53.2	58.1	54.9	51.4
12:02:35 AM	No	55.4	60.1	58	51.7
		<b>56.0</b>			

Location: R3  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
12:43:25 PM	No	59.4	62.9	61.7	54.9
12:44:25 PM	No	59.6	65.6	62.5	56.5
12:45:25 PM	No	61.9	67.1	63.2	58.4
12:46:25 PM	No	60.6	64.6	63.3	55.3
12:47:25 PM	No	60.5	63.3	62.1	58.1
12:48:25 PM	No	59.5	65.5	61.2	57.3
12:49:25 PM	No	59.4	62.4	61.1	57.1
12:50:25 PM	No	60.7	64.3	62.8	57.9
12:51:25 PM	No	61.8	69.4	65.8	56.7
12:52:25 PM	No	61.8	71.6	64.5	57.9
12:53:25 PM	No	64	72.4	68.5	58.5
12:54:25 PM	No	64.8	73	69.9	58.1
12:55:25 PM	No	69.4	74.5	72.3	62.3
12:56:25 PM	No	67.5	73.1	71.1	59.7
12:57:25 PM	No	68.4	76.4	71.8	61.1
		<b>63.7</b>			

Time	Overload	Leq	Lmax	L10	L90
12:08:34 AM	No	55.8	60.8	58	50.6
12:09:34 AM	No	53.6	59	57.6	49.1
12:10:34 AM	No	57.7	65.9	63.6	47.5
12:11:34 AM	No	52.3	61.3	57.2	46.5
12:12:34 AM	No	56.8	65.6	62.2	49.8
12:13:34 AM	No	53.8	63	59.9	46.5
12:14:34 AM	No	58.5	64.5	62	53.3
12:15:34 AM	No	52.4	58	55.8	45.6
12:16:34 AM	No	54.3	59.9	58.5	47.5
12:17:34 AM	No	50.2	58.2	56	44.8
12:18:34 AM	No	56.4	65.8	61.1	46.9
12:19:34 AM	No	50.1	57.1	54.4	45.3
12:20:34 AM	No	55.7	60.5	58.9	49.6
12:21:34 AM	No	55.8	64.5	61.1	48.5
12:22:34 AM	No	51.1	57.2	55	45.9
		<b>54.9</b>			

Location: R4  
Date: 11/2/2016

Time	Overload	Leq	Lmax	L10	L90
1:05:37 PM	No	57.5	62.5	59.4	55
1:06:37 PM	No	60.1	66.4	63.2	56.9
1:07:37 PM	No	59.8	64.5	62.1	57.4
1:08:37 PM	No	60.1	66.1	63.5	56.5
1:09:37 PM	No	56.6	63.1	58.4	54.3
1:10:37 PM	No	60.2	65.6	64.1	55
1:11:37 PM	No	59.6	66.6	62.5	55.9
1:12:37 PM	No	60.2	65.1	63.9	56.1
1:13:37 PM	No	60.6	67	62.8	58
1:14:37 PM	No	60.4	66.6	63.3	57.2
1:15:37 PM	No	58.4	63.6	60.8	56.2
1:16:37 PM	No	57.4	63.3	58.8	55.1
1:17:37 PM	No	59.4	66.4	62.3	55.7
1:18:37 PM	No	59.2	64.6	62.2	56.2
1:19:37 PM	No	56.3	60	58.2	54.1
<b>59.2</b>					

Time	Overload	Leq	Lmax	L10	L90
12:28:47 AM	No	49.3	54.3	52.1	46.3
12:29:47 AM	No	55.9	66.1	62.2	48.1
12:30:47 AM	No	50.4	56.4	52.9	47.9
12:31:47 AM	No	51.7	59.6	55	48
12:32:47 AM	No	47.5	51.7	49.7	45.7
12:33:47 AM	No	57.9	64.2	62.5	46.1
12:34:47 AM	No	54	63.6	60.6	45.9
12:35:47 AM	No	49.6	52.2	51.4	47.4
12:36:47 AM	No	48.7	55.1	52.1	45.6
12:37:47 AM	No	49.8	56.6	52.3	46.7
12:38:47 AM	No	47.5	54.5	49.3	44.9
12:39:47 AM	No	56	64.7	60	49.4
12:40:47 AM	No	54.2	68	57.7	47.2
12:41:47 AM	No	49.1	52.9	51.7	46.6
12:42:47 AM	No	50.7	53.8	52.5	48.6
<b>52.4</b>					



# Construction Noise & Vibration Calculations

## On-Site Construction Noise

On-site construction noise levels associated with the Project was calculated based on the Project's potential construction equipment inventory, construction durations, and construction schedule. The construction noise model for the Project is based on construction equipment noise levels as published by the FHWA's "Roadway Construction Noise Model (FHWA 2006)." The construction noise levels were then calculated for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance. Additional noise attenuation was assigned to receptor locations where the line-of-sight to the Project Site was interrupted by the presence of intervening structures. Construction noise impacts due to on-site construction activities associated with the Project were determined by comparing these estimated construction-related noise levels of the Project to the measured existing ambient noise levels (i.e., noise levels without construction noise from the Project).

It is estimated that the noise level associated with construction activities at the Northeast-A area would exceed the significance threshold by 1.7 dBA at receptor location R1. The construction-related noise due to construction activities at the Northeast-B area would be below the significance threshold at all off-site receptor locations. Noise levels associated with construction activities at the Northwest-A and -B areas would exceed the significance thresholds at receptor locations R2 and R4 by 1.9 to 8.5 dBA. In addition, construction activities at the Southwest area would exceed the significance threshold at receptor locations R2, R3 and R4 by 5.6 to 13.6 dBA. Construction noise from the Southeast development area would be below the significance threshold at receptor locations R1, R3 and R4, but would exceed the significance threshold at receptor location R2 by up to 8.2 dBA.

There is potential for overlapping construction activities within the Northeast, Northwest and Southwest areas. Therefore, the potential impacts from the overlapping construction activities were also analyzed under both the Overlapping Construction Plan With No Import and Overlapping Construction Plan With Import scenarios. The Overlapping Construction Plan With No Import scenario would exceed the significance threshold at R1 through R4 by 0.4 dBA at off-site sensitive receptor location R1 up to 13.8 dBA at receptor location R2. The estimated construction-related noise levels for the Overlapping Construction Plan With Import scenario would exceed the significance threshold by 1.8 dBA at receptor location R1 up to 12.1 dBA at R2. **Therefore, noise impacts associated with the Project's on-site construction would be significant at all off-site sensitive receptors, without mitigation measures. However with incorporation of mitigation measures, which include sound barriers blocking the line-of-sight between on-site construction areas and off-site receptor locations, on-site construction noise impacts at all off-site receptor locations would be reduced to less than significant levels.**

In addition, an analysis of potential construction-related impacts to future on-site residents was analyzed for informational purposes. The on-site noise impact analysis is provided because future on-site residential uses (e.g., future occupants in the completed portion the Project Site) may be exposed to noise levels from construction activities within adjacent portions of the Project Site due to the distance between those uses to on-site construction activities. The future on-site residential uses could be exposed to up to 87 dBA during the intermittent peak construction periods when equipment is operating in close proximity to the residential uses and would exceed the ambient noise level of approximately 63.4 dBA (based on the measured ambient at the Project Site's northern boundary, receptor Location P1). **Therefore, the construction noise impacts at the on-**

**site noise-sensitive uses would be significant, without mitigation measures. Implementation of the mitigation measure would reduce construction-related noise at these uses by up to 15-dBA; however, the Project's construction noise impacts to on-site receptors would remain significant and unavoidable.**

#### Off-Site Construction Noise

Off-site construction noise impacts from haul trucks associated with the Project were analyzed using the FHWA's TNM computer noise model. The construction-related off-site truck volumes were obtained from the Traffic Study prepared for the Project. The TNM noise model calculates the hourly  $L_{eq}$  noise levels generated by construction-related haul trucks. Noise impacts were determined by comparing the predicted noise level with that of the existing ambient noise levels along the Project's anticipated haul route(s). The haul route to and from the Project Site is anticipated to be primarily traveling south on Topanga Canyon Boulevard to the US-101. However, in the event that travel south to the US-101 becomes temporarily infeasible, a secondary haul route is also proposed north on Topanga Canyon Boulevard to State Route 118.

The estimated noise levels assume that all haul trucks would travel to the Project Site via the designated haul route. Delivery/vendor trucks and workers would come to the Project Site from various directions. Therefore, the analysis assumes up to 50 percent of the maximum number of delivery/vendor truck and worker trips would utilize Topanga Canyon Boulevard north and south of the Project Site. It is estimated that the Project-related off-site construction traffic would be below the significance threshold at all off-site noise sensitive receptor locations.

In addition, the noise impacts associated with the off-site construction-related traffic (construction trucks and worker vehicles) under the Overlapping Construction Plan were also evaluated assuming both the Overlapping Construction Plan With No Import and Overlapping Construction Plan With Import scenarios. The estimated construction-related traffic with overlapping construction activities would be below the significance threshold at all off-site noise sensitive receptor locations, including the Canoga Park High School. **Therefore, noise impacts associated with the Project's off-site construction would be less than significant.**

#### On-Site Construction Vibration

Ground-borne vibration levels due to Project's construction activities were calculated based on the FTA has published standard vibration velocities for various construction equipment operations. Vibration impacts were evaluated by comparing the estimated vibration levels at the potentially affected receptor with the applicable FTA criteria for both building damage and human annoyance. The estimated ground-borne vibration levels at the off-site building structures, nearest to the project construction site, would be below the significance thresholds for building damage. **Therefore, vibration impacts associated with potential building damage would be less than significant.**

In addition, the estimated ground-borne vibration from the on-site construction activities to the off-site vibration sensitive receptors, including residential and hotel uses, would be below the significance thresholds for human annoyance. **Therefore, vibration impacts associated with potential human annoyance would be less than significant.**

#### Off-Site Construction Vibration

Potential vibration impacts associated with the Project-related construction trucks along the anticipated haul routes were evaluated based on the FTA published standard vibration velocities for

typical heavy-duty trucks. Based on FTA data, the vibration generated by a typical heavy-duty truck would be approximately 63 VdB (0.006 PPV) at a distance of 50 feet from the truck. There are existing buildings along the Project's anticipated haul route(s) that are situated approximately 25 feet from the truck path and would be exposed to ground-borne vibration levels of approximately 0.016 PPV, which would be below the most stringent building damage threshold of 0.12 PPV for buildings extremely susceptible to vibration. **Therefore, vibration impacts pursuant to the threshold of significance for building damage from off-site construction trucks would be less than significant.**

The residential uses along Topanga Canyon Boulevard are approximately 25 feet from the truck travel path, which would be exposed to temporary vibration levels up to 72 VdB periodically as trucks pass. The estimated ground-borne vibration from the construction trucks would be at the 72 VdB significance threshold for human annoyance at residential uses. **Therefore, vibration impacts pursuant to the threshold of significance for human annoyance from off-site construction trucks could be significant.**



**Project: Westfield Promenade**

NORTHEAST AREA A										
Estimated Construction Noise Levels, dBA Leq										
Rec.	Closest Distance	Demolition	Grading	Foundation	Building Construction	Paving/Concrete/Landscape	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	170	77.0	76.0	76.9	74.7	76.2	70.3	75.3	1.7	Yes
R2	915	63.3	62.2	61.9	60.6	60.3	59.6	64.6	-1.3	No
R3	1180	61.1	60.8	60.6	59.3	58.9	63.7	68.7	-7.6	No
R4	1155	61.5	62.1	61.8	60.5	60.1	59.2	64.2	-2.1	No

NORTHEAST AREA B										
Estimated Construction Noise Levels, dBA Leq										
Rec.	Closest Distance	Demolition	Grading	Foundation	Building Construction	Paving/Concrete/Landscape	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	420	70.3	69.7	70.9	69.6	69.2	70.3	75.3	-4.4	No
R2	915	63.6	64.4	64.1	62.8	62.5	59.6	64.6	-0.2	No
R3	1180	61.4	62.2	61.9	60.6	60.3	63.7	68.7	-6.5	No
R4	1155	61.5	62.4	62.1	60.8	60.4	59.2	64.2	-1.8	No

SOUTHWEST AREA										
Estimated Construction Noise Levels, dBA Leq										
Rec.	Closest Distance	Demolition	Grading/Excavation	Foundation	Building Construction	Paving/Concrete/Landscape	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	1100	62.0	63.1	62.5	61.2	60.9	70.3	75.3	-12.2	No
R2	145	78.2	76.6	78.1	76.0	77.5	59.6	64.6	13.6	Yes
R3	245	74.1	73.8	74.3	72.6	73.3	63.7	68.7	5.6	Yes
R4	380	71.2	72.4	71.8	70.5	70.1	59.2	64.2	8.2	Yes

NORTHWEST AREA										
Estimated Construction Noise Levels, dBA Leq										
Rec.	Closest Distance	Demolition	Grading/Excavation	Foundation	Building Construction	Paving/Concrete/Landscape	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	685	65.9	67.3	68.3	68.1	65.0	70.3	75.3	-7.0	No
R2	840	64.1	65.5	66.5	66.3	63.2	59.6	64.6	1.9	Yes
R3	825	64.2	65.6	66.7	66.4	63.4	63.7	68.7	-2.0	No
R4	415	70.2	71.6	72.7	72.4	69.3	59.2	64.2	8.5	Yes

SOUTHEAST AREA										
Estimated Construction Noise Levels, dBA Leq										
Rec.	Closest Distance	Demolition	Grading/Excavation	Foundation	Building Construction	Paving/Concrete/Landscape	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	735	65.5	66.6	67.7	67.4	64.8	70.3	75.3	-7.6	No
R2	410	70.5	71.7	72.8	72.5	69.9	59.6	64.6	8.2	Yes
R3	895	63.8	64.9	66.0	65.7	63.1	63.7	68.7	-2.7	No
R4	1195	61.3	62.4	63.5	63.2	60.6	59.2	64.2	-0.7	No

OVERLAPPING CONSTRUCTIONS - NO IMPORT

Estimated Construction Noise Levels, dBA Leq									
Rec.	Closest Distance	NE-A Bldg; NW Grading, SW Foundation	NE-A Bldg; NW Bldg; SW Bldg	NE-B Foundation; NW Bldg; SW Bldg	NE-B Bldg	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	170	75.6	75.7	73.0	69.6	70.3	75.3	0.4	Yes
R2	145	78.4	76.6	76.7	62.8	59.6	64.6	13.8	Yes
R3	245	75.0	73.7	73.8	60.6	63.7	68.7	6.3	Yes
R4	380	74.9	74.7	74.8	60.8	59.2	64.2	10.7	Yes

OVERLAPPING CONSTRUCTIONS - WITH IMPORT

Estimated Construction Noise Levels, dBA Leq									
Rec.	Closest Distance	NE-A Foundation; SW Grading	NE-A Bldg; NW Grading; SW Bldg	NE-B Bldg; NW Bldg; SW Bldg	NE-B Bldg; NW Bldg	Ambient	Significance Threshold	Max above Threshold	Impacts
R1	170	77.1	75.6	72.3	71.9	70.3	75.3	1.8	Yes
R2	145	76.7	76.5	76.6	67.9	59.6	64.6	12.1	Yes
R3	245	74.0	73.6	73.7	67.4	63.7	68.7	5.3	Yes
R4	380	72.8	74.3	74.7	72.7	59.2	64.2	10.5	Yes

**Project: Westfield Promenade**

**Off-Site Haul Trucks**

INDIVIDUAL AREA	Maximum Number of Truck One Way Trips		Worker Trips								
Peak for each Area	Per Day	Per Hour (8-hr day)	Per Day	Trips during Pk Hr.	Per Day	Per Hour	R1	R2	R3	R4	TCB
1-Northeast A	310	39	75	30	310/75	39/30	65.0	63.0	62.1	58.3	67.2
2-Northeast B	82	11	400	160	82/400	11/160	60.7	58.8	57.6	54.0	62.8
3-Northwest A&B	310	39	724	290	310/724	39/290	65.6	63.6	62.7	58.9	67.8
4-Southwest	310	39	408	164	310/408	39/164	65.3	63.4	62.4	58.6	67.5
5-Southeast	302	38	937	375	302/937	38/375	65.7	63.8	62.7	59.0	67.9
Ambient							70.3	59.6	63.7	59.2	70.0
Threshold							75.3	64.6	68.7	64.2	73.0
Significant Impact?							No	No	No	No	No

**OVERLAPPING - WITH NO IMPORT**

	Maximum Number of Truck One Way Trips		Worker Trips								
Phase	Per Day	Per Hour (8-hr day)	Workers Per Day	Trips during Pk Hr.	Per Day	Per Hour	R1	R2	R3	R4	TCB
2019	441	56	679	272	441/679	56/272	66.3	64.3	63.3	59.6	68.4
2020	438	55	1536	615	438/1536	55/615	65.2	63.5	62.2	58.5	67.4
2021	407	51	1257	503	407/1257	51/503	64.7	62.9	61.7	58.1	66.9
2022	82	11	400	160	82/400	11/160	58.8	57.1	55.8	52.1	61.0
Ambient							70.3	59.6	63.7	59.2	70.0
Threshold							75.3	64.6	68.7	64.2	73.0
Significant Impact?							No	No	No	No	No

**OVERLAPPING WITH IMPORT**

	Maximum Number of Truck One Way Trips		Worker Trips								
Phase	Per Day	Per Hour (8-hr day)	Workers Per Day	Trips during Pk Hr.	Per Day	Per Hour	R1	R2	R3	R4	TCB
2019	360	45	200	80	360/200	45/80	65.5	63.4	62.5	58.8	67.6
2020	565	71	962	385	565/962	71/385	67.1	64.2	63.9	60.3	69.2
2021	439	55	1532	613	439/1532	55/613	65.2	63.5	62.2	58.5	67.4
2022	265	34	1124	450	265/1124	34/450	63.3	61.6	60.3	56.7	65.5
Ambient							70.3	59.6	63.7	59.2	70.0
Threshold							75.3	64.6	68.7	64.2	73.0
Significant Impact?							No	No	No	No	No

**Project: Westfield Promenade**

**Construction Phase: Northeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	170	0
Crane	2	81	16%	195	0
Excavator	2	81	40%	220	0
Loader	2	79	40%	245	0
Backhoe	2	78	40%	270	0
Excavator	1	81	40%	295	0
Loader	1	79	40%	320	0
Backhoe	1	78	40%	345	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 77.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	170	0
Roller	2	80	20%	195	0
Dozer	2	82	40%	220	0
Scraper	2	84	40%	245	0
Backhoe	1	78	40%	270	0
Scraper	2	84	40%	295	0
Scraper	2	84	40%	320	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 76.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	170	0
Crane	1	81	16%	195	0
Forklift	3	75	20%	220	0
Concrete Pump	3	81	20%	245	0
Plate Compactor	2	83	20%	270	0
Loader	2	79	40%	295	0
Trencher	1	79	40%	320	0
Welder	2	74	40%	345	0
Plate Compactor	2	83	20%	370	0
Plate Compactor	2	83	20%	370	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 76.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	170	0
Aerial Lifts	2	75	20%	195	0
Air Compressor	2	78	40%	220	0
Crane (Tower)	1	81	16%	245	0
Crane (Mobile)	2	81	16%	270	0
Forklift	3	75	20%	295	0
Plate Compactor	2	83	20%	320	0
Skid Steer Loader	1	79	40%	345	0
Backhoe	3	78	40%	370	0
Welder	2	74	40%	370	0
Aerial Lifts	3	75	20%	370	0
Air Compressor	3	78	40%	370	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 74.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	170	0
Paver	1	77	50%	195	0
Paving Equipment	1	77	50%	220	0
Roller	1	80	20%	245	0
Skid Steer Loader	2	79	40%	270	0
Backhoe	1	78	40%	295	0
Trencher	1	79	40%	320	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 76.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	420	0
Crane	2	81	16%	420	0
Excavator	2	81	40%	420	0
Loader	2	79	40%	420	0
Backhoe	2	78	40%	420	0
Excavator	1	81	40%	420	0
Loader	1	79	40%	420	0
Backhoe	1	78	40%	420	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 70.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	420	0
Roller	2	80	20%	445	0
Dozer	2	82	40%	470	0
Scraper	2	84	40%	495	0
Backhoe	1	78	40%	520	0
Scraper	2	84	40%	545	0
Scraper	2	84	40%	570	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 69.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	420	0
Crane	1	81	16%	420	0
Forklift	3	75	20%	420	0
Concrete Pump	3	81	20%	420	0
Plate Compactor	6	83	20%	420	0
Loader	2	79	40%	420	0
Trencher	1	79	40%	420	0
Welder	2	74	40%	420	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 70.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	5	78	40%	420	0
Aerial Lifts	5	75	20%	420	0
Concrete Saw	1	90	20%	420	0
Crane (Tower)	1	81	16%	420	0
Crane (Mobile)	2	81	16%	420	0
Forklift	3	75	20%	420	0
Plate Compactor	2	83	20%	420	0
Skid Steer Loader	1	79	40%	420	0
Backhoe	3	78	40%	420	0
Welder	2	74	40%	420	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 69.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	420	0
Paver	1	77	50%	420	0
Paving Equipment	1	77	50%	420	0
Roller	1	80	20%	420	0
Skid Steer Loader	2	79	40%	420	0
Backhoe	1	78	40%	420	0
Trencher	1	79	40%	420	0

**Receptor:** *R1*

**Results:**  
**1-hour Leq: 69.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1100	0
Crane	2	81	16%	1100	0
Excavator	2	81	40%	1100	0
Loader	2	79	40%	1100	0
Backhoe	2	78	40%	1100	0
Excavator	1	81	40%	1100	0
Loader	1	79	40%	1100	0
Backhoe	1	78	40%	1100	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 62.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Grading/Excavation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	1100	0
Crane (Mobile)	2	81	16%	1100	0
Excavator	2	81	40%	1100	0
Loader	2	79	40%	1100	0
Dozer	1	82	40%	1100	0
Scraper	2	84	40%	1100	0
Backhoe	1	78	40%	1100	0
Scraper	4	84	40%	1100	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 63.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1100	0
Crane	1	81	16%	1100	0
Forklift	3	75	20%	1100	0
Concrete Pump	3	81	20%	1100	0
Plate Compactor	2	83	20%	1100	0
Loader	2	79	40%	1100	0
Trencher	1	79	40%	1100	0
Welder	2	74	40%	1100	0
Plate Compactor	4	83	20%	1100	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 62.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Building Construction**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	1100	0
Air Compressor	2	78	40%	1100	0
Aerial Lifts	2	75	20%	1100	0
Crane (Tower)	1	81	16%	1100	0
Crane (Mobile)	2	81	16%	1100	0
Forklift	3	75	20%	1100	0
Plate Compactor	2	83	20%	1100	0
Skid Steer Loader	1	79	40%	1100	0
Backhoe	3	78	40%	1100	0
Welder	2	74	40%	1100	0
Air Compressor	3	78	40%	1100	0
Aerial Lifts	3	75	20%	1100	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 61.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1100	0
Paver	1	77	50%	1100	0
Paving Equipment	1	77	50%	1100	0
Roller	1	80	20%	1100	0
Skid Steer Loader	2	79	40%	1100	0
Backhoe	1	78	40%	1100	0
Trencher	1	79	40%	1100	0

**Receptor: *R1***

**Results:**  
**1-hour Leq: 60.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	685	0
Excavator	3	81	40%	685	0
Loader	3	79	40%	685	0
Backhoe	3	78	40%	685	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 65.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	685	0
Crane (Mobile)	2	81	16%	685	0
Excavator	2	81	40%	685	0
Loader	2	79	40%	685	0
Dozer	1	82	40%	685	0
Scraper	6	84	40%	685	0
Backhoe	1	78	40%	685	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 67.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Foundation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	685	0
Crane	2	81	16%	685	0
Forklift	5	75	20%	685	0
Concrete Pump	5	81	20%	685	0
Plate Compactor	8	83	20%	685	0
Loader	3	79	40%	685	0
Trencher	1	79	40%	685	0
Welder	3	74	40%	685	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 68.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	685	0
Aerial Lifts	8	75	20%	685	0
Concrete Saw	2	90	20%	685	0
Crane (Tower)	2	81	16%	685	0
Crane (Mobile)	4	81	16%	685	0
Forklift	6	75	20%	685	0
Plate Compactor	4	83	20%	685	0
Skid Steer Loader	2	79	40%	685	0
Backhoe	5	78	40%	685	0
Welder	4	74	40%	685	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 68.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	685	0
Paver	1	77	50%	685	0
Paving Equipment	1	77	50%	685	0
Roller	1	80	20%	685	0
Skid Steer Loader	2	79	40%	685	0
Backhoe	1	78	40%	685	0
Trencher	1	79	40%	685	0

**Receptor:** *R1*

**Results:**  
**1-hour Leq: 65.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	735	0
Crane	2	81	16%	735	0
Excavator	3	81	40%	735	0
Loader	3	79	40%	735	0
Backhoe	3	78	40%	735	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 65.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	735	0
Crane (Mobile)	2	81	16%	735	0
Excavator	2	81	40%	735	0
Loader	2	79	40%	735	0
Dozer	1	82	40%	735	0
Scraper	6	84	40%	735	0
Backhoe	1	78	40%	735	0

**Receptor:** ***R1***

**Results:**  
**1-hour Leq: 66.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	735	0
Crane	2	81	16%	735	0
Forklift	5	75	20%	735	0
Concrete Pump	5	81	20%	735	0
Plate Compactor	8	83	20%	735	0
Loader	3	79	40%	735	0
Trencher	1	79	40%	735	0
Welder	3	74	40%	735	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 67.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Building Construction**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	735	0
Aerial Lifts	8	75	20%	735	0
Concrete Saw	2	90	20%	735	0
Crane (Tower)	2	81	16%	735	0
Crane (Mobile)	4	81	16%	735	0
Forklift	6	75	20%	735	0
Plate Compactor	4	83	20%	735	0
Skid Steer Loader	2	79	40%	735	0
Backhoe	5	78	40%	735	0
Welder	4	74	40%	735	0

**Receptor: R1**

**Results:**  
**1-hour Leq: 67.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	735	0
Paver	1	77	50%	735	0
Paving Equipment	1	77	50%	735	0
Roller	1	80	20%	735	0
Skid Steer Loader	4	79	40%	735	0
Backhoe	1	78	40%	735	0
Trencher	1	79	40%	735	0

**Receptor:** *R1*

**Results:**  
**1-hour Leq: 64.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	915	0
Crane	2	81	16%	940	0
Excavator	2	81	40%	965	0
Loader	2	79	40%	990	0
Backhoe	2	78	40%	1015	0
Excavator	1	81	40%	1015	0
Loader	1	79	40%	1015	0
Backhoe	1	78	40%	1015	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 63.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	1180	0
Roller	2	80	20%	1180	0
Dozer	2	82	40%	1180	0
Scraper	2	84	40%	1180	0
Backhoe	1	78	40%	1180	0
Scraper	2	84	40%	1180	0
Scraper	2	84	40%	1180	0

**Receptor:** ***R2***

**Results:**  
**1-hour Leq: 62.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1180	0
Crane	1	81	16%	1180	0
Forklift	3	75	20%	1180	0
Concrete Pump	3	81	20%	1180	0
Plate Compactor	2	83	20%	1180	0
Loader	2	79	40%	1180	0
Trencher	1	79	40%	1180	0
Welder	2	74	40%	1180	0
Plate Compactor	2	83	20%	1180	0
Plate Compactor	2	83	20%	1180	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 61.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	1180	0
Aerial Lifts	2	75	20%	1180	0
Air Compressor	2	78	40%	1180	0
Crane (Tower)	1	81	16%	1180	0
Crane (Mobile)	2	81	16%	1180	0
Forklift	3	75	20%	1180	0
Plate Compactor	2	83	20%	1180	0
Skid Steer Loader	1	79	40%	1180	0
Backhoe	3	78	40%	1180	0
Welder	2	74	40%	1180	0
Aerial Lifts	3	75	20%	1180	0
Air Compressor	3	78	40%	1180	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 60.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1180	0
Paver	1	77	50%	1180	0
Paving Equipment	1	77	50%	1180	0
Roller	1	80	20%	1180	0
Skid Steer Loader	2	79	40%	1180	0
Backhoe	1	78	40%	1180	0
Trencher	1	79	40%	1180	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 60.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	915	0
Crane	2	81	16%	915	0
Excavator	2	81	40%	915	0
Loader	2	79	40%	915	0
Backhoe	2	78	40%	915	0
Excavator	1	81	40%	915	0
Loader	1	79	40%	915	0
Backhoe	1	78	40%	915	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 63.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	915	0
Roller	2	80	20%	915	0
Dozer	2	82	40%	915	0
Scraper	2	84	40%	915	0
Backhoe	1	78	40%	915	0
Scraper	2	84	40%	915	0
Scraper	2	84	40%	915	0

**Receptor:** ***R2***

**Results:**  
**1-hour Leq: 64.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	915	0
Crane	1	81	16%	915	0
Forklift	3	75	20%	915	0
Concrete Pump	3	81	20%	915	0
Plate Compactor	6	83	20%	915	0
Loader	2	79	40%	915	0
Trencher	1	79	40%	915	0
Welder	2	74	40%	915	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 64.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	5	78	40%	915	0
Aerial Lifts	5	75	20%	915	0
Concrete Saw	1	90	20%	915	0
Crane (Tower)	1	81	16%	915	0
Crane (Mobile)	2	81	16%	915	0
Forklift	3	75	20%	915	0
Plate Compactor	2	83	20%	915	0
Skid Steer Loader	1	79	40%	915	0
Backhoe	3	78	40%	915	0
Welder	2	74	40%	915	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 62.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	915	0
Paver	1	77	50%	915	0
Paving Equipment	1	77	50%	915	0
Roller	1	80	20%	915	0
Skid Steer Loader	2	79	40%	915	0
Backhoe	1	78	40%	915	0
Trencher	1	79	40%	915	0

**Receptor:** **R2**

**Results:**  
**1-hour Leq: 62.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	145	0
Crane	2	81	16%	170	0
Excavator	2	81	40%	195	0
Loader	2	79	40%	220	0
Backhoe	2	78	40%	245	0
Excavator	1	81	40%	270	0
Loader	1	79	40%	295	0
Backhoe	1	78	40%	320	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 78.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Grading/Excavation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	145	0
Crane (Mobile)	2	81	16%	170	0
Excavator	2	81	40%	195	0
Loader	2	79	40%	220	0
Dozer	1	82	40%	245	0
Scraper	2	84	40%	270	0
Backhoe	1	78	40%	295	0
Scraper	4	84	40%	320	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 76.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	145	0
Crane	1	81	16%	170	0
Forklift	3	75	20%	195	0
Concrete Pump	3	81	20%	220	0
Plate Compactor	2	83	20%	245	0
Loader	2	79	40%	270	0
Trencher	1	79	40%	295	0
Welder	2	74	40%	320	0
Plate Compactor	4	83	20%	320	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 78.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Building Construction**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	145	0
Air Compressor	2	78	40%	170	0
Aerial Lifts	2	75	20%	195	0
Crane (Tower)	1	81	16%	220	0
Crane (Mobile)	2	81	16%	245	0
Forklift	3	75	20%	270	0
Plate Compactor	2	83	20%	295	0
Skid Steer Loader	1	79	40%	320	0
Backhoe	3	78	40%	320	0
Welder	2	74	40%	320	0
Air Compressor	3	78	40%	320	0
Aerial Lifts	3	75	20%	320	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 76.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	145	0
Paver	1	77	50%	170	0
Paving Equipment	1	77	50%	195	0
Roller	1	80	20%	220	0
Skid Steer Loader	2	79	40%	245	0
Backhoe	1	78	40%	270	0
Trencher	1	79	40%	295	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 77.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	840	0
Excavator	3	81	40%	840	0
Loader	3	79	40%	840	0
Backhoe	3	78	40%	840	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 64.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	840	0
Crane (Mobile)	2	81	16%	840	0
Excavator	2	81	40%	840	0
Loader	2	79	40%	840	0
Dozer	1	82	40%	840	0
Scraper	6	84	40%	840	0
Backhoe	1	78	40%	840	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 65.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Foundation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	840	0
Crane	2	81	16%	840	0
Forklift	5	75	20%	840	0
Concrete Pump	5	81	20%	840	0
Plate Compactor	8	83	20%	840	0
Loader	3	79	40%	840	0
Trencher	1	79	40%	840	0
Welder	3	74	40%	840	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 66.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	840	0
Aerial Lifts	8	75	20%	840	0
Concrete Saw	2	90	20%	840	0
Crane (Tower)	2	81	16%	840	0
Crane (Mobile)	4	81	16%	840	0
Forklift	6	75	20%	840	0
Plate Compactor	4	83	20%	840	0
Skid Steer Loader	2	79	40%	840	0
Backhoe	5	78	40%	840	0
Welder	4	74	40%	840	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 66.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northwest Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	840	0
Paver	1	77	50%	840	0
Paving Equipment	1	77	50%	840	0
Roller	1	80	20%	840	0
Skid Steer Loader	2	79	40%	840	0
Backhoe	1	78	40%	840	0
Trencher	1	79	40%	840	0

**Receptor:** **R2**

**Results:**  
**1-hour Leq: 63.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	410	0
Crane	2	81	16%	410	0
Excavator	3	81	40%	410	0
Loader	3	79	40%	410	0
Backhoe	3	78	40%	410	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 70.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	410	0
Crane (Mobile)	2	81	16%	410	0
Excavator	2	81	40%	410	0
Loader	2	79	40%	410	0
Dozer	1	82	40%	410	0
Scraper	6	84	40%	410	0
Backhoe	1	78	40%	410	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 71.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	410	0
Crane	2	81	16%	410	0
Forklift	5	75	20%	410	0
Concrete Pump	5	81	20%	410	0
Plate Compactor	8	83	20%	410	0
Loader	3	79	40%	410	0
Trencher	1	79	40%	410	0
Welder	3	74	40%	410	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 72.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	410	0
Aerial Lifts	8	75	20%	410	0
Concrete Saw	2	90	20%	410	0
Crane (Tower)	2	81	16%	410	0
Crane (Mobile)	4	81	16%	410	0
Forklift	6	75	20%	410	0
Plate Compactor	4	83	20%	410	0
Skid Steer Loader	2	79	40%	410	0
Backhoe	5	78	40%	410	0
Welder	4	74	40%	410	0

**Receptor: R2**

**Results:**  
**1-hour Leq: 72.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	410	0
Paver	1	77	50%	410	0
Paving Equipment	1	77	50%	410	0
Roller	1	80	20%	410	0
Skid Steer Loader	4	79	40%	410	0
Backhoe	1	78	40%	410	0
Trencher	1	79	40%	410	0

**Receptor:** **R2**

**Results:**  
**1-hour Leq: 69.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1180	0
Crane	2	81	16%	1205	0
Excavator	2	81	40%	1230	0
Loader	2	79	40%	1255	0
Backhoe	2	78	40%	1280	0
Excavator	1	81	40%	1280	0
Loader	1	79	40%	1280	0
Backhoe	1	78	40%	1280	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 61.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	1380	0
Roller	2	80	20%	1380	0
Dozer	2	82	40%	1380	0
Scraper	2	84	40%	1380	0
Backhoe	1	78	40%	1380	0
Scraper	2	84	40%	1380	0
Scraper	2	84	40%	1380	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 60.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1380	0
Crane	1	81	16%	1380	0
Forklift	3	75	20%	1380	0
Concrete Pump	3	81	20%	1380	0
Plate Compactor	2	83	20%	1380	0
Loader	2	79	40%	1380	0
Trencher	1	79	40%	1380	0
Welder	2	74	40%	1380	0
Plate Compactor	2	83	20%	1380	0
Plate Compactor	2	83	20%	1380	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 60.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	1380	0
Aerial Lifts	2	75	20%	1380	0
Air Compressor	2	78	40%	1380	0
Crane (Tower)	1	81	16%	1380	0
Crane (Mobile)	2	81	16%	1380	0
Forklift	3	75	20%	1380	0
Plate Compactor	2	83	20%	1380	0
Skid Steer Loader	1	79	40%	1380	0
Backhoe	3	78	40%	1380	0
Welder	2	74	40%	1380	0
Aerial Lifts	3	75	20%	1380	0
Air Compressor	3	78	40%	1380	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 59.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1380	0
Paver	1	77	50%	1380	0
Paving Equipment	1	77	50%	1380	0
Roller	1	80	20%	1380	0
Skid Steer Loader	2	79	40%	1380	0
Backhoe	1	78	40%	1380	0
Trencher	1	79	40%	1380	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 58.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1180	0
Crane	2	81	16%	1180	0
Excavator	2	81	40%	1180	0
Loader	2	79	40%	1180	0
Backhoe	2	78	40%	1180	0
Excavator	1	81	40%	1180	0
Loader	1	79	40%	1180	0
Backhoe	1	78	40%	1180	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 61.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	1180	0
Roller	2	80	20%	1180	0
Dozer	2	82	40%	1180	0
Scraper	2	84	40%	1180	0
Backhoe	1	78	40%	1180	0
Scraper	2	84	40%	1180	0
Scraper	2	84	40%	1180	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 62.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1180	0
Crane	1	81	16%	1180	0
Forklift	3	75	20%	1180	0
Concrete Pump	3	81	20%	1180	0
Plate Compactor	6	83	20%	1180	0
Loader	2	79	40%	1180	0
Trencher	1	79	40%	1180	0
Welder	2	74	40%	1180	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 61.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	5	78	40%	1180	0
Aerial Lifts	5	75	20%	1180	0
Concrete Saw	1	90	20%	1180	0
Crane (Tower)	1	81	16%	1180	0
Crane (Mobile)	2	81	16%	1180	0
Forklift	3	75	20%	1180	0
Plate Compactor	2	83	20%	1180	0
Skid Steer Loader	1	79	40%	1180	0
Backhoe	3	78	40%	1180	0
Welder	2	74	40%	1180	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 60.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1180	0
Paver	1	77	50%	1180	0
Paving Equipment	1	77	50%	1180	0
Roller	1	80	20%	1180	0
Skid Steer Loader	2	79	40%	1180	0
Backhoe	1	78	40%	1180	0
Trencher	1	79	40%	1180	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 60.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	245	0
Crane	2	81	16%	270	0
Excavator	2	81	40%	295	0
Loader	2	79	40%	320	0
Backhoe	2	78	40%	345	0
Excavator	1	81	40%	350	0
Loader	1	79	40%	350	0
Backhoe	1	78	40%	350	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 74.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Grading/Excavation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	245	0
Crane (Mobile)	2	81	16%	270	0
Excavator	2	81	40%	295	0
Loader	2	79	40%	320	0
Dozer	1	82	40%	345	0
Scraper	2	84	40%	350	0
Backhoe	1	78	40%	350	0
Scraper	4	84	40%	350	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 73.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	245	0
Crane	1	81	16%	270	0
Forklift	3	75	20%	295	0
Concrete Pump	3	81	20%	320	0
Plate Compactor	2	83	20%	345	0
Loader	2	79	40%	350	0
Trencher	1	79	40%	350	0
Welder	2	74	40%	350	0
Plate Compactor	4	83	20%	350	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 74.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	245	0
Air Compressor	2	78	40%	270	0
Aerial Lifts	2	75	20%	295	0
Crane (Tower)	1	81	16%	320	0
Crane (Mobile)	2	81	16%	345	0
Forklift	3	75	20%	350	0
Plate Compactor	2	83	20%	350	0
Skid Steer Loader	1	79	40%	350	0
Backhoe	3	78	40%	350	0
Welder	2	74	40%	350	0
Air Compressor	3	78	40%	350	0
Aerial Lifts	3	75	20%	350	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 72.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	245	0
Paver	1	77	50%	270	0
Paving Equipment	1	77	50%	295	0
Roller	1	80	20%	320	0
Skid Steer Loader	2	79	40%	345	0
Backhoe	1	78	40%	350	0
Trencher	1	79	40%	350	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 73.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	825	0
Excavator	3	81	40%	825	0
Loader	3	79	40%	825	0
Backhoe	3	78	40%	825	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 64.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	825	0
Crane (Mobile)	2	81	16%	825	0
Excavator	2	81	40%	825	0
Loader	2	79	40%	825	0
Dozer	1	82	40%	825	0
Scraper	6	84	40%	825	0
Backhoe	1	78	40%	825	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 65.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Foundation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	825	0
Crane	2	81	16%	825	0
Forklift	5	75	20%	825	0
Concrete Pump	5	81	20%	825	0
Plate Compactor	8	83	20%	825	0
Loader	3	79	40%	825	0
Trencher	1	79	40%	825	0
Welder	3	74	40%	825	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 66.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	825	0
Aerial Lifts	8	75	20%	825	0
Concrete Saw	2	90	20%	825	0
Crane (Tower)	2	81	16%	825	0
Crane (Mobile)	4	81	16%	825	0
Forklift	6	75	20%	825	0
Plate Compactor	4	83	20%	825	0
Skid Steer Loader	2	79	40%	825	0
Backhoe	5	78	40%	825	0
Welder	4	74	40%	825	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 66.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	825	0
Paver	1	77	50%	825	0
Paving Equipment	1	77	50%	825	0
Roller	1	80	20%	825	0
Skid Steer Loader	2	79	40%	825	0
Backhoe	1	78	40%	825	0
Trencher	1	79	40%	825	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 63.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	895	0
Crane	2	81	16%	895	0
Excavator	3	81	40%	895	0
Loader	3	79	40%	895	0
Backhoe	3	78	40%	895	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 63.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	895	0
Crane (Mobile)	2	81	16%	895	0
Excavator	2	81	40%	895	0
Loader	2	79	40%	895	0
Dozer	1	82	40%	895	0
Scraper	6	84	40%	895	0
Backhoe	1	78	40%	895	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 64.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	895	0
Crane	2	81	16%	895	0
Forklift	5	75	20%	895	0
Concrete Pump	5	81	20%	895	0
Plate Compactor	8	83	20%	895	0
Loader	3	79	40%	895	0
Trencher	1	79	40%	895	0
Welder	3	74	40%	895	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 66.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	895	0
Aerial Lifts	8	75	20%	895	0
Concrete Saw	2	90	20%	895	0
Crane (Tower)	2	81	16%	895	0
Crane (Mobile)	4	81	16%	895	0
Forklift	6	75	20%	895	0
Plate Compactor	4	83	20%	895	0
Skid Steer Loader	2	79	40%	895	0
Backhoe	5	78	40%	895	0
Welder	4	74	40%	895	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 65.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	895	0
Paver	1	77	50%	895	0
Paving Equipment	1	77	50%	895	0
Roller	1	80	20%	895	0
Skid Steer Loader	4	79	40%	895	0
Backhoe	1	78	40%	895	0
Trencher	1	79	40%	895	0

**Receptor: R3**

**Results:**  
**1-hour Leq: 63.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1155	0
Crane	2	81	16%	1155	0
Excavator	2	81	40%	1155	0
Loader	2	79	40%	1155	0
Backhoe	2	78	40%	1155	0
Excavator	1	81	40%	1155	0
Loader	1	79	40%	1155	0
Backhoe	1	78	40%	1155	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 61.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	1195	0
Roller	2	80	20%	1195	0
Dozer	2	82	40%	1195	0
Scraper	2	84	40%	1195	0
Backhoe	1	78	40%	1195	0
Scraper	2	84	40%	1195	0
Scraper	2	84	40%	1195	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 62.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1195	0
Crane	1	81	16%	1195	0
Forklift	3	75	20%	1195	0
Concrete Pump	3	81	20%	1195	0
Plate Compactor	2	83	20%	1195	0
Loader	2	79	40%	1195	0
Trencher	1	79	40%	1195	0
Welder	2	74	40%	1195	0
Plate Compactor	2	83	20%	1195	0
Plate Compactor	2	83	20%	1195	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 61.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	1195	0
Aerial Lifts	2	75	20%	1195	0
Air Compressor	2	78	40%	1195	0
Crane (Tower)	1	81	16%	1195	0
Crane (Mobile)	2	81	16%	1195	0
Forklift	3	75	20%	1195	0
Plate Compactor	2	83	20%	1195	0
Skid Steer Loader	1	79	40%	1195	0
Backhoe	3	78	40%	1195	0
Welder	2	74	40%	1195	0
Aerial Lifts	3	75	20%	1195	0
Air Compressor	3	78	40%	1195	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 60.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1195	0
Paver	1	77	50%	1195	0
Paving Equipment	1	77	50%	1195	0
Roller	1	80	20%	1195	0
Skid Steer Loader	2	79	40%	1195	0
Backhoe	1	78	40%	1195	0
Trencher	1	79	40%	1195	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 60.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1155	0
Crane	2	81	16%	1155	0
Excavator	2	81	40%	1155	0
Loader	2	79	40%	1155	0
Backhoe	2	78	40%	1155	0
Excavator	1	81	40%	1155	0
Loader	1	79	40%	1155	0
Backhoe	1	78	40%	1155	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 61.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area A**  
***Grading***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Grader	1	85	40%	1155	0
Roller	2	80	20%	1155	0
Dozer	2	82	40%	1155	0
Scraper	2	84	40%	1155	0
Backhoe	1	78	40%	1155	0
Scraper	2	84	40%	1155	0
Scraper	2	84	40%	1155	0

**Receptor:** ***R4***

**Results:**  
**1-hour Leq: 62.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1155	0
Crane	1	81	16%	1155	0
Forklift	3	75	20%	1155	0
Concrete Pump	3	81	20%	1155	0
Plate Compactor	6	83	20%	1155	0
Loader	2	79	40%	1155	0
Trencher	1	79	40%	1155	0
Welder	2	74	40%	1155	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 62.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	5	78	40%	1155	0
Aerial Lifts	5	75	20%	1155	0
Concrete Saw	1	90	20%	1155	0
Crane (Tower)	1	81	16%	1155	0
Crane (Mobile)	2	81	16%	1155	0
Forklift	3	75	20%	1155	0
Plate Compactor	2	83	20%	1155	0
Skid Steer Loader	1	79	40%	1155	0
Backhoe	3	78	40%	1155	0
Welder	2	74	40%	1155	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 60.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1155	0
Paver	1	77	50%	1155	0
Paving Equipment	1	77	50%	1155	0
Roller	1	80	20%	1155	0
Skid Steer Loader	2	79	40%	1155	0
Backhoe	1	78	40%	1155	0
Trencher	1	79	40%	1155	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 60.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	380	0
Crane	2	81	16%	380	0
Excavator	2	81	40%	380	0
Loader	2	79	40%	380	0
Backhoe	2	78	40%	380	0
Excavator	1	81	40%	380	0
Loader	1	79	40%	380	0
Backhoe	1	78	40%	380	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 71.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area**  
**Grading/Excavation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	380	0
Crane (Mobile)	2	81	16%	380	0
Excavator	2	81	40%	380	0
Loader	2	79	40%	380	0
Dozer	1	82	40%	380	0
Scraper	2	84	40%	380	0
Backhoe	1	78	40%	380	0
Scraper	4	84	40%	380	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 72.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	380	0
Crane	1	81	16%	380	0
Forklift	3	75	20%	380	0
Concrete Pump	3	81	20%	380	0
Plate Compactor	2	83	20%	380	0
Loader	2	79	40%	380	0
Trencher	1	79	40%	380	0
Welder	2	74	40%	380	0
Plate Compactor	4	83	20%	380	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 71.8**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southwest Area**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	1	90	20%	380	0
Air Compressor	2	78	40%	380	0
Aerial Lifts	2	75	20%	380	0
Crane (Tower)	1	81	16%	380	0
Crane (Mobile)	2	81	16%	380	0
Forklift	3	75	20%	380	0
Plate Compactor	2	83	20%	380	0
Skid Steer Loader	1	79	40%	380	0
Backhoe	3	78	40%	380	0
Welder	2	74	40%	380	0
Air Compressor	3	78	40%	380	0
Aerial Lifts	3	75	20%	380	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 70.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northeast Area B  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	380	0
Paver	1	77	50%	380	0
Paving Equipment	1	77	50%	380	0
Roller	1	80	20%	380	0
Skid Steer Loader	2	79	40%	380	0
Backhoe	1	78	40%	380	0
Trencher	1	79	40%	380	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 70.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	415	0
Excavator	3	81	40%	415	0
Loader	3	79	40%	415	0
Backhoe	3	78	40%	415	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 70.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	415	0
Crane (Mobile)	2	81	16%	415	0
Excavator	2	81	40%	415	0
Loader	2	79	40%	415	0
Dozer	1	82	40%	415	0
Scraper	6	84	40%	415	0
Backhoe	1	78	40%	415	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 71.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Foundation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	415	0
Crane	2	81	16%	415	0
Forklift	5	75	20%	415	0
Concrete Pump	5	81	20%	415	0
Plate Compactor	8	83	20%	415	0
Loader	3	79	40%	415	0
Trencher	1	79	40%	415	0
Welder	3	74	40%	415	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 72.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area A and Area B**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	415	0
Aerial Lifts	8	75	20%	415	0
Concrete Saw	2	90	20%	415	0
Crane (Tower)	2	81	16%	415	0
Crane (Mobile)	4	81	16%	415	0
Forklift	6	75	20%	415	0
Plate Compactor	4	83	20%	415	0
Skid Steer Loader	2	79	40%	415	0
Backhoe	5	78	40%	415	0
Welder	4	74	40%	415	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 72.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Northwest Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	415	0
Paver	1	77	50%	415	0
Paving Equipment	1	77	50%	415	0
Roller	1	80	20%	415	0
Skid Steer Loader	2	79	40%	415	0
Backhoe	1	78	40%	415	0
Trencher	1	79	40%	415	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 69.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1195	0
Crane	2	81	16%	1195	0
Excavator	3	81	40%	1195	0
Loader	3	79	40%	1195	0
Backhoe	3	78	40%	1195	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 61.3**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Grading/Excavation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	1195	0
Crane (Mobile)	2	81	16%	1195	0
Excavator	2	81	40%	1195	0
Loader	2	79	40%	1195	0
Dozer	1	82	40%	1195	0
Scraper	6	84	40%	1195	0
Backhoe	1	78	40%	1195	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 62.4**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	1195	0
Crane	2	81	16%	1195	0
Forklift	5	75	20%	1195	0
Concrete Pump	5	81	20%	1195	0
Plate Compactor	8	83	20%	1195	0
Loader	3	79	40%	1195	0
Trencher	1	79	40%	1195	0
Welder	3	74	40%	1195	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 63.5**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	1195	0
Aerial Lifts	8	75	20%	1195	0
Concrete Saw	2	90	20%	1195	0
Crane (Tower)	2	81	16%	1195	0
Crane (Mobile)	4	81	16%	1195	0
Forklift	6	75	20%	1195	0
Plate Compactor	4	83	20%	1195	0
Skid Steer Loader	2	79	40%	1195	0
Backhoe	5	78	40%	1195	0
Welder	4	74	40%	1195	0

**Receptor: *R4***

**Results:**  
**1-hour Leq: 63.2**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	1195	0
Paver	1	77	50%	1195	0
Paving Equipment	1	77	50%	1195	0
Roller	1	80	20%	1195	0
Skid Steer Loader	4	79	40%	1195	0
Backhoe	1	78	40%	1195	0
Trencher	1	79	40%	1195	0

**Receptor: R4**

**Results:**  
**1-hour Leq: 60.6**

Source for Ref. Noise Levels: FHWA RCNM, 2006



**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Demolition**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	80	0
Crane	2	81	16%	80	0
Excavator	3	81	40%	80	0
Loader	3	79	40%	80	0
Backhoe	3	78	40%	80	0

**Receptor:** *Completed portion of the Project*

**Results:**  
**1-hour Leq: 84.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Grading/Excavation***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Bore/Drill Rig	2	84	20%	80	0
Crane (Mobile)	2	81	16%	80	0
Excavator	2	81	40%	80	0
Loader	2	79	40%	80	0
Dozer	1	82	40%	80	0
Scraper	6	84	40%	80	0
Backhoe	1	78	40%	80	0

**Receptor:** ***Completed portion of the Project***

**Results:**  
**1-hour Leq: 85.9**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Foundation**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	3	90	20%	80	0
Crane	2	81	16%	80	0
Forklift	5	75	20%	80	0
Concrete Pump	5	81	20%	80	0
Plate Compactor	8	83	20%	80	0
Loader	3	79	40%	80	0
Trencher	1	79	40%	80	0
Welder	3	74	40%	80	0

**Receptor:** *Completed portion of the Project*

**Results:**  
**1-hour Leq: 87.0**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area**  
***Building Construction***

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Air Compressor	8	78	40%	80	0
Aerial Lifts	8	75	20%	80	0
Concrete Saw	2	90	20%	80	0
Crane (Tower)	2	81	16%	80	0
Crane (Mobile)	4	81	16%	80	0
Forklift	6	75	20%	80	0
Plate Compactor	4	83	20%	80	0
Skid Steer Loader	2	79	40%	80	0
Backhoe	5	78	40%	80	0
Welder	4	74	40%	80	0

**Receptor:** ***Completed portion of the Project***

**Results:**  
**1-hour Leq: 86.7**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**Project: Westfield Promenade**

**Construction Phase: Southeast Area  
Paving/Concrete/Landscape**

**Equipment**

<b>Description</b>	<b>No. of Equip.</b>	<b>Reference Noise Level at 50ft, Lmax</b>	<b>Acoustical Usage Factor</b>	<b>Distance to Receptor, ft</b>	<b>Estimated Noise Shielding, dBA</b>
Concrete Saw	2	90	20%	80	0
Paver	1	77	50%	80	0
Paving Equipment	1	77	50%	80	0
Roller	1	80	20%	80	0
Skid Steer Loader	4	79	40%	80	0
Backhoe	1	78	40%	80	0
Trencher	1	79	40%	80	0

**Receptor:** *Completed portion of the Project*

**Results:**  
**1-hour Leq: 84.1**

Source for Ref. Noise Levels: FHWA RCNM, 2006

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental											
SKB											

12 January 2018

TNM 2.5

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**

Westfield Promenade

**RUN:**

Haul Trucks - Northeast A

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates	(pavement)		Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - Northeast A												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	15	35	0	0	39	35	0	0	0	0	
	point5	5	15	35	0	0	39	35	0	0	0	0	
	point6	6	15	35	0	0	39	35	0	0	0	0	
	point2	2											
Erwin	point7	7	15	35	0	0	39	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	15	35	0	0	39	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	15	35	0	0	39	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	15	35	0	0	39	35	0	0	0	0	
	point14	14	15	35	0	0	39	35	0	0	0	0	
	point15	15	15	35	0	0	39	35	0	0	0	0	
	point16	16	15	35	0	0	39	35	0	0	0	0	
	point17	17	15	35	0	0	39	35	0	0	0	0	
	point18	18	15	35	0	0	39	35	0	0	0	0	
	point19	19	15	35	0	0	39	35	0	0	0	0	
	point20	20	15	35	0	0	39	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - Northeast A											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018				
SKB								TNM 2.5				
								Calculated with TNM 2.5				
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Westfield Promenade										
RUN:		Haul Trucks - Northeast A										
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.			
ATMOSPHERICS:		68 deg F, 50% RH										
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dB	dB	dB	dB	dB		dB	dB	dB	dB
R1	1	1	70.3	65.0	75	-5.3	5	----	65.0	0.0	0	0.0
R2	8	1	59.6	63.0	65	3.4	5	----	63.0	0.0	0	0.0
R3	10	1	63.7	62.1	69	-1.6	5	----	62.1	0.0	0	0.0
R4	13	1	59.2	58.3	64	-0.9	5	----	58.3	0.0	8	-8.0
Canoga Park HS	14	1	70.0	67.2	75	-2.8	5	----	67.2	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - Northeast B**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - Northeast B												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	80	35	0	0	11	35	0	0	0	0	
	point5	5	80	35	0	0	11	35	0	0	0	0	
	point6	6	80	35	0	0	11	35	0	0	0	0	
	point2	2											
Erwin	point7	7	80	35	0	0	11	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	80	35	0	0	11	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	80	35	0	0	11	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	80	35	0	0	11	35	0	0	0	0	
	point14	14	80	35	0	0	11	35	0	0	0	0	
	point15	15	80	35	0	0	11	35	0	0	0	0	
	point16	16	80	35	0	0	11	35	0	0	0	0	
	point17	17	80	35	0	0	11	35	0	0	0	0	
	point18	18	80	35	0	0	11	35	0	0	0	0	
	point19	19	80	35	0	0	11	35	0	0	0	0	
	point20	20	80	35	0	0	11	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS****Westfield Promenade**

Eyestone Environmental SKB							12 January 2018 TNM 2.5					
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - Northeast B											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	

**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018				
SKB								TNM 2.5				
								Calculated with TNM 2.5				
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - Northeast B											
BARRIER DESIGN:	INPUT HEIGHTS											
								Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:	68 deg F, 50% RH											
Receiver												
Name	No.	#DUs	Existing	No Barrier				With Barrier				
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	1	1	70.3	60.7	75	-9.6	5	----	60.7	0.0	0	0.0
R2	8	1	59.6	58.8	65	-0.8	5	----	58.8	0.0	0	0.0
R3	10	1	63.7	57.6	69	-6.1	5	----	57.6	0.0	0	0.0
R4	13	1	59.2	54.0	64	-5.2	5	----	54.0	0.0	8	-8.0
Canoga Park HS	14	1	70.0	62.8	75	-7.2	5	----	62.8	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

<b>INPUT: ROADWAYS</b>											
<b>PROJECT/CONTRACT:</b>		Westfield Promenade								Average pavement type shall be used unless	
<b>RUN:</b>		Haul Trucks - Northwest								a State highway agency substantiates the use	
										of a different type with the approval of FHWA	

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - Northwest												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	145	35	0	0	39	35	0	0	0	0	
	point5	5	145	35	0	0	39	35	0	0	0	0	
	point6	6	145	35	0	0	39	35	0	0	0	0	
	point2	2											
Erwin	point7	7	145	35	0	0	39	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	145	35	0	0	39	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	145	35	0	0	39	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	145	35	0	0	39	35	0	0	0	0	
	point14	14	145	35	0	0	39	35	0	0	0	0	
	point15	15	145	35	0	0	39	35	0	0	0	0	
	point16	16	145	35	0	0	39	35	0	0	0	0	
	point17	17	145	35	0	0	39	35	0	0	0	0	
	point18	18	145	35	0	0	39	35	0	0	0	0	
	point19	19	145	35	0	0	39	35	0	0	0	0	
	point20	20	145	35	0	0	39	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB							12 January 2018 TNM 2.5					
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - Northwest											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018					
SKB								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		Westfield Promenade											
RUN:		Haul Trucks - Northwest											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
R1	1	1	70.3	65.6	75	-4.7	5	----	65.6	0.0	0	0.0	
R2	8	1	59.6	63.6	65	4.0	5	----	63.6	0.0	0	0.0	
R3	10	1	63.7	62.7	69	-1.0	5	----	62.7	0.0	0	0.0	
R4	13	1	59.2	58.9	64	-0.3	5	----	58.9	0.0	8	-8.0	
Canoga Park HS	14	1	70.0	67.8	75	-2.2	5	----	67.8	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		5	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		3	0.0	0.0	0.0								

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - Southwest**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - Southwest												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	82	35	0	0	39	35	0	0	0	0	
	point5	5	82	35	0	0	39	35	0	0	0	0	
	point6	6	82	35	0	0	39	35	0	0	0	0	
	point2	2											
Erwin	point7	7	82	35	0	0	39	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	82	35	0	0	39	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	82	35	0	0	39	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	82	35	0	0	39	35	0	0	0	0	
	point14	14	82	35	0	0	39	35	0	0	0	0	
	point15	15	82	35	0	0	39	35	0	0	0	0	
	point16	16	82	35	0	0	39	35	0	0	0	0	
	point17	17	82	35	0	0	39	35	0	0	0	0	
	point18	18	82	35	0	0	39	35	0	0	0	0	
	point19	19	82	35	0	0	39	35	0	0	0	0	
	point20	20	82	35	0	0	39	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS****Westfield Promenade**

Eyestone Environmental SKB							12 January 2018 TNM 2.5					
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - Southwest											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	

**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018					
SKB								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		Westfield Promenade											
RUN:		Haul Trucks - Southwest											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dB	dB	dB	dB	dB		dB	dB	dB	dB	
R1	1	1	70.3	65.3	75	-5.0	5	----	65.3	0.0	0	0.0	
R2	8	1	59.6	63.4	65	3.8	5	----	63.4	0.0	0	0.0	
R3	10	1	63.7	62.4	69	-1.3	5	----	62.4	0.0	0	0.0	
R4	13	1	59.2	58.6	64	-0.6	5	----	58.6	0.0	8	-8.0	
Canoga Park HS	14	1	70.0	67.5	75	-2.5	5	----	67.5	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		5	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		3	0.0	0.0	0.0								

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental											
SKB											

12 January 2018

TNM 2.5

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**

Westfield Promenade

**RUN:**

Haul Trucks - Southeast

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates	(pavement)		Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - Southeast												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	188	35	0	0	38	35	0	0	0	0	
	point5	5	188	35	0	0	38	35	0	0	0	0	
	point6	6	188	35	0	0	38	35	0	0	0	0	
	point2	2											
Erwin	point7	7	188	35	0	0	38	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	188	35	0	0	38	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	188	35	0	0	38	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	188	35	0	0	38	35	0	0	0	0	
	point14	14	188	35	0	0	38	35	0	0	0	0	
	point15	15	188	35	0	0	38	35	0	0	0	0	
	point16	16	188	35	0	0	38	35	0	0	0	0	
	point17	17	188	35	0	0	38	35	0	0	0	0	
	point18	18	188	35	0	0	38	35	0	0	0	0	
	point19	19	188	35	0	0	38	35	0	0	0	0	
	point20	20	188	35	0	0	38	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - Southeast											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018				
SKB								TNM 2.5				
								Calculated with TNM 2.5				
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		Westfield Promenade										
RUN:		Haul Trucks - Southeast										
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.			
ATMOSPHERICS:		68 deg F, 50% RH										
Receiver												
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dB	dB	dB	dB	dB		dB	dB	dB	dB
R1	1	1	70.3	65.7	75	-4.6	5	----	65.7	0.0	0	0.0
R2	8	1	59.6	63.8	65	4.2	5	----	63.8	0.0	0	0.0
R3	10	1	63.7	62.7	69	-1.0	5	----	62.7	0.0	0	0.0
R4	13	1	59.2	59.0	64	-0.2	5	----	59.0	0.0	8	-8.0
Canoga Park HS	14	1	70.0	67.9	75	-2.1	5	----	67.9	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - No Import 2019**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

Westfield Promenade

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - No Import 2019												
Roadway	Points												
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles		
			Autos										
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	136	35	0	0	47	35	0	0	0	0	
	point5	5	136	35	0	0	47	35	0	0	0	0	
	point6	6	136	35	0	0	47	35	0	0	0	0	
	point2	2											
Erwin	point7	7	136	35	0	0	47	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	136	35	0	0	47	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	136	35	0	0	47	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	136	35	0	0	47	35	0	0	0	0	
	point14	14	136	35	0	0	47	35	0	0	0	0	
	point15	15	136	35	0	0	47	35	0	0	0	0	
	point16	16	136	35	0	0	47	35	0	0	0	0	
	point17	17	136	35	0	0	47	35	0	0	0	0	
	point18	18	136	35	0	0	47	35	0	0	0	0	
	point19	19	136	35	0	0	47	35	0	0	0	0	
	point20	20	136	35	0	0	47	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - No Import 2019											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	

**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018					
SKB								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		Westfield Promenade											
RUN:		Haul Trucks - No Import 2019											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
R1	1	1	70.3	66.3	75	-4.0	5	----	66.3	0.0	0	0.0	
R2	8	1	59.6	64.3	65	4.7	5	----	64.3	0.0	0	0.0	
R3	10	1	63.7	63.3	69	-0.4	5	----	63.3	0.0	0	0.0	
R4	13	1	59.2	59.6	64	0.4	5	----	59.6	0.0	8	-8.0	
Canoga Park HS	14	1	70.0	68.4	75	-1.6	5	----	68.4	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		5	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		3	0.0	0.0	0.0								

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental											
SKB											

12 January 2018

TNM 2.5

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**

Westfield Promenade

**RUN:**

Haul Trucks - No Imports 2020

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - No Imports 2020												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	308	35	0	0	28	35	0	0	0	0	
	point5	5	308	35	0	0	28	35	0	0	0	0	
	point6	6	308	35	0	0	28	35	0	0	0	0	
	point2	2											
Erwin	point7	7	308	35	0	0	28	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	308	35	0	0	28	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	308	35	0	0	28	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	308	35	0	0	28	35	0	0	0	0	
	point14	14	308	35	0	0	28	35	0	0	0	0	
	point15	15	308	35	0	0	28	35	0	0	0	0	
	point16	16	308	35	0	0	28	35	0	0	0	0	
	point17	17	308	35	0	0	28	35	0	0	0	0	
	point18	18	308	35	0	0	28	35	0	0	0	0	
	point19	19	308	35	0	0	28	35	0	0	0	0	
	point20	20	308	35	0	0	28	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - No Imports 2020											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018					
SKB								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		Westfield Promenade											
RUN:		Haul Trucks - No Imports 2020											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dB	dB	dB	dB	dB		dB	dB	dB	dB	
R1	1	1	70.3	65.2	75	-5.1	5	----	65.2	0.0	0	0.0	
R2	8	1	59.6	63.5	65	3.9	5	----	63.5	0.0	0	0.0	
R3	10	1	63.7	62.2	69	-1.5	5	----	62.2	0.0	0	0.0	
R4	13	1	59.2	58.5	64	-0.7	5	----	58.5	0.0	8	-8.0	
Canoga Park HS	14	1	70.0	67.4	75	-2.6	5	----	67.4	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		5	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		3	0.0	0.0	0.0								

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					2 April 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - No Imports 2021**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB					2 April 2018 TNM 2.5								
INPUT: TRAFFIC FOR LAeq1h Volumes PROJECT/CONTRACT: RUN:													
	Westfield Promenade												
	Haul Trucks - No Imports 2021												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	252	35	0	0	26	35	0	0	0	0	
	point5	5	252	35	0	0	26	35	0	0	0	0	
	point6	6	252	35	0	0	26	35	0	0	0	0	
	point2	2											
Erwin	point7	7	252	35	0	0	26	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	252	35	0	0	26	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	252	35	0	0	26	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	252	35	0	0	26	35	0	0	0	0	
	point14	14	252	35	0	0	26	35	0	0	0	0	
	point15	15	252	35	0	0	26	35	0	0	0	0	
	point16	16	252	35	0	0	26	35	0	0	0	0	
	point17	17	252	35	0	0	26	35	0	0	0	0	
	point18	18	252	35	0	0	26	35	0	0	0	0	
	point19	19	252	35	0	0	26	35	0	0	0	0	
	point20	20	252	35	0	0	26	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS****Westfield Promenade**

Eyestone Environmental SKB							2 April 2018 TNM 2.5					
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - No Imports 2021											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	

**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental SKB												
2 April 2018												
TNM 2.5												
Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b> Westfield Promenade												
<b>RUN:</b> Haul Trucks - No Imports 2021												
<b>BARRIER DESIGN:</b> INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b> 68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h Calculated</b>	<b>Crit'n</b>	<b>Increase over existing Calculated</b>	<b>Crit'n Sub'l Inc</b>	<b>Type Impact</b>	<b>With Barrier Calculated LAeq1h</b>	<b>Noise Reduction Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
			dB	dB	dB	dB	dB		dB	dB	dB	dB
R1	1	1	70.3	64.7	75	-5.6	5	----	64.7	0.0	0	0.0
R2	8	1	59.6	62.9	65	3.3	5	----	62.9	0.0	0	0.0
R3	10	1	63.7	61.7	69	-2.0	5	----	61.7	0.0	0	0.0
R4	13	1	59.2	58.1	64	-1.1	5	----	58.1	0.0	8	-8.0
Canoga Park HS	14	1	70.0	66.9	75	-3.1	5	----	66.9	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - No Imports 2022**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - No Imports 2022												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	80	35	0	0	6	35	0	0	0	0	
	point5	5	80	35	0	0	6	35	0	0	0	0	
	point6	6	80	35	0	0	6	35	0	0	0	0	
	point2	2											
Erwin	point7	7	80	35	0	0	6	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	80	35	0	0	6	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	80	35	0	0	6	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	80	35	0	0	6	35	0	0	0	0	
	point14	14	80	35	0	0	6	35	0	0	0	0	
	point15	15	80	35	0	0	6	35	0	0	0	0	
	point16	16	80	35	0	0	6	35	0	0	0	0	
	point17	17	80	35	0	0	6	35	0	0	0	0	
	point18	18	80	35	0	0	6	35	0	0	0	0	
	point19	19	80	35	0	0	6	35	0	0	0	0	
	point20	20	80	35	0	0	6	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - No Imports 2022											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental SKB												
12 January 2018												
TNM 2.5												
Calculated with TNM 2.5												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT: Westfield Promenade												
RUN: Haul Trucks - No Imports 2022												
BARRIER DESIGN: INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
ATMOSPHERICS: 68 deg F, 50% RH												
Receiver												
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier				
								Type Impact	Calculated LAeq1h	Noise Reduction		
										Calculated	Goal	Calculated minus Goal
			dB	dB	dB	dB	dB		dB	dB	dB	dB
R1	1	1	70.3	58.8	75	-11.5	5	----	58.8	0.0	0	0.0
R2	8	1	59.6	57.1	65	-2.5	5	----	57.1	0.0	0	0.0
R3	10	1	63.7	55.8	69	-7.9	5	----	55.8	0.0	0	0.0
R4	13	1	59.2	52.1	64	-7.1	5	----	52.1	0.0	8	-8.0
Canoga Park HS	14	1	70.0	61.0	75	-9.0	5	----	61.0	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental											
SKB											

**12 January 2018**
**TNM 2.5**
**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - With Imports 2019**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

Westfield Promenade

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes PROJECT/CONTRACT: RUN:	12 January 2018 TNM 2.5 Westfield Promenade Haul Trucks - With Imports 2019												
Roadway	Points												
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles		
			Autos										
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	40	35	0	0	42	35	0	0	0	0	
	point5	5	40	35	0	0	42	35	0	0	0	0	
	point6	6	40	35	0	0	42	35	0	0	0	0	
	point2	2											
Erwin	point7	7	40	35	0	0	42	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	40	35	0	0	42	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	40	35	0	0	42	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	40	35	0	0	42	35	0	0	0	0	
	point14	14	40	35	0	0	42	35	0	0	0	0	
	point15	15	40	35	0	0	42	35	0	0	0	0	
	point16	16	40	35	0	0	42	35	0	0	0	0	
	point17	17	40	35	0	0	42	35	0	0	0	0	
	point18	18	40	35	0	0	42	35	0	0	0	0	
	point19	19	40	35	0	0	42	35	0	0	0	0	
	point20	20	40	35	0	0	42	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - With Imports 2019											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	

**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018					
SKB								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		Westfield Promenade											
RUN:		Haul Trucks - With Imports 2019											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
R1	1	1	70.3	65.5	75	-4.8	5	----	65.5	0.0	0	0.0	
R2	8	1	59.6	63.4	65	3.8	5	----	63.4	0.0	0	0.0	
R3	10	1	63.7	62.5	69	-1.2	5	----	62.5	0.0	0	0.0	
R4	13	1	59.2	58.8	64	-0.4	5	----	58.8	0.0	8	-8.0	
Canoga Park HS	14	1	70.0	67.6	75	-2.4	5	----	67.6	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		5	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		3	0.0	0.0	0.0								

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - With Imports 2020**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - With Imports 2020												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	193	35	0	0	55	35	0	0	0	0	
	point5	5	193	35	0	0	55	35	0	0	0	0	
	point6	6	193	35	0	0	55	35	0	0	0	0	
	point2	2											
Erwin	point7	7	193	35	0	0	55	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	193	35	0	0	55	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	193	35	0	0	36	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	193	35	0	0	55	35	0	0	0	0	
	point14	14	193	35	0	0	55	35	0	0	0	0	
	point15	15	193	35	0	0	55	35	0	0	0	0	
	point16	16	193	35	0	0	55	35	0	0	0	0	
	point17	17	193	35	0	0	55	35	0	0	0	0	
	point18	18	193	35	0	0	55	35	0	0	0	0	
	point19	19	193	35	0	0	55	35	0	0	0	0	
	point20	20	193	35	0	0	55	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - With Imports 2020											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental SKB												
12 January 2018												
TNM 2.5												
Calculated with TNM 2.5												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT: Westfield Promenade												
RUN: Haul Trucks - With Imports 2020												
BARRIER DESIGN: INPUT HEIGHTS												
ATMOSPHERICS: 68 deg F, 50% RH												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
Receiver												
Name	No.	#DUs	Existing	No Barrier	Crit'n	With Barrier						
			LAeq1h	LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		
				Calculated		Calculated	Crit'n			Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	1	1	70.3	67.1	75	-3.2	5	----	67.1	0.0	0	0.0
R2	8	1	59.6	64.2	65	4.6	5	----	64.2	0.0	0	0.0
R3	10	1	63.7	63.9	69	0.2	5	----	63.9	0.0	0	0.0
R4	13	1	59.2	60.3	64	1.1	5	----	60.3	0.0	8	-8.0
Canoga Park HS	14	1	70.0	69.2	75	-0.8	5	----	69.2	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					2 April 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - With Imports 2021**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB					2 April 2018 TNM 2.5								
INPUT: TRAFFIC FOR LAeq1h Volumes PROJECT/CONTRACT: RUN:	Westfield Promenade Haul Trucks - With Imports 2021												
Roadway	Points												
Name	Name	No.	Segment		MTrucks		HTrucks		Buses		Motorcycles		
			Autos										
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	307	35	0	0	28	35	0	0	0	0	
	point5	5	307	35	0	0	28	35	0	0	0	0	
	point6	6	307	35	0	0	28	35	0	0	0	0	
	point2	2											
Erwin	point7	7	307	35	0	0	28	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	307	35	0	0	28	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	307	35	0	0	28	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	307	35	0	0	28	35	0	0	0	0	
	point14	14	307	35	0	0	28	35	0	0	0	0	
	point15	15	307	35	0	0	28	35	0	0	0	0	
	point16	16	307	35	0	0	28	35	0	0	0	0	
	point17	17	307	35	0	0	28	35	0	0	0	0	
	point18	18	307	35	0	0	28	35	0	0	0	0	
	point19	19	307	35	0	0	28	35	0	0	0	0	
	point20	20	307	35	0	0	28	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - With Imports 2021											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	

**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental SKB												
2 April 2018												
TNM 2.5												
Calculated with TNM 2.5												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT: Westfield Promenade												
RUN: Haul Trucks - With Imports 2021												
BARRIER DESIGN: INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
ATMOSPHERICS: 68 deg F, 50% RH												
Receiver												
Name	No.	#DUs	Existing	No Barrier	Crit'n	With Barrier						
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated		Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1	1	1	70.3	65.2	75	-5.1	5	----	65.2	0.0	0	0.0
R2	8	1	59.6	63.5	65	3.9	5	----	63.5	0.0	0	0.0
R3	10	1	63.7	62.2	69	-1.5	5	----	62.2	0.0	0	0.0
R4	13	1	59.2	58.5	64	-0.7	5	----	58.5	0.0	8	-8.0
Canoga Park HS	14	1	70.0	67.4	75	-2.6	5	----	67.4	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		3	0.0	0.0	0.0							

**INPUT: ROADWAYS**
**Westfield Promenade**

Eyestone Environmental					12 January 2018						
SKB					TNM 2.5						

**INPUT: ROADWAYS**
**PROJECT/CONTRACT:**
**Westfield Promenade**
**RUN:**
**Haul Trucks - With Imports 2022**

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Topanga-Erwin to Oxnard	12.0	point1	1	760.4	1,590.9	0.00	Stop	0.00	100	Average	
		point5	5	760.7	779.2	0.00				Average	
		point6	6	794.8	574.5	0.00				Average	
		point2	2	903.8	280.7	0.00					
Erwin	12.0	point7	7	760.4	1,590.9	0.00	Signal	0.00	100	Average	
		point8	8	2,062.5	1,591.0	0.00					
Owensmouth	12.0	point9	9	2,062.5	1,591.0	0.00	Signal	0.00	100	Average	
		point10	10	2,064.9	291.6	0.00					
Oxnard	12.0	point11	11	2,064.9	291.6	0.00	Signal	0.00	100	Average	
		point12	12	903.8	280.7	0.00					
Topanga-South of Oxnard	12.0	point13	13	903.8	280.7	0.00	Signal	0.00	100	Average	
		point14	14	1,015.3	37.7	0.00				Average	
		point15	15	1,054.5	-172.6	0.00				Average	
		point16	16	1,057.4	-279.9	0.00				Average	
		point17	17	1,036.1	-434.5	0.00				Average	
		point18	18	988.1	-581.4	0.00				Average	
		point19	19	894.9	-781.2	0.00				Average	
		point20	20	836.2	-928.2	0.00				Average	
		point21	21	815.7	-1,015.5	0.00					

**INPUT: TRAFFIC FOR LAeq1h Volumes**
**Westfield Promenade**

Eyestone Environmental SKB													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	Westfield Promenade												
RUN:	Haul Trucks - With Imports 2022												
Roadway	Points												
Name	Name	No.	Segment										
			Autos		MTrucks		HTrucks		Buses		Motorcycles		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
Topanga-Erwin to Oxnard	point1	1	225	35	0	0	17	35	0	0	0	0	
	point5	5	225	35	0	0	17	35	0	0	0	0	
	point6	6	225	35	0	0	17	35	0	0	0	0	
	point2	2											
Erwin	point7	7	225	35	0	0	17	35	0	0	0	0	
	point8	8											
Owensmouth	point9	9	225	35	0	0	17	35	0	0	0	0	
	point10	10											
Oxnard	point11	11	225	35	0	0	17	35	0	0	0	0	
	point12	12											
Topanga-South of Oxnard	point13	13	225	35	0	0	17	35	0	0	0	0	
	point14	14	225	35	0	0	17	35	0	0	0	0	
	point15	15	225	35	0	0	17	35	0	0	0	0	
	point16	16	225	35	0	0	17	35	0	0	0	0	
	point17	17	225	35	0	0	17	35	0	0	0	0	
	point18	18	225	35	0	0	17	35	0	0	0	0	
	point19	19	225	35	0	0	17	35	0	0	0	0	
	point20	20	225	35	0	0	17	35	0	0	0	0	
	point21	21											

**INPUT: RECEIVERS**
**Westfield Promenade**

Eyestone Environmental SKB												
INPUT: RECEIVERS												
PROJECT/CONTRACT:	Westfield Promenade											
RUN:	Haul Trucks - With Imports 2022											
Receiver												
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active	
			X	Y	Z	above	Existing	Impact Criteria		NR	in	
						Ground	L <sub>Aeq</sub> 1h	L <sub>Aeq</sub> 1h	Sub'l	Goal	Calc.	
			ft	ft	ft	ft	dBA	dBA	dB	dB		
R1	1	1	2,127.7	1,645.6	0.00	4.92	70.30	75	5.0	0.0	Y	
R2	8	1	1,239.1	162.9	0.00	4.92	59.60	65	5.0	0.0	Y	
R3	10	1	718.2	207.6	0.00	4.92	63.70	69	5.0	0.0	Y	
R4	13	1	429.6	934.0	0.00	4.92	59.20	64	5.0	8.0	Y	
Canoga Park HS	14	1	710.5	1,320.4	0.00	4.92	70.00	75	5.0	8.0	Y	



**RESULTS: SOUND LEVELS**
**Westfield Promenade**

Eyestone Environmental								12 January 2018					
SKB								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		Westfield Promenade											
RUN:		Haul Trucks - With Imports 2022											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing	No Barrier				With Barrier					
			LAeq1h	LAeq1h		Increase over	existing	Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dB	dB	dB	dB	dB		dB	dB	dB	dB	
R1	1	1	70.3	63.3	75	-7.0	5	----	63.3	0.0	0	0.0	
R2	8	1	59.6	61.6	65	2.0	5	----	61.6	0.0	0	0.0	
R3	10	1	63.7	60.3	69	-3.4	5	----	60.3	0.0	0	0.0	
R4	13	1	59.2	56.7	64	-2.5	5	----	56.7	0.0	8	-8.0	
Canoga Park HS	14	1	70.0	65.5	75	-4.5	5	----	65.5	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		5	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		3	0.0	0.0	0.0								

**Project: Westfield Promenade**

**Construction Vibration Impacts**

Reference Levels at 25 feet are based on FTA, 2006 (Transit Noise and Vibration Impact Assessment)

Calculations using FTA procedure with  $n=$  **1.5**

**ON-SITE CONSTRUCTION ACTIVITIES**

**Table 1: Construction Equipment Vibration Levels (PPV) - Building Damages**

Equipment	Reference Vibration Levels at 25 ft., PPV	Estimated Vibration Levels at nearest off-site building structures (distance in feet), PPV						
		Commercial building to the North	Marriott Hotel to the south	Commercial building to the west	Commercial building to the east	Buick, GMC Cadillac building		
		100	125	105	425	170		
Large Bulldozer	0.089	0.011	0.008	0.010	0.001	0.005		
Caisson Drilling	0.089	0.011	0.008	0.010	0.001	0.005		
Loaded Trucks	0.076	0.010	0.007	0.009	0.001	0.004		
Jackhammer	0.035	0.004	0.003	0.004	0.001	0.002		
Small bulldozer	0.003	0.000	0.000	0.000	0.000	0.000		
Significance Threshold, PPV		0.2	0.5	0.5	0.5	0.3		

**Table 2: Construction Equipment Vibration Levels (VdB) - Human Annoyance**

Equipment	Reference Vibration Levels at 25 ft., VdB	Estimated Vibration Levels at Off-Site Receptors (at note distance in feet), VdB						
		R1	R2	R3	R4			
		150	125	250	390			
Large Bulldozer	87	64	66	57	51			
Caisson Drilling	87	64	66	57	51			
Loaded Trucks	86	63	65	56	50			
Jackhammer	79	56	58	49	43			
Small bulldozer	58	35	37	28	22			
Significance Threshold, VdB		72	72	72	72			

**OFF-SITE CONSTRUCTION HAUL TRUCKS**

**Table 3: Off-Site Haul Trucks - Building Damage**

Equipment	Reference Vibration Levels at 50 ft., PPV	Estimated Vibration Levels at noted distance in feet, PPV						
		25						
Typical road surface	0.00565	0.016						
Significance Threshold, PPV		0.12						

Ref. Levels based on FTA Figure 7-3 (converted from VdB to PPV)

**Table 4: Off-Site Haul Trucks - Human Annoyance**

Equipment	Reference Vibration Levels at 50 ft., VdB	Estimated Vibration Levels at noted distance in feet, VdB						
		25						
Typical road surface	63	72						
Significance Threshold, VdB		72						

Ref. Levels based on FTA Figure 7-3

# Operation Noise Calculations

## On-Site Stationary Noise Sources

The on-site stationary noise sources were calculated using the SoundPLAN (version 7.4) 3-dimensional computer noise prediction model. SoundPLAN is a 3-dimensional acoustic ray tracing program designed to calculate the noise propagation in an outdoor environment. On-site stationary noise sources include: outdoor mechanical equipment (e.g., HVAC equipment), activities within the proposed outdoor spaces (i.e., the Promenade Square, outdoor courtyards, outdoor open space, and pool decks), the Entertainment and Sports Center (conservatively assuming without a roof), parking facilities, loading and trash collection areas.

On-site stationary point-source noise impacts were evaluated by (1) identifying the noise levels that would be generated by the Project's stationary noise sources, such as rooftop mechanical equipment, outdoor activities (e.g., use of the outdoor courtyard and Entertainment and Sports Center), parking facilities, and trash compactor; (2) calculating the noise level from each noise source at surrounding sensitive receptor property line locations; and (3) comparing such noise levels to ambient noise levels to determine significance. The noise analysis assumes the Entertainment and Sports Center will have an open-roof to represent the most conservative analysis.

- Mechanical Equipment - The estimated noise levels from the mechanical equipment would be below the significance threshold of 5 dBA ( $L_{eq}$ ) above ambient noise levels. **Therefore, noise impacts from mechanical equipment would be less than significant.**
- Outdoor Spaces – Noise levels at the various outdoor spaces, including: the Promenade Square at the center of the Project Site, two large open spaces located next to the residential buildings in the Northeast area (The Gardens), a smaller plaza area at the south side of the Northwest area, and roof decks at the residential, office, and hotel buildings, were calculated at the off-site receptor locations. Noise sources associated with the outdoor spaces would include noise from people gathering and conversing. For this operational noise analysis, reference noise levels of 65 dBA for a male and 62 dBA for an individual female speaking in a raised voice were used for analyzing potential noise impacts from people gathering at the outdoor spaces. In order to analyze a typical noise scenario, it was assumed that up to 50 percent of the people (half of which would be male and the other half female) would be talking at the same time. An additional potential noise source associated with outdoor uses would include the use of outdoor sound systems (e.g., music or other sounds broadcast through an outdoor mounted speaker system). The sound from outdoor sound systems, if used, would be heard by people in the immediate vicinity of the outdoor areas. The outdoor uses' occupancy assumptions for the noise analysis are provided in Table 1, which are based on building code occupancy rates. The estimated noise levels from the outdoor areas would be below the significance threshold of 5 dBA ( $L_{eq}$ ) above ambient noise levels at all off-site sensitive receptors. **As such, noise impacts from the use of the outdoor uses would be less than significant.**

**Table 1 - Outdoor Use Assumptions**

<b>Project Area</b>	<b>Outdoor Space</b>	<b>Estimated Total Number of People</b>	<b>Amplified Sound System Levels dBA (L<sub>eq</sub>)</b>
Northeast-A	Ground Level Courtyard (The Gardens)	273	80 dBA at 25 feet
	Roof Level Pool Deck	489	80 dBA at 25 feet
Northeast-B	Ground Level Courtyard (The Gardens)	313	80 dBA at 25 feet
	Roof Level Pool Deck	484	80 dBA at 25 feet
Northwest-A	Ground Level Courtyard	140	80 dBA at 25 feet
	Hotel Roof Level Pool Deck	74	90 dBA at 25 feet
	Office Roof Level Deck 1	84	80 dBA at 25 feet
	Office Roof Level Deck 2	68	80 dBA at 25 feet
Northwest-B	Residential Roof Level Pool Deck 1	205	80 dBA at 25 feet
	Residential Roof Level Pool Deck 2	287	80 dBA at 25 feet
	Residential Roof Level Pool Deck 3	133	80 dBA at 25 feet
Southeast	Residential Roof Pool Deck	421	80 dBA at 25 feet
	Hotel Roof Pool Deck	535	90 dBA at 25 feet
Center	Promenade Square (ground level)	1578	92 dBA at 50 feet
<i>Source: Based on occupancy data provided by Johnson Fain, 2016.</i>			

- Entertainment and Sports Center - The Project includes the option for constructing the Entertainment and Sports Center with or without a roof. The live music/concert would generate the highest noise levels, as compared to the other anticipated events. Therefore, the noise analysis is based on a concert event with an open-roof to represent the most conservative analysis. For the noise analysis, it was assumed that the Project sound system would generate an average sound level of 95 dBA L<sub>eq</sub> at all of the audience areas. In addition, the noise analysis assumed the typical touring sound system for outdoor concerts would include two main line-array speakers at the front of the stage and up to four line-array delay speaker towers placed at further distance from the stage serving the far end of the audience area. To represent a conservative scenario (for the voice level of concert goers) for analyzing noise from the maximum capacity (i.e. sold out event) crowd gathered within the Entertainment and Sports Center, the upper range noise levels of 88 dBA and 82 dBA (L<sub>eq</sub> at 3.3 feet distance) for an individual male and female shouting, respectively, were used. The estimated noise levels from the Entertainment and Sports Center would be below the significance threshold at all off-site receptor locations. **Therefore, noise impacts from the Entertainment and Sports Center would be less than significant.**

In addition, there would be off-site parking during sold-out events at the Entertainment and Sports Center, during the peak month of December. The off-site parking would be directly across the Project Site to the north (parking at The Village), south (office parking structure) and east (existing surface parking lot). Pedestrians would walk to/from the Entertainment and Sports Center via the crosswalks at Topanga Canyon Boulevard/Erwin Street, Warner Drive/Erwin Street, and Owensmouth Avenue/Erwin Street (to the north parking); via the crosswalks at Topanga Canyon Boulevard/Oxnard Street and Warner Drive/Oxnard Street (to the south parking); and via the crosswalks at Owensmouth Avenue/Oxnard Street and Owensmouth Avenue/ Promenade (to the east parking). Noise levels associated with

pedestrians (i.e., people talking) are estimated to be approximately 43.7 dBA, 52.9 dBA and 42.0 dBA at the off-site sensitive receptors R1, R2 and R3, respectively. The estimated noise levels associated with people walking to/from the Project designated off-site parking locations would be well below the Project's significance threshold at all off-site receptor locations. **As such, noise impacts associated with pedestrians walking to/from the Entertainment and Sports Center would be less than significant**

- **Parking Facilities** - The estimated noise levels from the project parking structures are estimated to be below the existing ambient noise levels and the significance threshold of 5 dBA ( $L_{eq}$ ) above ambient noise levels. **Therefore, noise impacts from parking operations would be less than significant.**

#### Off-Site Mobile (Roadway) Noise Sources

Off-site roadway noise was analyzed using the FHWA TNM model and traffic data from the Project's Traffic Study. Roadway noise conditions without the Project were calculated and compared to noise levels that would occur with implementation of the Project to determine Project-related noise impacts for operational off-site roadway noise. The noise analysis evaluated impacts for a sold-out event under the "With Events at the Entertainment and Sports Center" scenario and a "Without Events at the Entertainment Sports Center" scenario. The off-site roadway noise impacts are evaluated in-terms of CNEL, per the *L.A. CEQA Thresholds Guide*. In addition, to evaluate potential noise impacts during the Entertainment and Sports Center's post-event hour, when most of the traffic would be leaving the site at the same time, the noise analysis is based on Hourly  $L_{eq}$ .

#### *Future Plus Project*

The calculated traffic levels were conservatively calculated with the receptors facing (i.e., direct line-of-sight) the roadways and did not account for the presence of any physical sound barriers or intervening structures. For a sold-out event day under the "With Events at the Entertainment Center" scenario, the Project would result in a maximum increase of 0.8 dBA CNEL in traffic-related noise levels along Oxnard Street (between Topanga Canyon Boulevard and Owensmouth Avenue) during the weekday and 1.0 dBA CNEL during the weekend. The estimated noise increase due to Project-related traffic would be well below the 3 dBA CNEL significance threshold. In addition to the CNEL analysis, the traffic noise impacts associated with sold-out events at the Entertainment and Sports Center were also evaluated based on the potential increase in traffic during the post-event hour (i.e., traffic leaving one hour after the event during a late night period). The estimated traffic noise increase during the post-event hour would be below the 5 dBA significance threshold (hourly  $L_{eq}$ ) at all analyzed roadway segments, with the exception Oxnard Street between Topanga Canyon Boulevard and Owensmouth Avenue during Saturday evenings after sold-out events; this roadway segment includes no off-site residential uses. The estimated traffic noise levels along Oxnard Street during the post-event hour would exceed the significance threshold by 0.1 dBA during the weekend, after sold-out events. **Therefore, off-site traffic noise impacts (with sold-out events at the Entertainment and Sports Center) would be significant.**

Without events at the Entertainment and Sports Center, the Project would result in a maximum increase of 1.0 dBA CNEL in traffic-related noise levels along Erwin Street (between Topanga Canyon Boulevard and Owensmouth Avenue) during the weekday and 1.2 dBA CNEL during the weekend. The estimated noise increase due to Project-related traffic would be below the 3 dBA CNEL significance threshold. In addition, the Project-related nighttime traffic noise level without events at the Entertainment and Sports Center would result in a maximum increase of 1.0 dBA  $L_{eq}$  during the weekday along Erwin Street (between Topanga Canyon Boulevard and Owensmouth

Avenue) and 1.1 dBA  $L_{eq}$  during the weekend, which would be below the 5 dBA (hourly  $L_{eq}$ ) significance threshold. **Therefore, off-site traffic noise impacts (without events at the Entertainment and Sports Center) would be less than significant.**

#### *Existing Plus Project*

The analysis of traffic noise impacts provided above was based on the incremental increase in traffic noise levels attributable to the Project as compared to future without project conditions. An additional analysis was performed to determine the potential noise impacts based on the increase in noise levels due to Project-related traffic compared with the existing traffic noise conditions.

With sold-out events at the Entertainment and Sports Center, the Project would result in a maximum increase of 2.1 dBA CNEL in traffic-related noise levels along Topanga Canyon Boulevard (between Oxnard Street and Burbank Boulevard) during the weekday and 2.0 dBA CNEL during the weekend. The estimated noise increase due to Project-related traffic would be below the 3 dBA CNEL significance threshold. The estimated traffic noise increase during the post-event hour would be below the 5 dBA significance threshold (hourly  $L_{eq}$ ) at all analyzed roadway segments, with the exception Oxnard Street roadway segment between Topanga Canyon Boulevard and Owensmouth Avenue during weekend evenings after sold-out events. The estimated noise increase along Oxnard Street during the post-event hour would exceed the significance threshold by up to 0.3 dBA  $L_{eq}$ . **Therefore, off-site traffic noise impacts (with sold-out events at the Entertainment and Sports Center) based on the existing conditions would be significant.**

Without events at the Entertainment and Sports Center, the Project would result in a maximum increase of 1.7 dBA CNEL in traffic-related noise levels along Topanga Boulevard (between Vanowen Street and Victory Boulevard and between Oxnard Street and Burbank Boulevard) during the weekday and 1.8 dBA CNEL along Topanga Boulevard (between Oxnard Street and Burbank Boulevard) during the weekend. The estimated noise increase due to Project-related traffic would be well below the 3 dBA CNEL significance threshold. In addition, the Project-related nighttime traffic noise level would result in a maximum increase of 1.1 dBA  $L_{eq}$  during the weekday along Erwin Street (between Topanga Canyon Boulevard and Owensmouth Avenue) and 1.3 dBA  $L_{eq}$  during the weekend, which would be below the 5 dBA (hourly  $L_{eq}$ ) significance threshold. **Therefore, off-site traffic noise impacts (without events at the Entertainment and Sports Center) would be less than significant**

#### Composite Noise Analysis

In addition to considering the potential noise impacts to neighboring noise-sensitive receptors from each specific on-site and off-site noise source (e.g., mechanical equipment, outdoor areas, music concerts, parking facilities, loading docks/trash compactors, and off-site traffic), an evaluation of potential composite noise level increases (i.e., noise levels from all on-site noise sources combined) at the analyzed sensitive receptor locations was also performed. This includes sold-out events at the Entertainment Center, combined with simultaneous use of all the outdoor areas, as well as noise from mechanical equipment and parking facilities. This evaluation of composite noise levels from all on-site project noise sources, evaluated using the CNEL noise metric, was conducted to determine the contributions at the noise-sensitive receptor locations in the vicinity of the Project Site. The estimated composite noise levels from Project operation at all off-site sensitive receptor locations would be below the 3 dBA significance threshold (applicable to receptor location R1, which falls within the normally unacceptable land use) and the 5 dBA significance threshold (applicable to receptor locations R2, R3 and R4, which fall within the conditionally acceptable land

use). **Therefore, composite noise level impacts due to Project operations would be less than significant.**

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

	FUTURE WITHOUT / FUTURE WITH PROJECT				PROJECT INCREASE			
	Weekday		Weekend		Weekday		Weekend	
	Leq	CNEL	Leq	CNEL	Leq	CNEL	Leq	CNEL
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	63/63	69.5/69.5	63.1/63.1	67.6/67.6	0.0	0.0	0.0	0.0
- Between Victory Blvd. and Oxnard St.	63.4/63.4	69.9/69.9	64/64	68.6/68.6	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	63/63	69.5/69.5	63.8/63.8	68.3/68.3	0.0	0.0	0.0	0.0
- Between Burbank Blvd. and Ventura Blvd.	62.7/62.7	69.2/69.2	63.7/63.7	68.3/68.3	0.0	0.0	0.0	0.0
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	63.8/65.9	71.9/72.1	66.1/67.7	72.3/72.4	2.1	0.2	1.6	0.1
- Between Victory Blvd. and Erwin St.	63.6/66.1	71.6/71.9	66.1/67.9	72.2/72.4	2.5	0.3	1.8	0.2
- Between Erwin St. and Oxnard St.	64.2/66.8	71.7/72.1	66.7/68.6	72.3/72.5	2.6	0.4	1.9	0.2
- Between Oxnard St. and Burbank Blvd.	64/68.7	72/72.6	66.4/70.2	72.5/72.9	4.7	0.6	3.8	0.4
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	63.3/64.9	69.8/69.9	63.8/65.6	68.4/68.5	1.6	0.1	1.8	0.1
- Between Victory Blvd. and Erwin St.	62.6/65.6	69.1/69.4	62.4/66.1	67/67.4	3.0	0.3	3.7	0.4
- Between Erwin St. and Oxnard St.	61/62.1	67.5/67.8	61/62.4	65.6/66	1.1	0.3	1.4	0.4
- Between Oxnard St. and Burbank Blvd.	60.5/60.8	67/67	59.7/60.2	64.3/64.4	0.3	0.0	0.5	0.1
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	64.9/65.2	71.4/71.5	65.6/65.9	70.2/70.2	0.3	0.1	0.3	0.0
- Between Victory Blvd. and Erwin St.	64.7/64.9	71.2/71.2	65.7/65.9	70.3/70.3	0.2	0.0	0.2	0.0
- Between Erwin St. and Oxnard St.	65/65	71.5/71.5	65/65	69.6/69.6	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	64.9/67.3	71.4/71.6	63.9/67.2	68.4/68.8	2.4	0.2	3.3	0.4
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	64.7/65	71.2/71.2	65.6/65.8	70.2/70.2	0.3	0.0	0.2	0.0
- Between Victory Blvd. and Erwin St.	64.5/64.7	71/71	65.2/65.4	69.7/69.8	0.2	0.0	0.2	0.1
- Between Erwin St. and Oxnard St.	64.9/64.9	71.4/71.4	65.3/65.3	69.9/69.9	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	65.3/65.5	71.8/71.8	65.6/65.8	70.2/70.2	0.2	0.0	0.2	0.0
Vanowen Street								
- Between Fallbrook Ave. and Shoup Ave.	63.8/64.5	70.3/70.4	65.8/66.4	70.4/70.4	0.7	0.1	0.6	0.0
- Between Shoup Ave. and Topanga Blvd.	62.3/63	68.7/68.8	64.3/64.9	68.9/68.9	0.7	0.1	0.6	0.0
- Between Topanga Blvd. and Canoga Ave.	62.8/63.3	69.3/69.3	65/65.4	69.6/69.6	0.5	0.0	0.4	0.0
- Between Canoga Ave. and Desoto Ave.	64.5/65.3	71/71.1	66.3/66.9	70.9/71	0.8	0.1	0.6	0.1
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	64.4/65.2	70.9/70.9	66.8/67.5	71.4/71.4	0.8	0.0	0.7	0.0
- Between Shoup Ave. and Topanga Blvd.	63.1/64	69.6/69.7	65.4/66.1	70/70.1	0.9	0.1	0.7	0.1
- Between Topanga Blvd. and Canoga Ave.	64.3/65	70.8/70.9	66.2/66.7	70.7/70.8	0.7	0.1	0.5	0.1
- Between Canoga Ave. and Desoto Ave.	65.7/66.8	72.2/72.3	66.8/67.9	71.4/71.5	1.1	0.1	1.1	0.1
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	59/59.4	65.5/65.5	59.2/59.6	63.7/63.8	0.4	0.0	0.4	0.1
- Between Topanga Blvd. and Owensmouth Ave.	60.6/64.5	67.1/67.3	61.7/65.5	66.2/66.5	3.9	0.2	3.8	0.3
- Between Owensmouth Ave. and Canoga Ave.	60.9/63.2	67.4/67.6	61.9/64.2	66.5/66.7	2.3	0.2	2.3	0.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	64.7/64.9	71.1/71.2	60.6/61.5	65.2/65.3	0.2	0.1	0.9	0.1
- Between Shoup Ave. and Topanga Blvd.	62.8/63.3	69.3/69.4	60.9/61.8	65.4/65.5	0.5	0.1	0.9	0.1
- Between Topanga Blvd. and Owensmouth Ave.	61.7/66.4	68.2/69	62.1/67.2	66.7/67.7	4.7	0.8	5.1	1.0
- Between Owensmouth Ave. and Canoga Ave.	61.8/66.7	68.3/68.9	63.6/67.9	68.1/68.7	4.9	0.6	4.3	0.6
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	59.7/60.5	66.2/66.2	60.3/61.2	64.9/65	0.8	0.0	0.9	0.1
- Between Shoup Ave. and Topanga Blvd.	61/63.4	67.5/67.6	61.7/64.2	66.2/66.3	2.4	0.1	2.5	0.1
- Between Topanga Blvd. and Owensmouth Ave.	62.6/62.6	69.1/69.1	61.3/61.3	65.9/65.9	0.0	0.0	0.0	0.0
- Between Owensmouth Ave. and Canoga Ave.	62.6/62.6	69.1/69.1	62.5/62.5	67.1/67.1	0.0	0.0	0.0	0.0



Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

Roadway Segments	EXISTING / EXISTING PLUS PROJECT				PROJECT INCREASE			
	Weekday		Weekend		Weekday		Weekend	
	Leq	CNEL	Leq	CNEL	Leq	CNEL	Leq	CNEL
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/62.9	69.3/69.3	62.9/62.9	67.5/67.5	0.0	0.0	0.0	0.0
- Between Victory Blvd. and Oxnard St.	63.3/63.3	69.8/69.8	63.9/63.9	68.5/68.5	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	62.9/62.9	69.3/69.3	63.6/63.6	68.2/68.2	0.0	0.0	0.0	0.0
- Between Burbank Blvd. and Ventura Blvd.	62.5/62.5	69/69	63.5/63.5	68.1/68.1	0.0	0.0	0.0	0.0
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	63.7/65.8	70.2/72	66/67.6	70.6/72.3	2.1	1.8	1.6	1.7
- Between Victory Blvd. and Erwin St.	63.5/66	70/71.7	66/67.9	70.5/72.2	2.5	1.7	1.9	1.7
- Between Erwin St. and Oxnard St.	64.1/66.7	70.6/71.9	66.5/68.5	71.1/72.4	2.6	1.3	2.0	1.3
- Between Oxnard St. and Burbank Blvd.	63.8/68.6	70.3/72.4	66.3/70.1	70.8/72.8	4.8	2.1	3.8	2.0
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/64.6	69.4/69.5	63.4/65.3	67.9/68.1	1.7	0.1	1.9	0.2
- Between Victory Blvd. and Erwin St.	62.3/65.5	68.8/69.1	62.1/65.9	66.7/67.1	3.2	0.3	3.8	0.4
- Between Erwin St. and Oxnard St.	60.6/61.8	67/67.4	60.6/62.1	65.1/65.6	1.2	0.4	1.5	0.5
- Between Oxnard St. and Burbank Blvd.	59.9/60.2	66.4/66.4	59.1/59.6	63.7/63.7	0.3	0.0	0.5	0.0
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	64.7/65	71.2/71.2	65.4/65.6	69.9/70	0.3	0.0	0.2	0.1
- Between Victory Blvd. and Erwin St.	64.6/64.8	71.1/71.1	65.6/65.8	70.2/70.2	0.2	0.0	0.2	0.0
- Between Erwin St. and Oxnard St.	64.8/64.8	71.3/71.3	64.8/64.8	69.3/69.3	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	64.7/67.2	71.2/71.4	63.6/67.1	68.2/68.6	2.5	0.2	3.5	0.4
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	64.5/64.8	71/71	65.4/65.6	69.9/70	0.3	0.0	0.2	0.1
- Between Victory Blvd. and Erwin St.	64.3/64.5	70.8/70.8	65/65.2	69.6/69.6	0.2	0.0	0.2	0.0
- Between Erwin St. and Oxnard St.	64.6/64.6	71.1/71.1	65/65	69.6/69.6	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	65/65.2	71.5/71.5	65.4/65.6	69.9/70	0.2	0.0	0.2	0.1
Vanowen Street								
- Between Fallbrook Ave. and Shoup Ave.	63.5/64.2	70/70	65.5/66.1	70.1/70.1	0.7	0.0	0.6	0.0
- Between Shoup Ave. and Topanga Blvd.	62/62.8	68.5/68.6	64.1/64.7	68.6/68.7	0.8	0.1	0.6	0.1
- Between Topanga Blvd. and Canoga Ave.	62.5/63.1	69/69.1	64.7/65.1	69.3/69.3	0.6	0.1	0.4	0.0
- Between Canoga Ave. and Desoto Ave.	64/64.8	70.5/70.5	65.8/66.5	70.3/70.4	0.8	0.0	0.7	0.1
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	64.3/65.2	70.7/70.8	66.7/67.3	71.3/71.3	0.9	0.1	0.6	0.0
- Between Shoup Ave. and Topanga Blvd.	63/63.9	69.5/69.5	65.3/66	69.9/70	0.9	0.0	0.7	0.1
- Between Topanga Blvd. and Canoga Ave.	64/64.7	70.5/70.6	65.9/66.5	70.4/70.5	0.7	0.1	0.6	0.1
- Between Canoga Ave. and Desoto Ave.	65.3/66.5	71.8/71.9	66.4/67.6	71/71.1	1.2	0.1	1.2	0.1
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	58.7/59.1	65.2/65.2	58.9/59.4	63.4/63.5	0.4	0.0	0.5	0.1
- Between Topanga Blvd. and Owensmouth Ave.	60/64.3	66.5/66.7	61/65.3	65.6/65.8	4.3	0.2	4.3	0.2
- Between Owensmouth Ave. and Canoga Ave.	60.2/62.8	66.7/66.9	61.2/63.8	65.7/66	2.6	0.2	2.6	0.3
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	64.4/64.7	70.9/70.9	60.3/61.2	64.8/64.9	0.3	0.0	0.9	0.1
- Between Shoup Ave. and Topanga Blvd.	62.7/63.2	69.2/69.2	60.7/61.6	65.3/65.3	0.5	0.0	0.9	0.0
- Between Topanga Blvd. and Owensmouth Ave.	61.3/66.3	67.8/68.7	61.8/67.1	66.3/67.4	5.0	0.9	5.3	1.1
- Between Owensmouth Ave. and Canoga Ave.	61.5/66.6	67.9/68.6	63.2/67.8	67.7/68.4	5.1	0.7	4.6	0.7
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	59.5/60.4	65.9/66	60.1/61	64.6/64.7	0.9	0.1	0.9	0.1
- Between Shoup Ave. and Topanga Blvd.	60.9/63.3	67.3/67.4	61.5/64.1	66.1/66.1	2.4	0.1	2.6	0.0
- Between Topanga Blvd. and Owensmouth Ave.	62.2/62.2	68.7/68.7	60.9/60.9	65.5/65.5	0.0	0.0	0.0	0.0
- Between Owensmouth Ave. and Canoga Ave.	62/62	68.5/68.5	62.1/62.1	66.6/66.6	0.0	0.0	0.0	0.0

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

Roadway Segments	EXISTING / CUMULATIVE + PROJECT				PROJECT INCREASE			
	Weekday		Weekend		Weekday		Weekend	
	Leq	CNEL	Leq	CNEL	Leq	CNEL	Leq	CNEL
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/62.9	69.3/69.4	62.9/63	67.5/67.5	0.0	0.1	0.1	0.0
- Between Victory Blvd. and Oxnard St.	63.3/63.6	69.8/70.1	63.9/64.2	68.5/68.8	0.3	0.3	0.3	0.3
- Between Oxnard St. and Burbank Blvd.	62.9/63.3	69.3/69.8	63.6/64.1	68.2/68.7	0.4	0.5	0.5	0.5
- Between Burbank Blvd. and Ventura Blvd.	62.5/63.1	69/69.6	63.5/64.2	68.1/68.8	0.6	0.6	0.7	0.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	63.7/66	70.2/72.3	66/67.8	70.6/72.6	2.3	2.1	1.8	2.0
- Between Victory Blvd. and Erwin St.	63.5/66.1	70/71.9	66/68	70.5/72.4	2.6	1.9	2.0	1.9
- Between Erwin St. and Oxnard St.	64.1/66.7	70.6/71.9	66.5/68.5	71.1/72.4	2.6	1.3	2.0	1.3
- Between Oxnard St. and Burbank Blvd.	63.8/68.6	70.3/72.4	66.3/70.1	70.8/72.8	4.8	2.1	3.8	2.0
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/65.1	69.4/70.3	63.4/65.8	67.9/68.9	2.2	0.9	2.4	1.0
- Between Victory Blvd. and Erwin St.	62.3/65.9	68.8/69.9	62.1/66.3	66.7/68	3.6	1.1	4.2	1.3
- Between Erwin St. and Oxnard St.	60.6/62.4	67/68.1	60.6/62.7	65.1/66.4	1.8	1.1	2.1	1.3
- Between Oxnard St. and Burbank Blvd.	59.9/60.8	66.4/67	59.1/60.2	63.7/64.3	0.9	0.6	1.1	0.6
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	64.7/65.2	71.2/71.5	65.4/65.9	69.9/70.3	0.5	0.3	0.5	0.4
- Between Victory Blvd. and Erwin St.	64.6/65.2	71.1/71.5	65.6/66.2	70.2/70.6	0.6	0.4	0.6	0.4
- Between Erwin St. and Oxnard St.	64.8/64.9	71.3/71.4	64.8/64.9	69.3/69.5	0.1	0.1	0.1	0.2
- Between Oxnard St. and Burbank Blvd.	64.7/67.4	71.2/71.8	63.6/67.3	68.2/68.9	2.7	0.6	3.7	0.7
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	64.5/65.4	71/71.7	65.4/66.4	69.9/70.7	0.9	0.7	1.0	0.8
- Between Victory Blvd. and Erwin St.	64.3/65.1	70.8/71.4	65/65.8	69.6/70.2	0.8	0.6	0.8	0.6
- Between Erwin St. and Oxnard St.	64.6/65.2	71.1/71.6	65/65.5	69.6/70.1	0.6	0.5	0.5	0.5
- Between Oxnard St. and Burbank Blvd.	65/65.6	71.5/71.9	65.4/66	69.9/70.4	0.6	0.4	0.6	0.5
Vanowen Street								
- Between Fallbrook Ave. and Shoup Ave.	63.5/64.5	70/70.3	65.5/66.4	70.1/70.4	1.0	0.3	0.9	0.3
- Between Shoup Ave. and Topanga Blvd.	62/63	68.5/68.9	64.1/65	68.6/69	1.0	0.4	0.9	0.4
- Between Topanga Blvd. and Canoga Ave.	62.5/63.3	69/69.3	64.7/65.4	69.3/69.6	0.8	0.3	0.7	0.3
- Between Canoga Ave. and Desoto Ave.	64/65.2	70.5/71	65.8/66.9	70.3/70.9	1.2	0.5	1.1	0.6
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	64.3/65.5	70.7/71.3	66.7/67.7	71.3/71.8	1.2	0.6	1.0	0.5
- Between Shoup Ave. and Topanga Blvd.	63/64.4	69.5/70.2	65.3/66.5	69.9/70.6	1.4	0.7	1.2	0.7
- Between Topanga Blvd. and Canoga Ave.	64/65.8	70.5/71.8	65.9/67.4	70.4/71.5	1.8	1.3	1.5	1.1
- Between Canoga Ave. and Desoto Ave.	65.3/67.9	71.8/73.6	66.4/69	71/72.8	2.6	1.8	2.6	1.8
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	58.7/60.3	65.2/66.5	58.9/60.6	63.4/64.9	1.6	1.3	1.7	1.5
- Between Topanga Blvd. and Owensmouth Ave.	60/64.7	66.5/67.8	61/65.7	65.6/66.9	4.7	1.3	4.7	1.3
- Between Owensmouth Ave. and Canoga Ave.	60.2/63.7	66.7/68.4	61.2/64.7	65.7/67.5	3.5	1.7	3.5	1.8
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	64.4/64.9	70.9/71.1	60.3/61.3	64.8/65.1	0.5	0.2	1.0	0.3
- Between Shoup Ave. and Topanga Blvd.	62.7/63.5	69.2/69.6	60.7/62.1	65.3/65.9	0.8	0.4	1.4	0.6
- Between Topanga Blvd. and Owensmouth Ave.	61.3/66.6	67.8/69.5	61.8/67.4	66.3/68.2	5.3	1.7	5.6	1.9
- Between Owensmouth Ave. and Canoga Ave.	61.5/66.8	67.9/69.2	63.2/68.1	67.7/69	5.3	1.3	4.9	1.3
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	59.5/60.7	65.9/66.4	60.1/61.5	64.6/65.3	1.2	0.5	1.4	0.7
- Between Shoup Ave. and Topanga Blvd.	60.9/63.5	67.3/67.7	61.5/64.3	66.1/66.5	2.6	0.4	2.8	0.4
- Between Topanga Blvd. and Owensmouth Ave.	62.2/62.6	68.7/69	60.9/61.3	65.5/65.9	0.4	0.3	0.4	0.4
- Between Owensmouth Ave. and Canoga Ave.	62/62.5	68.5/69	62.1/62.3	66.6/66.8	0.5	0.5	0.2	0.2

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

Roadway Segments	FUTURE WITHOUT / FUTURE WITH PROJECT				PROJECT INCREASE			
	Weekday		Weekend		Weekday		Weekend	
	Leq	CNEL	Leq	CNEL	Leq	CNEL	Leq	CNEL
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	63/63.1	69.5/69.6	63.1/63.1	67.6/67.7	0.1	0.1	0.0	0.1
- Between Victory Blvd. and Oxnard St.	63.4/63.5	69.9/70	64/64.1	68.6/68.7	0.1	0.1	0.1	0.1
- Between Oxnard St. and Burbank Blvd.	63/63.1	69.5/69.6	63.8/63.9	68.3/68.4	0.1	0.1	0.1	0.1
- Between Burbank Blvd. and Ventura Blvd.	62.7/62.8	69.2/69.3	63.7/63.9	68.3/68.4	0.1	0.1	0.2	0.1
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	63.8/63.9	71.9/72	66.1/66.2	72.3/72.4	0.1	0.1	0.1	0.1
- Between Victory Blvd. and Erwin St.	63.6/63.8	71.6/71.7	66.1/66.2	72.2/72.3	0.2	0.1	0.1	0.1
- Between Erwin St. and Oxnard St.	64.2/64.5	71.7/72	66.7/66.9	72.3/72.5	0.3	0.3	0.2	0.2
- Between Oxnard St. and Burbank Blvd.	64/64.2	72/72.2	66.4/66.6	72.5/72.7	0.2	0.2	0.2	0.2
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	63.3/63.5	69.8/70	63.8/64.1	68.4/68.6	0.2	0.2	0.3	0.2
- Between Victory Blvd. and Erwin St.	62.6/63	69.1/69.5	62.4/62.9	67/67.5	0.4	0.4	0.5	0.5
- Between Erwin St. and Oxnard St.	61/61.1	67.5/67.6	61/61.3	65.6/65.9	0.1	0.1	0.3	0.3
- Between Oxnard St. and Burbank Blvd.	60.5/60.3	67/66.9	59.7/59.7	64.3/64.3	-0.2	-0.1	0.0	0.0
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	64.9/65	71.4/71.5	65.6/65.7	70.2/70.2	0.1	0.1	0.1	0.0
- Between Victory Blvd. and Erwin St.	64.7/64.9	71.2/71.4	65.7/65.9	70.3/70.4	0.2	0.2	0.2	0.1
- Between Erwin St. and Oxnard St.	65/65.1	71.5/71.6	65/65.2	69.6/69.8	0.1	0.1	0.2	0.2
- Between Oxnard St. and Burbank Blvd.	64.9/65	71.4/71.5	63.9/64	68.4/68.6	0.1	0.1	0.1	0.2
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	64.7/64.8	71.2/71.3	65.6/65.7	70.2/70.2	0.1	0.1	0.1	0.0
- Between Victory Blvd. and Erwin St.	64.5/64.5	71/71	65.2/65.2	69.7/69.8	0.0	0.0	0.0	0.1
- Between Erwin St. and Oxnard St.	64.9/64.9	71.4/71.4	65.3/65.3	69.9/69.9	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	65.3/65.3	71.8/71.8	65.6/65.6	70.2/70.2	0.0	0.0	0.0	0.0
Vanowen Street								
- Between Fallbrook Ave. and Shoup Ave.	63.8/63.9	70.3/70.3	65.8/65.9	70.4/70.4	0.1	0.0	0.1	0.0
- Between Shoup Ave. and Topanga Blvd.	62.3/62.3	68.7/68.8	64.3/64.4	68.9/68.9	0.0	0.1	0.1	0.0
- Between Topanga Blvd. and Canoga Ave.	62.8/62.8	69.3/69.4	65/65	69.6/69.6	0.0	0.1	0.0	0.0
- Between Canoga Ave. and Desoto Ave.	64.5/64.6	71/71.1	66.3/66.4	70.9/71	0.1	0.1	0.1	0.1
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	64.4/64.5	70.9/71	66.8/66.9	71.4/71.5	0.1	0.1	0.1	0.1
- Between Shoup Ave. and Topanga Blvd.	63.1/63.1	69.6/69.6	65.4/65.5	70/70.1	0.0	0.0	0.1	0.1
- Between Topanga Blvd. and Canoga Ave.	64.3/64.4	70.8/70.9	66.2/66.2	70.7/70.8	0.1	0.1	0.0	0.1
- Between Canoga Ave. and Desoto Ave.	65.7/65.9	72.2/72.4	66.8/67	71.4/71.6	0.2	0.2	0.2	0.2
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	59/59.3	65.5/65.8	59.2/59.5	63.7/64	0.3	0.3	0.3	0.3
- Between Topanga Blvd. and Owensmouth Ave.	60.6/61.6	67.1/68.1	61.7/62.8	66.2/67.4	1.0	1.0	1.1	1.2
- Between Owensmouth Ave. and Canoga Ave.	60.9/61.6	67.4/68.1	61.9/62.6	66.5/67.2	0.7	0.7	0.7	0.7
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	64.7/64.8	71.1/71.3	60.6/60.7	65.2/65.3	0.1	0.2	0.1	0.1
- Between Shoup Ave. and Topanga Blvd.	62.8/63	69.3/69.5	60.9/61	65.4/65.6	0.2	0.2	0.1	0.2
- Between Topanga Blvd. and Owensmouth Ave.	61.7/62	68.2/68.5	62.1/62.5	66.7/67.1	0.3	0.3	0.4	0.4
- Between Owensmouth Ave. and Canoga Ave.	61.8/62.3	68.3/68.8	63.6/64.2	68.1/68.8	0.5	0.5	0.6	0.7
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	59.7/59.8	66.2/66.3	60.3/60.4	64.9/65	0.1	0.1	0.1	0.1
- Between Shoup Ave. and Topanga Blvd.	61/61.1	67.5/67.6	61.7/61.8	66.2/66.3	0.1	0.1	0.1	0.1
- Between Topanga Blvd. and Owensmouth Ave.	62.6/62.6	69.1/69.1	61.3/61.3	65.9/65.9	0.0	0.0	0.0	0.0
- Between Owensmouth Ave. and Canoga Ave.	62.6/62.6	69.1/69.1	62.5/62.6	67.1/67.1	0.0	0.0	0.1	0.0

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

Roadway Segments	EXISTING / EXISTING PLUS PROJECT				PROJECT INCREASE			
	Weekday		Weekend		Weekday		Weekend	
	Leq	CNEL	Leq	CNEL	Leq	CNEL	Leq	CNEL
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/62.9	69.3/69.4	62.9/63	67.5/67.5	0.0	0.1	0.1	0.0
- Between Victory Blvd. and Oxnard St.	63.3/63.4	69.8/69.9	63.9/64	68.5/68.5	0.1	0.1	0.1	0.0
- Between Oxnard St. and Burbank Blvd.	62.9/63	69.3/69.4	63.6/63.7	68.2/68.3	0.1	0.1	0.1	0.1
- Between Burbank Blvd. and Ventura Blvd.	62.5/62.6	69/69.1	63.5/63.6	68.1/68.2	0.1	0.1	0.1	0.1
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	63.7/63.8	70.2/71.9	66/66.1	70.6/72.2	0.1	1.7	0.1	1.6
- Between Victory Blvd. and Erwin St.	63.5/63.6	70/71.6	66/66.1	70.5/72.1	0.1	1.6	0.1	1.6
- Between Erwin St. and Oxnard St.	64.1/64.3	70.6/71.8	66.5/66.8	71.1/72.4	0.2	1.2	0.3	1.3
- Between Oxnard St. and Burbank Blvd.	63.8/64.1	70.3/72	66.3/66.5	70.8/72.6	0.3	1.7	0.2	1.8
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/63.1	69.4/69.6	63.4/63.7	67.9/68.2	0.2	0.2	0.3	0.3
- Between Victory Blvd. and Erwin St.	62.3/62.7	68.8/69.2	62.1/62.6	66.7/67.2	0.4	0.4	0.5	0.5
- Between Erwin St. and Oxnard St.	60.6/60.7	67/67.2	60.6/60.8	65.1/65.4	0.1	0.2	0.2	0.3
- Between Oxnard St. and Burbank Blvd.	59.9/59.7	66.4/66.2	59.1/59	63.7/63.6	-0.2	-0.2	-0.1	-0.1
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	64.7/64.8	71.2/71.3	65.4/65.4	69.9/70	0.1	0.1	0.0	0.1
- Between Victory Blvd. and Erwin St.	64.6/64.7	71.1/71.2	65.6/65.7	70.2/70.3	0.1	0.1	0.1	0.1
- Between Erwin St. and Oxnard St.	64.8/64.9	71.3/71.4	64.8/64.9	69.3/69.5	0.1	0.1	0.1	0.2
- Between Oxnard St. and Burbank Blvd.	64.7/64.7	71.2/71.2	63.6/63.7	68.2/68.3	0.0	0.0	0.1	0.1
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	64.5/64.6	71/71.1	65.4/65.4	69.9/70	0.1	0.1	0.0	0.1
- Between Victory Blvd. and Erwin St.	64.3/64.3	70.8/70.8	65/65	69.6/69.6	0.0	0.0	0.0	0.0
- Between Erwin St. and Oxnard St.	64.6/64.6	71.1/71.1	65/65	69.6/69.6	0.0	0.0	0.0	0.0
- Between Oxnard St. and Burbank Blvd.	65/65	71.5/71.5	65.4/65.4	69.9/70	0.0	0.0	0.0	0.1
Vanowen Street								
- Between Fallbrook Ave. and Shoup Ave.	63.5/63.5	70/70	65.5/65.5	70.1/70.1	0.0	0.0	0.0	0.0
- Between Shoup Ave. and Topanga Blvd.	62/62	68.5/68.5	64.1/64.1	68.6/68.7	0.0	0.0	0.0	0.1
- Between Topanga Blvd. and Canoga Ave.	62.5/62.6	69/69.1	64.7/64.8	69.3/69.3	0.1	0.1	0.1	0.0
- Between Canoga Ave. and Desoto Ave.	64/64	70.5/70.5	65.8/65.8	70.3/70.4	0.0	0.0	0.0	0.1
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	64.3/64.4	70.7/70.8	66.7/66.8	71.3/71.4	0.1	0.1	0.1	0.1
- Between Shoup Ave. and Topanga Blvd.	63/63	69.5/69.5	65.3/65.4	69.9/69.9	0.0	0.0	0.1	0.0
- Between Topanga Blvd. and Canoga Ave.	64/64.1	70.5/70.6	65.9/66	70.4/70.5	0.1	0.1	0.1	0.1
- Between Canoga Ave. and Desoto Ave.	65.3/65.5	71.8/72	66.4/66.6	71/71.2	0.2	0.2	0.2	0.2
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	58.7/59	65.2/65.5	58.9/59.2	63.4/63.8	0.3	0.3	0.3	0.4
- Between Topanga Blvd. and Owensmouth Ave.	60/61.1	66.5/67.6	61/62.3	65.6/66.8	1.1	1.1	1.3	1.2
- Between Owensmouth Ave. and Canoga Ave.	60.2/61	66.7/67.5	61.2/62	65.7/66.6	0.8	0.8	0.8	0.9
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	64.4/64.5	70.9/71	60.3/60.4	64.8/64.9	0.1	0.1	0.1	0.1
- Between Shoup Ave. and Topanga Blvd.	62.7/62.8	69.2/69.3	60.7/60.8	65.3/65.4	0.1	0.1	0.1	0.1
- Between Topanga Blvd. and Owensmouth Ave.	61.3/61.7	67.8/68.2	61.8/62.2	66.3/66.7	0.4	0.4	0.4	0.4
- Between Owensmouth Ave. and Canoga Ave.	61.5/62	67.9/68.5	63.2/63.9	67.7/68.4	0.5	0.6	0.7	0.7
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	59.5/59.6	65.9/66.1	60.1/60.1	64.6/64.8	0.1	0.2	0.0	0.2
- Between Shoup Ave. and Topanga Blvd.	60.9/61	67.3/67.5	61.5/61.6	66.1/66.2	0.1	0.2	0.1	0.1
- Between Topanga Blvd. and Owensmouth Ave.	62.2/62.1	68.7/68.6	60.9/60.9	65.5/65.4	-0.1	-0.1	0.0	-0.1
- Between Owensmouth Ave. and Canoga Ave.	62/62	68.5/68.5	62.1/62.1	66.6/66.7	0.0	0.0	0.0	0.1

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

Roadway Segments	EXISTING / CUMULATIVE + PROJECT				PROJECT INCREASE			
	Weekday		Weekend		Weekday		Weekend	
	Leq	CNEL	Leq	CNEL	Leq	CNEL	Leq	CNEL
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/62.9	69.3/69.4	62.9/63	67.5/67.5	0.0	0.1	0.1	0.0
- Between Victory Blvd. and Oxnard St.	63.3/63.6	69.8/70.1	63.9/64.2	68.5/68.8	0.3	0.3	0.3	0.3
- Between Oxnard St. and Burbank Blvd.	62.9/63.3	69.3/69.8	63.6/64.1	68.2/68.7	0.4	0.5	0.5	0.5
- Between Burbank Blvd. and Ventura Blvd.	62.5/63.1	69/69.6	63.5/64.2	68.1/68.8	0.6	0.6	0.7	0.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	63.7/64	70.2/72.1	66/66.2	70.6/72.4	0.3	1.9	0.2	1.8
- Between Victory Blvd. and Erwin St.	63.5/63.7	70/71.7	66/66.1	70.5/72.2	0.2	1.7	0.1	1.7
- Between Erwin St. and Oxnard St.	64.1/64.1	70.6/71.6	66.5/66.5	71.1/72.1	0.0	1.0	0.0	1.0
- Between Oxnard St. and Burbank Blvd.	63.8/63.9	70.3/71.8	66.3/66.2	70.8/72.3	0.1	1.5	-0.1	1.5
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	62.9/63.6	69.4/70.1	63.4/64.1	67.9/68.7	0.7	0.7	0.7	0.8
- Between Victory Blvd. and Erwin St.	62.3/63.2	68.8/69.7	62.1/63	66.7/67.6	0.9	0.9	0.9	0.9
- Between Erwin St. and Oxnard St.	60.6/61.3	67/67.8	60.6/61.4	65.1/66	0.7	0.8	0.8	0.9
- Between Oxnard St. and Burbank Blvd.	59.9/60.5	66.4/67	59.1/59.8	63.7/64.3	0.6	0.6	0.7	0.6
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	64.7/65	71.2/71.5	65.4/65.7	69.9/70.2	0.3	0.3	0.3	0.3
- Between Victory Blvd. and Erwin St.	64.6/65	71.1/71.5	65.6/66	70.2/70.6	0.4	0.4	0.4	0.4
- Between Erwin St. and Oxnard St.	64.8/64.9	71.3/71.4	64.8/64.9	69.3/69.5	0.1	0.1	0.1	0.2
- Between Oxnard St. and Burbank Blvd.	64.7/65.1	71.2/71.6	63.6/64	68.2/68.6	0.4	0.4	0.4	0.4
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	64.5/65.2	71/71.7	65.4/66.2	69.9/70.7	0.7	0.7	0.8	0.8
- Between Victory Blvd. and Erwin St.	64.3/64.9	70.8/71.4	65/65.6	69.6/70.2	0.6	0.6	0.6	0.6
- Between Erwin St. and Oxnard St.	64.6/65.2	71.1/71.6	65/65.5	69.6/70.1	0.6	0.5	0.5	0.5
- Between Oxnard St. and Burbank Blvd.	65/65.4	71.5/71.9	65.4/65.8	69.9/70.4	0.4	0.4	0.4	0.5
Vanowen Street								
- Between Fallbrook Ave. and Shoup Ave.	63.5/63.8	70/70.3	65.5/65.8	70.1/70.4	0.3	0.3	0.3	0.3
- Between Shoup Ave. and Topanga Blvd.	62/62.3	68.5/68.8	64.1/64.4	68.6/69	0.3	0.3	0.3	0.4
- Between Topanga Blvd. and Canoga Ave.	62.5/62.8	69/69.3	64.7/65	69.3/69.6	0.3	0.3	0.3	0.3
- Between Canoga Ave. and Desoto Ave.	64/64.5	70.5/71	65.8/66.2	70.3/70.8	0.5	0.5	0.4	0.5
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	64.3/64.7	70.7/71.2	66.7/67.1	71.3/71.7	0.4	0.5	0.4	0.4
- Between Shoup Ave. and Topanga Blvd.	63/63.6	69.5/70.1	65.3/65.9	69.9/70.5	0.6	0.6	0.6	0.6
- Between Topanga Blvd. and Canoga Ave.	64/65.2	70.5/71.7	65.9/66.9	70.4/71.5	1.2	1.2	1.0	1.1
- Between Canoga Ave. and Desoto Ave.	65.3/67.1	71.8/73.6	66.4/68.2	71/72.7	1.8	1.8	1.8	1.7
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	58.7/60	65.2/66.5	58.9/60.3	63.4/64.8	1.3	1.3	1.4	1.4
- Between Topanga Blvd. and Owensmouth Ave.	60/61.2	66.5/67.7	61/62.1	65.6/66.7	1.2	1.2	1.1	1.1
- Between Owensmouth Ave. and Canoga Ave.	60.2/61.7	66.7/68.2	61.2/62.7	65.7/67.3	1.5	1.5	1.5	1.6
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	64.4/64.6	70.9/71.1	60.3/60.4	64.8/65	0.2	0.2	0.1	0.2
- Between Shoup Ave. and Topanga Blvd.	62.7/63.1	69.2/69.6	60.7/61.2	65.3/65.8	0.4	0.4	0.5	0.5
- Between Topanga Blvd. and Owensmouth Ave.	61.3/62.3	67.8/68.8	61.8/62.8	66.3/67.4	1.0	1.0	1.0	1.1
- Between Owensmouth Ave. and Canoga Ave.	61.5/62.1	67.9/68.6	63.2/63.9	67.7/68.5	0.6	0.7	0.7	0.8
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	59.5/59.9	65.9/66.4	60.1/60.6	64.6/65.2	0.4	0.5	0.5	0.6
- Between Shoup Ave. and Topanga Blvd.	60.9/61.2	67.3/67.7	61.5/61.9	66.1/66.5	0.3	0.4	0.4	0.4
- Between Topanga Blvd. and Owensmouth Ave.	62.2/62.6	68.7/69	60.9/61.3	65.5/65.9	0.4	0.3	0.4	0.4
- Between Owensmouth Ave. and Canoga Ave.	62/62.5	68.5/69	62.1/62.3	66.6/66.8	0.5	0.5	0.2	0.2

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**EXISTING CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,475	28,779	8.6%	0	0	69.3
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,394	27,837	8.6%	0	0	69.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,153	25,035	8.6%	0	0	69.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,977	22,988	8.6%	0	0	69.0
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	80	10	50	35	3,311	38,500	8.6%	0	0	70.2
- Between Victory Blvd. and Erwin St.	90	10	55	35	3,542	41,186	8.6%	0	0	70.0
- Between Erwin St. and Oxnard St.	80	10	50	35	3,592	41,767	8.6%	0	0	70.6
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	3,818	44,395	8.6%	0	0	70.3
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,883	21,895	8.6%	0	0	69.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,896	22,047	8.6%	0	0	68.8
- Between Erwin St. and Oxnard St.	60	10	40	35	1,270	14,767	8.6%	0	0	67.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,086	12,628	8.6%	0	0	66.4
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,878	33,465	8.6%	0	0	71.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,207	37,291	8.6%	0	0	71.1
- Between Erwin St. and Oxnard St.	60	10	40	35	3,344	38,884	8.6%	0	0	71.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,271	38,035	8.6%	0	0	71.2
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,738	31,837	8.6%	0	0	71.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,008	34,977	8.6%	0	0	70.8
- Between Erwin St. and Oxnard St.	60	10	40	35	3,244	37,721	8.6%	0	0	71.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,528	41,023	8.6%	0	0	71.5
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,841	21,407	8.6%	0	0	70.0

## EXISTING CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,772	20,605	8.6%	0	0	68.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,007	23,337	8.6%	0	0	69.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,431	28,267	8.6%	0	0	70.5
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,202	25,605	8.6%	0	0	70.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,212	25,721	8.6%	0	0	69.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,821	32,802	8.6%	0	0	70.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,286	38,209	8.6%	0	0	71.8
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	832	9,674	8.6%	0	0	65.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,109	12,895	8.6%	0	0	66.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,013	11,779	8.6%	0	0	66.7
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,290	26,628	8.6%	0	0	70.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,063	23,988	8.6%	0	0	69.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,516	17,628	8.6%	0	0	67.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,356	15,767	8.6%	0	0	67.9
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	729	8,477	8.6%	0	0	65.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,360	15,814	8.6%	0	0	67.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,845	21,453	8.6%	0	0	68.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,542	17,930	8.6%	0	0	68.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.



Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**EXISTING + PROJECT CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,475	28,779	8.6%	0	0	69.3
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,394	27,837	8.6%	0	0	69.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,153	25,035	8.6%	0	0	69.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,977	22,988	8.6%	0	0	69.0
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,460	40,233	8.6%	0	0	72.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,740	43,488	8.6%	0	0	71.7
- Between Erwin St. and Oxnard St.	60	10	40	35	3,921	45,593	8.6%	0	0	71.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,376	50,884	8.6%	0	0	72.4
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,952	22,698	8.6%	0	0	69.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,045	23,779	8.6%	0	0	69.1
- Between Erwin St. and Oxnard St.	60	10	40	35	1,372	15,953	8.6%	0	0	67.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,093	12,709	8.6%	0	0	66.4
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,891	33,616	8.6%	0	0	71.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,220	37,442	8.6%	0	0	71.1
- Between Erwin St. and Oxnard St.	60	10	40	35	3,344	38,884	8.6%	0	0	71.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,457	40,198	8.6%	0	0	71.4
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,751	31,988	8.6%	0	0	71.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,021	35,128	8.6%	0	0	70.8
- Between Erwin St. and Oxnard St.	60	10	40	35	3,244	37,721	8.6%	0	0	71.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,541	41,174	8.6%	0	0	71.5
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,866	21,698	8.6%	0	0	70.0



## EXISTING + PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,797	20,895	8.6%	0	0	68.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,026	23,558	8.6%	0	0	69.1
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,468	28,698	8.6%	0	0	70.5
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,239	26,035	8.6%	0	0	70.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,249	26,151	8.6%	0	0	69.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,859	33,244	8.6%	0	0	70.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,361	39,081	8.6%	0	0	71.9
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	838	9,744	8.6%	0	0	65.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,169	13,593	8.6%	0	0	66.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,075	12,500	8.6%	0	0	66.9
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,303	26,779	8.6%	0	0	70.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,082	24,209	8.6%	0	0	69.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,858	21,605	8.6%	0	0	68.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,579	18,360	8.6%	0	0	68.6
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	742	8,628	8.6%	0	0	66.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,376	16,000	8.6%	0	0	67.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,845	21,453	8.6%	0	0	68.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,542	17,930	8.6%	0	0	68.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**FUTURE NO PROJECT CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,558	29,744	8.6%	0	0	69.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,471	28,733	8.6%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,228	25,907	8.6%	0	0	69.5
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,096	24,372	8.6%	0	0	69.2
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,397	39,500	8.6%	0	0	71.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,651	42,453	8.6%	0	0	71.6
- Between Erwin St. and Oxnard St.	60	10	40	35	3,715	43,198	8.6%	0	0	71.7
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,963	46,081	8.6%	0	0	72.0
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,075	24,128	8.6%	0	0	69.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,052	23,860	8.6%	0	0	69.1
- Between Erwin St. and Oxnard St.	60	10	40	35	1,402	16,302	8.6%	0	0	67.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,260	14,651	8.6%	0	0	67.0
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,039	35,337	8.6%	0	0	71.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,306	38,442	8.6%	0	0	71.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,539	41,151	8.6%	0	0	71.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,477	40,430	8.6%	0	0	71.4
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,873	33,407	8.6%	0	0	71.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,142	36,535	8.6%	0	0	71.0
- Between Erwin St. and Oxnard St.	60	10	40	35	3,488	40,558	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,760	43,721	8.6%	0	0	71.8
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,989	23,128	8.6%	0	0	70.3

## FUTURE NO PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,878	21,837	8.6%	0	0	68.7
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,132	24,791	8.6%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,759	32,081	8.6%	0	0	71.0
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,269	26,384	8.6%	0	0	70.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,278	26,488	8.6%	0	0	69.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,018	35,093	8.6%	0	0	70.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,631	42,221	8.6%	0	0	72.2
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	889	10,337	8.6%	0	0	65.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,294	15,047	8.6%	0	0	67.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,202	13,977	8.6%	0	0	67.4
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,417	28,105	8.6%	0	0	71.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,149	24,988	8.6%	0	0	69.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,637	19,035	8.6%	0	0	68.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,464	17,023	8.6%	0	0	68.3
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	770	8,953	8.6%	0	0	66.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,415	16,453	8.6%	0	0	67.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,039	23,709	8.6%	0	0	69.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,781	20,709	8.6%	0	0	69.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**FUTURE + PROJECT CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
<b>Shoup Avenue</b>										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,558	29,744	8.6%	0	0	69.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,471	28,733	8.6%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,228	25,907	8.6%	0	0	69.5
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,096	24,372	8.6%	0	0	69.2
<b>Topanga Boulevard</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,546	41,233	8.6%	0	0	72.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,849	44,756	8.6%	0	0	71.9
- Between Erwin St. and Oxnard St.	60	10	40	35	4,044	47,023	8.6%	0	0	72.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,521	52,570	8.6%	0	0	72.6
<b>Owensmouth Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,144	24,930	8.6%	0	0	69.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,201	25,593	8.6%	0	0	69.4
- Between Erwin St. and Oxnard St.	60	10	40	35	1,503	17,477	8.6%	0	0	67.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,267	14,733	8.6%	0	0	67.0
<b>Canoga Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,052	35,488	8.6%	0	0	71.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,319	38,593	8.6%	0	0	71.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,539	41,151	8.6%	0	0	71.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,663	42,593	8.6%	0	0	71.6
<b>Desoto Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,886	33,558	8.6%	0	0	71.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,155	36,686	8.6%	0	0	71.0
- Between Erwin St. and Oxnard St.	60	10	40	35	3,488	40,558	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,773	43,872	8.6%	0	0	71.8
<b>Vanowen Street</b>										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,014	23,419	8.6%	0	0	70.4

## FUTURE + PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,903	22,128	8.6%	0	0	68.8
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,150	25,000	8.6%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,796	32,512	8.6%	0	0	71.1
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,306	26,814	8.6%	0	0	70.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,315	26,919	8.6%	0	0	69.7
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,056	35,535	8.6%	0	0	70.9
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,706	43,093	8.6%	0	0	72.3
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	895	10,407	8.6%	0	0	65.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,354	15,744	8.6%	0	0	67.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,264	14,698	8.6%	0	0	67.6
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,430	28,256	8.6%	0	0	71.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,168	25,209	8.6%	0	0	69.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,979	23,012	8.6%	0	0	69.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,687	19,616	8.6%	0	0	68.9
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	783	9,105	8.6%	0	0	66.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,431	16,640	8.6%	0	0	67.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,039	23,709	8.6%	0	0	69.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,781	20,709	8.6%	0	0	69.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
<b>Shoup Avenue</b>										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,529	29,407	8.6%	0	0	69.4
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,580	30,000	8.6%	0	0	70.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,395	27,849	8.6%	0	0	69.8
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,302	26,767	8.6%	0	0	69.6
<b>Topanga Boulevard</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,675	42,733	8.6%	0	0	72.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,922	45,605	8.6%	0	0	71.9
- Between Erwin St. and Oxnard St.	60	10	40	35	3,912	45,488	8.6%	0	0	71.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,393	51,081	8.6%	0	0	72.4
<b>Owensmouth Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,312	26,884	8.6%	0	0	70.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,476	28,791	8.6%	0	0	69.9
- Between Erwin St. and Oxnard St.	60	10	40	35	1,610	18,721	8.6%	0	0	68.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,262	14,674	8.6%	0	0	67.0
<b>Canoga Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,085	35,872	8.6%	0	0	71.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,562	41,419	8.6%	0	0	71.5
- Between Erwin St. and Oxnard St.	60	10	40	35	3,430	39,884	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,772	43,860	8.6%	0	0	71.8
<b>Desoto Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,208	37,302	8.6%	0	0	71.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,442	40,023	8.6%	0	0	71.4
- Between Erwin St. and Oxnard St.	60	10	40	35	3,658	42,535	8.6%	0	0	71.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,918	45,558	8.6%	0	0	71.9
<b>Vanowen Street</b>										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,009	23,360	8.6%	0	0	70.3

## FUTURE CUMULATIVE + PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,938	22,535	8.6%	0	0	68.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,148	24,977	8.6%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,767	32,174	8.6%	0	0	71.0
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,491	28,965	8.6%	0	0	71.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,600	30,233	8.6%	0	0	70.2
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,771	43,849	8.6%	0	0	71.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	5,032	58,512	8.6%	0	0	73.6
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,118	13,000	8.6%	0	0	66.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,523	17,709	8.6%	0	0	67.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,493	17,360	8.6%	0	0	68.4
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,379	27,663	8.6%	0	0	71.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,296	26,698	8.6%	0	0	69.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,250	26,163	8.6%	0	0	69.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,820	21,163	8.6%	0	0	69.2
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	818	9,512	8.6%	0	0	66.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,479	17,198	8.6%	0	0	67.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,010	23,372	8.6%	0	0	69.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,720	20,000	8.6%	0	0	69.0

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**EXISTING CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,509	18,630	8.1%	0	0	67.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,656	20,444	8.1%	0	0	68.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,561	19,272	8.1%	0	0	68.2
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,514	18,691	8.1%	0	0	68.1
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	80	10	50	35	3,377	41,691	8.1%	0	0	70.6
- Between Victory Blvd. and Erwin St.	90	10	55	35	3,772	46,568	8.1%	0	0	70.5
- Between Erwin St. and Oxnard St.	80	10	50	35	3,831	47,296	8.1%	0	0	71.1
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	4,033	49,790	8.1%	0	0	70.8
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,276	15,753	8.1%	0	0	67.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,095	13,519	8.1%	0	0	66.7
- Between Erwin St. and Oxnard St.	60	10	40	35	770	9,506	8.1%	0	0	65.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	553	6,827	8.1%	0	0	63.7
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,021	24,951	8.1%	0	0	69.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,460	30,370	8.1%	0	0	70.2
- Between Erwin St. and Oxnard St.	60	10	40	35	2,025	25,000	8.1%	0	0	69.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,549	19,123	8.1%	0	0	68.2
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,027	25,025	8.1%	0	0	69.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,136	26,370	8.1%	0	0	69.6
- Between Erwin St. and Oxnard St.	60	10	40	35	2,134	26,346	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,329	28,753	8.1%	0	0	69.9
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,772	21,877	8.1%	0	0	70.1



## EXISTING CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume		PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,729	21,346	8.1%	0	0	68.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,999	24,679	8.1%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,215	27,346	8.1%	0	0	70.3
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,342	28,914	8.1%	0	0	71.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,302	28,420	8.1%	0	0	69.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,615	32,284	8.1%	0	0	70.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,585	31,914	8.1%	0	0	71.0
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	521	6,432	8.1%	0	0	63.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	853	10,531	8.1%	0	0	65.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	771	9,519	8.1%	0	0	65.7
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	530	6,543	8.1%	0	0	64.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	791	9,765	8.1%	0	0	65.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,013	12,506	8.1%	0	0	66.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,220	15,062	8.1%	0	0	67.7
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	510	6,296	8.1%	0	0	64.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	957	11,815	8.1%	0	0	66.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	833	10,284	8.1%	0	0	65.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	949	11,716	8.1%	0	0	66.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**EXISTING + PROJECT CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
<b>Shoup Avenue</b>										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,509	18,630	8.1%	0	0	67.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,656	20,444	8.1%	0	0	68.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,561	19,272	8.1%	0	0	68.2
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,514	18,691	8.1%	0	0	68.1
<b>Topanga Boulevard</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,503	43,247	8.1%	0	0	72.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,940	48,642	8.1%	0	0	72.2
- Between Erwin St. and Oxnard St.	60	10	40	35	4,109	50,728	8.1%	0	0	72.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,502	55,580	8.1%	0	0	72.8
<b>Owensmouth Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,333	16,457	8.1%	0	0	68.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,220	15,062	8.1%	0	0	67.1
- Between Erwin St. and Oxnard St.	60	10	40	35	856	10,568	8.1%	0	0	65.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	559	6,901	8.1%	0	0	63.7
<b>Canoga Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,032	25,086	8.1%	0	0	70.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,471	30,506	8.1%	0	0	70.2
- Between Erwin St. and Oxnard St.	60	10	40	35	2,025	25,000	8.1%	0	0	69.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,706	21,062	8.1%	0	0	68.6
<b>Desoto Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,038	25,160	8.1%	0	0	70.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,147	26,506	8.1%	0	0	69.6
- Between Erwin St. and Oxnard St.	60	10	40	35	2,134	26,346	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,340	28,889	8.1%	0	0	70.0
<b>Vanowen Street</b>										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,793	22,136	8.1%	0	0	70.1

## EXISTING + PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,750	21,605	8.1%	0	0	68.7
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,015	24,877	8.1%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,247	27,741	8.1%	0	0	70.4
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,374	29,309	8.1%	0	0	71.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,334	28,815	8.1%	0	0	70.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,646	32,667	8.1%	0	0	70.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,647	32,679	8.1%	0	0	71.1
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	527	6,506	8.1%	0	0	63.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	905	11,173	8.1%	0	0	65.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	824	10,173	8.1%	0	0	66.0
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	541	6,679	8.1%	0	0	64.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	807	9,963	8.1%	0	0	65.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,301	16,062	8.1%	0	0	67.4
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,408	17,383	8.1%	0	0	68.4
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	521	6,432	8.1%	0	0	64.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	971	11,988	8.1%	0	0	66.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	833	10,284	8.1%	0	0	65.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	949	11,716	8.1%	0	0	66.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**FUTURE NO PROJECT CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
<b>Shoup Avenue</b>										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,569	19,370	8.1%	0	0	67.6
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,714	21,160	8.1%	0	0	68.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,610	19,877	8.1%	0	0	68.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,594	19,679	8.1%	0	0	68.3
<b>Topanga Boulevard</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,478	42,938	8.1%	0	0	72.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,900	48,148	8.1%	0	0	72.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,967	48,975	8.1%	0	0	72.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,179	51,593	8.1%	0	0	72.5
<b>Owensmouth Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,410	17,407	8.1%	0	0	68.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,186	14,642	8.1%	0	0	67.0
- Between Erwin St. and Oxnard St.	60	10	40	35	858	10,593	8.1%	0	0	65.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	639	7,889	8.1%	0	0	64.3
<b>Canoga Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,140	26,420	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,532	31,259	8.1%	0	0	70.3
- Between Erwin St. and Oxnard St.	60	10	40	35	2,165	26,728	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,650	20,370	8.1%	0	0	68.4
<b>Desoto Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,130	26,296	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,226	27,481	8.1%	0	0	69.7
- Between Erwin St. and Oxnard St.	60	10	40	35	2,284	28,198	8.1%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,469	30,481	8.1%	0	0	70.2
<b>Vanowen Street</b>										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,916	23,654	8.1%	0	0	70.4

## FUTURE NO PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,832	22,617	8.1%	0	0	68.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,131	26,309	8.1%	0	0	69.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,529	31,222	8.1%	0	0	70.9
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,410	29,753	8.1%	0	0	71.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,369	29,247	8.1%	0	0	70.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,796	34,519	8.1%	0	0	70.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,841	35,074	8.1%	0	0	71.4
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	558	6,889	8.1%	0	0	63.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	995	12,284	8.1%	0	0	66.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	914	11,284	8.1%	0	0	66.5
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	576	7,111	8.1%	0	0	65.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	823	10,160	8.1%	0	0	65.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,098	13,556	8.1%	0	0	66.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,339	16,531	8.1%	0	0	68.1
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	539	6,654	8.1%	0	0	64.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	993	12,259	8.1%	0	0	66.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	918	11,333	8.1%	0	0	65.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,055	13,025	8.1%	0	0	67.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**FUTURE + PROJECT CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,569	19,370	8.1%	0	0	67.6
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,714	21,160	8.1%	0	0	68.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,610	19,877	8.1%	0	0	68.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,594	19,679	8.1%	0	0	68.3
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,603	44,481	8.1%	0	0	72.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	4,068	50,222	8.1%	0	0	72.4
- Between Erwin St. and Oxnard St.	60	10	40	35	4,244	52,395	8.1%	0	0	72.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,649	57,395	8.1%	0	0	72.9
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,468	18,123	8.1%	0	0	68.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,311	16,185	8.1%	0	0	67.4
- Between Erwin St. and Oxnard St.	60	10	40	35	944	11,654	8.1%	0	0	66.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	645	7,963	8.1%	0	0	64.4
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,151	26,556	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,543	31,395	8.1%	0	0	70.3
- Between Erwin St. and Oxnard St.	60	10	40	35	2,165	26,728	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,807	22,309	8.1%	0	0	68.8
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,141	26,432	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,237	27,617	8.1%	0	0	69.8
- Between Erwin St. and Oxnard St.	60	10	40	35	2,284	28,198	8.1%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,480	30,617	8.1%	0	0	70.2
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,937	23,914	8.1%	0	0	70.4

**FUTURE + PROJECT CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,853	22,877	8.1%	0	0	68.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,147	26,506	8.1%	0	0	69.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,561	31,617	8.1%	0	0	71.0
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,442	30,148	8.1%	0	0	71.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,401	29,642	8.1%	0	0	70.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,827	34,901	8.1%	0	0	70.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,903	35,840	8.1%	0	0	71.5
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	563	6,951	8.1%	0	0	63.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,047	12,926	8.1%	0	0	66.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	967	11,938	8.1%	0	0	66.7
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	587	7,247	8.1%	0	0	65.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	839	10,358	8.1%	0	0	65.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,386	17,111	8.1%	0	0	67.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,527	18,852	8.1%	0	0	68.7
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	550	6,790	8.1%	0	0	65.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,007	12,432	8.1%	0	0	66.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	918	11,333	8.1%	0	0	65.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,055	13,025	8.1%	0	0	67.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	Traffic Volume ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
<b>Shoup Avenue</b>										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,537	18,975	8.1%	0	0	67.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,794	22,148	8.1%	0	0	68.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,746	21,556	8.1%	0	0	68.7
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,784	22,025	8.1%	0	0	68.8
<b>Topanga Boulevard</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,718	45,901	8.1%	0	0	72.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	4,092	50,519	8.1%	0	0	72.4
- Between Erwin St. and Oxnard St.	60	10	40	35	4,065	50,185	8.1%	0	0	72.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,481	55,321	8.1%	0	0	72.8
<b>Owensmouth Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,583	19,543	8.1%	0	0	68.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,479	18,259	8.1%	0	0	68.0
- Between Erwin St. and Oxnard St.	60	10	40	35	1,019	12,580	8.1%	0	0	66.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	642	7,926	8.1%	0	0	64.3
<b>Canoga Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,180	26,914	8.1%	0	0	70.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,707	33,420	8.1%	0	0	70.6
- Between Erwin St. and Oxnard St.	60	10	40	35	2,092	25,827	8.1%	0	0	69.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,851	22,852	8.1%	0	0	68.9
<b>Desoto Avenue</b>										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,441	30,136	8.1%	0	0	70.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,482	30,642	8.1%	0	0	70.2
- Between Erwin St. and Oxnard St.	60	10	40	35	2,412	29,778	8.1%	0	0	70.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,596	32,049	8.1%	0	0	70.4
<b>Vanowen Street</b>										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,934	23,877	8.1%	0	0	70.4



## FUTURE CUMULATIVE + PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,887	23,296	8.1%	0	0	69.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,148	26,519	8.1%	0	0	69.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,513	31,025	8.1%	0	0	70.9
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,628	32,444	8.1%	0	0	71.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,689	33,198	8.1%	0	0	70.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,348	41,333	8.1%	0	0	71.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,926	48,469	8.1%	0	0	72.8
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	725	8,951	8.1%	0	0	64.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,150	14,198	8.1%	0	0	66.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,146	14,148	8.1%	0	0	67.5
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	562	6,938	8.1%	0	0	65.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	918	11,333	8.1%	0	0	65.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,574	19,432	8.1%	0	0	68.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,640	20,247	8.1%	0	0	69.0
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	591	7,296	8.1%	0	0	65.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,064	13,136	8.1%	0	0	66.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	908	11,210	8.1%	0	0	65.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	992	12,247	8.1%	0	0	66.8

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING CONDITIONS**

	Distance to		Distance to				Site	Nighttime
	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
<b>WEEKDAY - Nighttime</b>	Width*, ft	Roadway, ft	feet	mph	Volume	Atten.	dBA	Leq**
Roadway Segment					PHV			
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	569	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	550	0	0	63.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	496	0	0	62.9
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	454	0	0	62.5
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	762	0	0	63.7
- Between Victory Blvd. and Erwin St.	90	10	55	35	815	0	0	63.5
- Between Erwin St. and Oxnard St.	80	10	50	35	826	0	0	64.1
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	878	0	0	63.8
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	434	0	0	62.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	436	0	0	62.3
- Between Erwin St. and Oxnard St.	60	10	40	35	292	0	0	60.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	250	0	0	59.9
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	662	0	0	64.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	737	0	0	64.6
- Between Erwin St. and Oxnard St.	60	10	40	35	769	0	0	64.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	752	0	0	64.7
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	630	0	0	64.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	691	0	0	64.3
- Between Erwin St. and Oxnard St.	60	10	40	35	747	0	0	64.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	811	0	0	65.0
Vanowen Street								

## EXISTING CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	424	0	0	63.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	407	0	0	62.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	461	0	0	62.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	559	0	0	64.0
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	507	0	0	64.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	508	0	0	63.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	648	0	0	64.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	756	0	0	65.3
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	192	0	0	58.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	256	0	0	60.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	233	0	0	60.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	527	0	0	64.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	475	0	0	62.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	349	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	313	0	0	61.5
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	168	0	0	59.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	313	0	0	60.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	423	0	0	62.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	355	0	0	62.0

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	569	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	550	0	0	63.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	496	0	0	62.9
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	454	0	0	62.5
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,231	0	0	65.8
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,441	0	0	66.0
- Between Erwin St. and Oxnard St.	80	10	50	35	1,511	0	0	66.7
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	2,638	0	0	68.6
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	649	0	0	64.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	905	0	0	65.5
- Between Erwin St. and Oxnard St.	60	10	40	35	389	0	0	61.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	269	0	0	60.2
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	701	0	0	65.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	776	0	0	64.8
- Between Erwin St. and Oxnard St.	60	10	40	35	769	0	0	64.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,339	0	0	67.2
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	669	0	0	64.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	730	0	0	64.5
- Between Erwin St. and Oxnard St.	60	10	40	35	747	0	0	64.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	850	0	0	65.2
Vanowen Street								

## EXISTING + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	502	0	0	64.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	485	0	0	62.8
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	520	0	0	63.1
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	676	0	0	64.8
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	624	0	0	65.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	625	0	0	63.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	766	0	0	64.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	991	0	0	66.5
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	211	0	0	59.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	686	0	0	64.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	428	0	0	62.8
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	566	0	0	64.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	534	0	0	63.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,092	0	0	66.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,017	0	0	66.6
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	207	0	0	60.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	547	0	0	63.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	423	0	0	62.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	355	0	0	62.0

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE NO PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	588	0	0	63.0
- Between Victory Blvd. and Oxnard St.	60	10	40	35	568	0	0	63.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	512	0	0	63.0
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	482	0	0	62.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	781	0	0	63.8
- Between Victory Blvd. and Erwin St.	90	10	55	35	840	0	0	63.6
- Between Erwin St. and Oxnard St.	80	10	50	35	854	0	0	64.2
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	912	0	0	64.0
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	477	0	0	63.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	472	0	0	62.6
- Between Erwin St. and Oxnard St.	60	10	40	35	323	0	0	61.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	290	0	0	60.5
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	699	0	0	64.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	761	0	0	64.7
- Between Erwin St. and Oxnard St.	60	10	40	35	814	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	800	0	0	64.9
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	661	0	0	64.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	724	0	0	64.5
- Between Erwin St. and Oxnard St.	60	10	40	35	803	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	864	0	0	65.3
Vanowen Street								

## FUTURE NO PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	Volume PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	458	0	0	63.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	432	0	0	62.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	490	0	0	62.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	634	0	0	64.5
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	521	0	0	64.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	523	0	0	63.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	694	0	0	64.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	835	0	0	65.7
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	205	0	0	59.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	297	0	0	60.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	277	0	0	60.9
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	556	0	0	64.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	494	0	0	62.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	376	0	0	61.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	337	0	0	61.8
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	177	0	0	59.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	326	0	0	61.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	470	0	0	62.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	410	0	0	62.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE + PROJECT CONDITIONS**

	Distance to	Distance to				Site	Nighttime
	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Hour,
<b>WEEKDAY - Nighttime</b>	Width*, ft	Roadway, ft	feet	mph	Volume	Atten.	Leq**
Roadway Segment					PHV		
Shoup Avenue							
- Between Vanowen St. and Victory Blvd.	70	10	45	35	588	0	63.0
- Between Victory Blvd. and Oxnard St.	60	10	40	35	568	0	63.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	512	0	63.0
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	482	0	62.7
Topanga Boulevard							
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,250	0	65.9
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,466	0	66.1
- Between Erwin St. and Oxnard St.	80	10	50	35	1,539	0	66.8
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	2,673	0	68.7
Owensmouth Avenue							
- Between Vanowen St. and Victory Blvd.	50	10	35	35	692	0	64.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	941	0	65.6
- Between Erwin St. and Oxnard St.	60	10	40	35	421	0	62.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	309	0	60.8
Canoga Avenue							
- Between Vanowen St. and Victory Blvd.	50	10	35	35	738	0	65.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	800	0	64.9
- Between Erwin St. and Oxnard St.	60	10	40	35	814	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,387	0	67.3
Desoto Avenue							
- Between Vanowen St. and Victory Blvd.	50	10	35	35	700	0	65.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	763	0	64.7
- Between Erwin St. and Oxnard St.	60	10	40	35	803	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	903	0	65.5
Vanowen Street							



## FUTURE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	536	0	0	64.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	510	0	0	63.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	548	0	0	63.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	751	0	0	65.3
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	638	0	0	65.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	640	0	0	64.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	811	0	0	65.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,070	0	0	66.8
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	225	0	0	59.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	727	0	0	64.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	473	0	0	63.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	595	0	0	64.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	552	0	0	63.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,119	0	0	66.4
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,041	0	0	66.7
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	216	0	0	60.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	561	0	0	63.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	470	0	0	62.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	410	0	0	62.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	Volume PHV	Atten.	dBA	Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	581	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	594	0	0	63.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	552	0	0	63.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	530	0	0	63.1
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,281	0	0	66.0
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,483	0	0	66.1
- Between Erwin St. and Oxnard St.	80	10	50	35	1,509	0	0	66.7
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	2,642	0	0	68.6
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	732	0	0	65.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,005	0	0	65.9
- Between Erwin St. and Oxnard St.	60	10	40	35	445	0	0	62.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	309	0	0	60.8
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	746	0	0	65.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	856	0	0	65.2
- Between Erwin St. and Oxnard St.	60	10	40	35	789	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,412	0	0	67.4
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	774	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	828	0	0	65.1
- Between Erwin St. and Oxnard St.	60	10	40	35	842	0	0	65.2
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	937	0	0	65.6
Vanowen Street								

## FUTURE CUMULATIVE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	Volume PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	535	0	0	64.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	518	0	0	63.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	549	0	0	63.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	745	0	0	65.2
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	682	0	0	65.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	707	0	0	64.4
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	976	0	0	65.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,375	0	0	67.9
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	276	0	0	60.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	767	0	0	64.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	525	0	0	63.7
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	583	0	0	64.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	582	0	0	63.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,182	0	0	66.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,071	0	0	66.8
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	225	0	0	60.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	571	0	0	63.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	463	0	0	62.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	397	0	0	62.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING CONDITIONS**

	Distance to		Distance to				Site	Nighttime
	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
<b>WEEKEND - Nighttime</b>	Width*, ft	Roadway, ft	feet	mph	Volume	Atten.	dBA	Leq**
Roadway Segment					PHV			
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	573	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	628	0	0	63.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	593	0	0	63.6
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	575	0	0	63.5
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,283	0	0	66.0
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,432	0	0	66.0
- Between Erwin St. and Oxnard St.	80	10	50	35	1,454	0	0	66.5
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,532	0	0	66.3
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	485	0	0	63.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	416	0	0	62.1
- Between Erwin St. and Oxnard St.	60	10	40	35	292	0	0	60.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	209	0	0	59.1
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	768	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	934	0	0	65.6
- Between Erwin St. and Oxnard St.	60	10	40	35	768	0	0	64.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	588	0	0	63.6
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	770	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	811	0	0	65.0
- Between Erwin St. and Oxnard St.	60	10	40	35	810	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	883	0	0	65.4
Vanowen Street								

## EXISTING CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	673	0	0	65.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	657	0	0	64.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	759	0	0	64.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	842	0	0	65.8
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	888	0	0	66.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	874	0	0	65.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	993	0	0	65.9
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	981	0	0	66.4
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	198	0	0	58.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	324	0	0	61.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	293	0	0	61.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	202	0	0	60.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	300	0	0	60.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	385	0	0	61.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	464	0	0	63.2
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	193	0	0	60.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	364	0	0	61.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	317	0	0	60.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	360	0	0	62.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING + PROJECT CONDITIONS**

	Distance to		Distance to				Site	Nighttime
	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
<b>WEEKEND - Nighttime</b>	Width*, ft	Roadway, ft	feet	mph	Volume	Atten.	dBA	Leq**
Roadway Segment					PHV			
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	573	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	628	0	0	63.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	593	0	0	63.6
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	575	0	0	63.5
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,870	0	0	67.6
- Between Victory Blvd. and Erwin St.	90	10	55	35	2,215	0	0	67.9
- Between Erwin St. and Oxnard St.	80	10	50	35	2,310	0	0	68.5
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	3,733	0	0	70.1
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	754	0	0	65.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,002	0	0	65.9
- Between Erwin St. and Oxnard St.	60	10	40	35	415	0	0	62.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	234	0	0	59.6
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	817	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	983	0	0	65.8
- Between Erwin St. and Oxnard St.	60	10	40	35	768	0	0	64.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,322	0	0	67.1
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	819	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	860	0	0	65.2
- Between Erwin St. and Oxnard St.	60	10	40	35	810	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	932	0	0	65.6
Vanowen Street								

## EXISTING + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	771	0	0	66.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	755	0	0	64.7
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	833	0	0	65.1
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	989	0	0	66.5
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,035	0	0	67.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,021	0	0	66.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,139	0	0	66.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,274	0	0	67.6
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	223	0	0	59.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	862	0	0	65.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	538	0	0	63.8
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	251	0	0	61.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	373	0	0	61.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,314	0	0	67.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,345	0	0	67.8
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	242	0	0	61.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	658	0	0	64.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	317	0	0	60.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	360	0	0	62.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE NO PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	596	0	0	63.1
- Between Victory Blvd. and Oxnard St.	60	10	40	35	652	0	0	64.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	612	0	0	63.8
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	606	0	0	63.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,320	0	0	66.1
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,481	0	0	66.1
- Between Erwin St. and Oxnard St.	80	10	50	35	1,507	0	0	66.7
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,588	0	0	66.4
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	536	0	0	63.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	451	0	0	62.4
- Between Erwin St. and Oxnard St.	60	10	40	35	326	0	0	61.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	242	0	0	59.7
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	812	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	962	0	0	65.7
- Between Erwin St. and Oxnard St.	60	10	40	35	822	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	627	0	0	63.9
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	809	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	845	0	0	65.2
- Between Erwin St. and Oxnard St.	60	10	40	35	867	0	0	65.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	938	0	0	65.6
Vanowen Street								



## FUTURE NO PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	727	0	0	65.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	696	0	0	64.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	808	0	0	65.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	961	0	0	66.3
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	916	0	0	66.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	899	0	0	65.4
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,061	0	0	66.2
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,079	0	0	66.8
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	212	0	0	59.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	378	0	0	61.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	348	0	0	61.9
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	218	0	0	60.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	313	0	0	60.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	418	0	0	62.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	509	0	0	63.6
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	205	0	0	60.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	378	0	0	61.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	349	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	401	0	0	62.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	596	0	0	63.1
- Between Victory Blvd. and Oxnard St.	60	10	40	35	652	0	0	64.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	612	0	0	63.8
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	606	0	0	63.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,907	0	0	67.7
- Between Victory Blvd. and Erwin St.	90	10	55	35	2,263	0	0	67.9
- Between Erwin St. and Oxnard St.	80	10	50	35	2,363	0	0	68.6
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	3,789	0	0	70.2
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	805	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,037	0	0	66.1
- Between Erwin St. and Oxnard St.	60	10	40	35	448	0	0	62.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	267	0	0	60.2
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	861	0	0	65.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,011	0	0	65.9
- Between Erwin St. and Oxnard St.	60	10	40	35	822	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,361	0	0	67.2
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	858	0	0	65.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	894	0	0	65.4
- Between Erwin St. and Oxnard St.	60	10	40	35	867	0	0	65.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	987	0	0	65.8
Vanowen Street								

## FUTURE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	825	0	0	66.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	794	0	0	64.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	882	0	0	65.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,108	0	0	66.9
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,063	0	0	67.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,046	0	0	66.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,207	0	0	66.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,372	0	0	67.9
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	237	0	0	59.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	916	0	0	65.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	593	0	0	64.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	267	0	0	61.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	386	0	0	61.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,347	0	0	67.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,389	0	0	67.9
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	254	0	0	61.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	671	0	0	64.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	349	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	401	0	0	62.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITH ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

	Distance to	Distance to				Site	Nighttime
	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Hour,
<b>WEEKEND - Nighttime</b>	Width*, ft	Roadway, ft	feet	mph	Volume	Atten.	Leq**
Roadway Segment					PHV		
Shoup Avenue							
- Between Vanowen St. and Victory Blvd.	70	10	45	35	583	0	63.0
- Between Victory Blvd. and Oxnard St.	60	10	40	35	681	0	64.2
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	662	0	64.1
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	677	0	64.2
Topanga Boulevard							
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,951	0	67.8
- Between Victory Blvd. and Erwin St.	90	10	55	35	2,273	0	68.0
- Between Erwin St. and Oxnard St.	80	10	50	35	2,294	0	68.5
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	3,725	0	70.1
Owensmouth Avenue							
- Between Vanowen St. and Victory Blvd.	50	10	35	35	848	0	65.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,101	0	66.3
- Between Erwin St. and Oxnard St.	60	10	40	35	478	0	62.7
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	268	0	60.2
Canoga Avenue							
- Between Vanowen St. and Victory Blvd.	50	10	35	35	873	0	65.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,074	0	66.2
- Between Erwin St. and Oxnard St.	60	10	40	35	794	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,377	0	67.3
Desoto Avenue							
- Between Vanowen St. and Victory Blvd.	50	10	35	35	972	0	66.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	987	0	65.8
- Between Erwin St. and Oxnard St.	60	10	40	35	916	0	65.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,031	0	66.0
Vanowen Street							

## FUTURE CUMULATIVE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	824	0	0	66.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	807	0	0	65.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	883	0	0	65.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,089	0	0	66.9
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,133	0	0	67.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,156	0	0	66.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,407	0	0	67.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,760	0	0	69.0
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	298	0	0	60.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	957	0	0	65.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	661	0	0	64.7
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	258	0	0	61.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	416	0	0	62.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,418	0	0	67.4
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,432	0	0	68.1
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	269	0	0	61.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	692	0	0	64.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	346	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	378	0	0	62.3

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**EXISTING CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,475	28,779	8.6%	0	0	69.3
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,394	27,837	8.6%	0	0	69.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,153	25,035	8.6%	0	0	69.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,977	22,988	8.6%	0	0	69.0
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	80	10	50	35	3,311	38,500	8.6%	0	0	70.2
- Between Victory Blvd. and Erwin St.	90	10	55	35	3,542	41,186	8.6%	0	0	70.0
- Between Erwin St. and Oxnard St.	80	10	50	35	3,592	41,767	8.6%	0	0	70.6
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	3,818	44,395	8.6%	0	0	70.3
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,883	21,895	8.6%	0	0	69.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,896	22,047	8.6%	0	0	68.8
- Between Erwin St. and Oxnard St.	60	10	40	35	1,270	14,767	8.6%	0	0	67.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,086	12,628	8.6%	0	0	66.4
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,878	33,465	8.6%	0	0	71.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,207	37,291	8.6%	0	0	71.1
- Between Erwin St. and Oxnard St.	60	10	40	35	3,344	38,884	8.6%	0	0	71.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,271	38,035	8.6%	0	0	71.2
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,738	31,837	8.6%	0	0	71.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,008	34,977	8.6%	0	0	70.8
- Between Erwin St. and Oxnard St.	60	10	40	35	3,244	37,721	8.6%	0	0	71.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,528	41,023	8.6%	0	0	71.5
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,841	21,407	8.6%	0	0	70.0

## EXISTING CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,772	20,605	8.6%	0	0	68.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,007	23,337	8.6%	0	0	69.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,431	28,267	8.6%	0	0	70.5
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,202	25,605	8.6%	0	0	70.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,212	25,721	8.6%	0	0	69.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,821	32,802	8.6%	0	0	70.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,286	38,209	8.6%	0	0	71.8
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	832	9,674	8.6%	0	0	65.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,109	12,895	8.6%	0	0	66.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,013	11,779	8.6%	0	0	66.7
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,290	26,628	8.6%	0	0	70.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,063	23,988	8.6%	0	0	69.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,516	17,628	8.6%	0	0	67.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,356	15,767	8.6%	0	0	67.9
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	729	8,477	8.6%	0	0	65.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,360	15,814	8.6%	0	0	67.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,845	21,453	8.6%	0	0	68.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,542	17,930	8.6%	0	0	68.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**EXISTING + PROJECT CONDITIONS**

**WEEKDAY - CNEL**

<b>Roadway Segment</b>	<b>Roadway Width*, ft</b>	<b>Distance to Edge of Roadway, ft</b>	<b>Distance to Centerline, feet</b>	<b>Speed mph</b>	<b>Traffic Volume PHV</b>	<b>ADT</b>	<b>PHV to ADT factor</b>	<b>Barrier Atten.</b>	<b>Site Adjust., dBA</b>	<b>24-Hour CNEL</b>
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,527	29,384	8.6%	0	0	69.4
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,446	28,442	8.6%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,200	25,581	8.6%	0	0	69.4
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,026	23,558	8.6%	0	0	69.1
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,372	39,209	8.6%	0	0	71.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,634	42,256	8.6%	0	0	71.6
- Between Erwin St. and Oxnard St.	60	10	40	35	3,803	44,221	8.6%	0	0	71.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,016	46,698	8.6%	0	0	72.0
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,001	23,267	8.6%	0	0	69.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,074	24,116	8.6%	0	0	69.2
- Between Erwin St. and Oxnard St.	60	10	40	35	1,303	15,151	8.6%	0	0	67.2
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,040	12,093	8.6%	0	0	66.2
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,936	34,140	8.6%	0	0	71.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,332	38,744	8.6%	0	0	71.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,440	40,000	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,336	38,791	8.6%	0	0	71.2
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,787	32,407	8.6%	0	0	71.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,034	35,279	8.6%	0	0	70.8
- Between Erwin St. and Oxnard St.	60	10	40	35	3,241	37,686	8.6%	0	0	71.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,552	41,302	8.6%	0	0	71.5
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,864	21,674	8.6%	0	0	70.0



## EXISTING + PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,791	20,826	8.6%	0	0	68.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,034	23,651	8.6%	0	0	69.1
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,473	28,756	8.6%	0	0	70.5
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,256	26,233	8.6%	0	0	70.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,241	26,058	8.6%	0	0	69.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,900	33,721	8.6%	0	0	70.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,464	40,279	8.6%	0	0	72.0
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	892	10,372	8.6%	0	0	65.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,433	16,663	8.6%	0	0	67.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,219	14,174	8.6%	0	0	67.5
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,354	27,372	8.6%	0	0	71.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,123	24,686	8.6%	0	0	69.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,648	19,163	8.6%	0	0	68.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,552	18,047	8.6%	0	0	68.5
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	755	8,779	8.6%	0	0	66.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,393	16,198	8.6%	0	0	67.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,834	21,326	8.6%	0	0	68.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,545	17,965	8.6%	0	0	68.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**FUTURE NO PROJECT CONDITIONS**

**WEEKDAY - CNEL**

<b>Roadway Segment</b>	<b>Roadway Width*, ft</b>	<b>Distance to Edge of Roadway, ft</b>	<b>Distance to Centerline, feet</b>	<b>Speed mph</b>	<b>Traffic Volume PHV</b>	<b>ADT</b>	<b>PHV to ADT factor</b>	<b>Barrier Atten.</b>	<b>Site Adjust., dBA</b>	<b>24-Hour CNEL</b>
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,558	29,744	8.6%	0	0	69.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,471	28,733	8.6%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,228	25,907	8.6%	0	0	69.5
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,096	24,372	8.6%	0	0	69.2
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,397	39,500	8.6%	0	0	71.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,651	42,453	8.6%	0	0	71.6
- Between Erwin St. and Oxnard St.	60	10	40	35	3,715	43,198	8.6%	0	0	71.7
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,963	46,081	8.6%	0	0	72.0
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,075	24,128	8.6%	0	0	69.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,052	23,860	8.6%	0	0	69.1
- Between Erwin St. and Oxnard St.	60	10	40	35	1,402	16,302	8.6%	0	0	67.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,260	14,651	8.6%	0	0	67.0
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,039	35,337	8.6%	0	0	71.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,306	38,442	8.6%	0	0	71.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,539	41,151	8.6%	0	0	71.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,477	40,430	8.6%	0	0	71.4
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,873	33,407	8.6%	0	0	71.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,142	36,535	8.6%	0	0	71.0
- Between Erwin St. and Oxnard St.	60	10	40	35	3,488	40,558	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,760	43,721	8.6%	0	0	71.8
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,989	23,128	8.6%	0	0	70.3

## FUTURE NO PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume		PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,878	21,837	8.6%	0	0	68.7
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,132	24,791	8.6%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,759	32,081	8.6%	0	0	71.0
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,269	26,384	8.6%	0	0	70.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,278	26,488	8.6%	0	0	69.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,018	35,093	8.6%	0	0	70.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,631	42,221	8.6%	0	0	72.2
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	889	10,337	8.6%	0	0	65.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,294	15,047	8.6%	0	0	67.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,202	13,977	8.6%	0	0	67.4
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,417	28,105	8.6%	0	0	71.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,149	24,988	8.6%	0	0	69.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,637	19,035	8.6%	0	0	68.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,464	17,023	8.6%	0	0	68.3
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	770	8,953	8.6%	0	0	66.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,415	16,453	8.6%	0	0	67.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,039	23,709	8.6%	0	0	69.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,781	20,709	8.6%	0	0	69.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**FUTURE + PROJECT CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,610	30,349	8.6%	0	0	69.6
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,523	29,337	8.6%	0	0	70.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,275	26,453	8.6%	0	0	69.6
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,145	24,942	8.6%	0	0	69.3
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,458	40,209	8.6%	0	0	72.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,743	43,523	8.6%	0	0	71.7
- Between Erwin St. and Oxnard St.	60	10	40	35	3,927	45,663	8.6%	0	0	72.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,161	48,384	8.6%	0	0	72.2
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,193	25,500	8.6%	0	0	70.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,230	25,930	8.6%	0	0	69.5
- Between Erwin St. and Oxnard St.	60	10	40	35	1,434	16,674	8.6%	0	0	67.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,214	14,116	8.6%	0	0	66.9
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,097	36,012	8.6%	0	0	71.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,431	39,895	8.6%	0	0	71.4
- Between Erwin St. and Oxnard St.	60	10	40	35	3,636	42,279	8.6%	0	0	71.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,543	41,198	8.6%	0	0	71.5
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,922	33,977	8.6%	0	0	71.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,167	36,826	8.6%	0	0	71.0
- Between Erwin St. and Oxnard St.	60	10	40	35	3,485	40,523	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,784	44,000	8.6%	0	0	71.8
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,012	23,395	8.6%	0	0	70.3

## FUTURE + PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,897	22,058	8.6%	0	0	68.8
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,159	25,105	8.6%	0	0	69.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,801	32,570	8.6%	0	0	71.1
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,323	27,012	8.6%	0	0	71.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,307	26,826	8.6%	0	0	69.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,097	36,012	8.6%	0	0	70.9
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,809	44,291	8.6%	0	0	72.4
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	949	11,035	8.6%	0	0	65.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,618	18,814	8.6%	0	0	68.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,408	16,372	8.6%	0	0	68.1
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,481	28,849	8.6%	0	0	71.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,209	25,686	8.6%	0	0	69.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,768	20,558	8.6%	0	0	68.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,660	19,302	8.6%	0	0	68.8
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	796	9,256	8.6%	0	0	66.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,449	16,849	8.6%	0	0	67.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,028	23,581	8.6%	0	0	69.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,783	20,733	8.6%	0	0	69.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.6%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

**WEEKDAY - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	2,529	29,407	8.6%	0	0	69.4
- Between Victory Blvd. and Oxnard St.	60	10	40	35	2,580	30,000	8.6%	0	0	70.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,395	27,849	8.6%	0	0	69.8
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	2,302	26,767	8.6%	0	0	69.6
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,526	41,000	8.6%	0	0	72.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,724	43,302	8.6%	0	0	71.7
- Between Erwin St. and Oxnard St.	60	10	40	35	3,583	41,663	8.6%	0	0	71.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,835	44,593	8.6%	0	0	71.8
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,243	26,081	8.6%	0	0	70.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,326	27,047	8.6%	0	0	69.7
- Between Erwin St. and Oxnard St.	60	10	40	35	1,508	17,535	8.6%	0	0	67.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,256	14,605	8.6%	0	0	67.0
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,072	35,721	8.6%	0	0	71.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,549	41,267	8.6%	0	0	71.5
- Between Erwin St. and Oxnard St.	60	10	40	35	3,430	39,884	8.6%	0	0	71.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,586	41,698	8.6%	0	0	71.6
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,195	37,151	8.6%	0	0	71.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,429	39,872	8.6%	0	0	71.4
- Between Erwin St. and Oxnard St.	60	10	40	35	3,658	42,535	8.6%	0	0	71.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	3,905	45,407	8.6%	0	0	71.9
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,984	23,070	8.6%	0	0	70.3

## FUTURE CUMULATIVE + PROJECT CONDITIONS

### WEEKDAY - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,913	22,244	8.6%	0	0	68.8
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,129	24,756	8.6%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,730	31,744	8.6%	0	0	71.0
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,454	28,535	8.6%	0	0	71.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,563	29,802	8.6%	0	0	70.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,734	43,419	8.6%	0	0	71.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	4,957	57,640	8.6%	0	0	73.6
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,111	12,919	8.6%	0	0	66.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,462	17,000	8.6%	0	0	67.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,431	16,640	8.6%	0	0	68.2
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,366	27,512	8.6%	0	0	71.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,276	26,465	8.6%	0	0	69.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,908	22,186	8.6%	0	0	68.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,597	18,570	8.6%	0	0	68.6
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	805	9,360	8.6%	0	0	66.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,463	17,012	8.6%	0	0	67.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	2,010	23,372	8.6%	0	0	69.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,720	20,000	8.6%	0	0	69.0

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**EXISTING CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,509	18,630	8.1%	0	0	67.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,656	20,444	8.1%	0	0	68.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,561	19,272	8.1%	0	0	68.2
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,514	18,691	8.1%	0	0	68.1
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	80	10	50	35	3,377	41,691	8.1%	0	0	70.6
- Between Victory Blvd. and Erwin St.	90	10	55	35	3,772	46,568	8.1%	0	0	70.5
- Between Erwin St. and Oxnard St.	80	10	50	35	3,831	47,296	8.1%	0	0	71.1
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	4,033	49,790	8.1%	0	0	70.8
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,276	15,753	8.1%	0	0	67.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,095	13,519	8.1%	0	0	66.7
- Between Erwin St. and Oxnard St.	60	10	40	35	770	9,506	8.1%	0	0	65.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	553	6,827	8.1%	0	0	63.7
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,021	24,951	8.1%	0	0	69.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,460	30,370	8.1%	0	0	70.2
- Between Erwin St. and Oxnard St.	60	10	40	35	2,025	25,000	8.1%	0	0	69.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,549	19,123	8.1%	0	0	68.2
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,027	25,025	8.1%	0	0	69.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,136	26,370	8.1%	0	0	69.6
- Between Erwin St. and Oxnard St.	60	10	40	35	2,134	26,346	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,329	28,753	8.1%	0	0	69.9
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,772	21,877	8.1%	0	0	70.1



## EXISTING CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume		PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,729	21,346	8.1%	0	0	68.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,999	24,679	8.1%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,215	27,346	8.1%	0	0	70.3
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,342	28,914	8.1%	0	0	71.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,302	28,420	8.1%	0	0	69.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,615	32,284	8.1%	0	0	70.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,585	31,914	8.1%	0	0	71.0
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	521	6,432	8.1%	0	0	63.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	853	10,531	8.1%	0	0	65.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	771	9,519	8.1%	0	0	65.7
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	530	6,543	8.1%	0	0	64.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	791	9,765	8.1%	0	0	65.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,013	12,506	8.1%	0	0	66.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,220	15,062	8.1%	0	0	67.7
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	510	6,296	8.1%	0	0	64.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	957	11,815	8.1%	0	0	66.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	833	10,284	8.1%	0	0	65.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	949	11,716	8.1%	0	0	66.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**EXISTING + PROJECT CONDITIONS**

**WEEKEND - CNEL**

<b>Roadway Segment</b>	<b>Roadway Width*, ft</b>	<b>Distance to Edge of Roadway, ft</b>	<b>Distance to Centerline, feet</b>	<b>Speed mph</b>	<b>Traffic Volume PHV</b>	<b>ADT</b>	<b>PHV to ADT factor</b>	<b>Barrier Atten.</b>	<b>Site Adjust., dBA</b>	<b>24-Hour CNEL</b>
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,539	19,000	8.1%	0	0	67.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,688	20,840	8.1%	0	0	68.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,600	19,753	8.1%	0	0	68.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,562	19,284	8.1%	0	0	68.2
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,439	42,457	8.1%	0	0	72.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,870	47,778	8.1%	0	0	72.1
- Between Erwin St. and Oxnard St.	60	10	40	35	4,055	50,062	8.1%	0	0	72.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,258	52,568	8.1%	0	0	72.6
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,367	16,877	8.1%	0	0	68.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,239	15,296	8.1%	0	0	67.2
- Between Erwin St. and Oxnard St.	60	10	40	35	820	10,123	8.1%	0	0	65.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	544	6,716	8.1%	0	0	63.6
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,048	25,284	8.1%	0	0	70.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,543	31,395	8.1%	0	0	70.3
- Between Erwin St. and Oxnard St.	60	10	40	35	2,095	25,864	8.1%	0	0	69.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,593	19,667	8.1%	0	0	68.3
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,064	25,481	8.1%	0	0	70.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,157	26,630	8.1%	0	0	69.6
- Between Erwin St. and Oxnard St.	60	10	40	35	2,130	26,296	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,343	28,926	8.1%	0	0	70.0
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,795	22,160	8.1%	0	0	70.1

## EXISTING + PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume		PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,749	21,593	8.1%	0	0	68.7
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,028	25,037	8.1%	0	0	69.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,254	27,827	8.1%	0	0	70.4
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,399	29,617	8.1%	0	0	71.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,329	28,753	8.1%	0	0	69.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,666	32,914	8.1%	0	0	70.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,722	33,605	8.1%	0	0	71.2
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	563	6,951	8.1%	0	0	63.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,141	14,086	8.1%	0	0	66.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	935	11,543	8.1%	0	0	66.6
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	546	6,741	8.1%	0	0	64.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	819	10,111	8.1%	0	0	65.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,116	13,778	8.1%	0	0	66.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,435	17,716	8.1%	0	0	68.4
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	523	6,457	8.1%	0	0	64.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	982	12,123	8.1%	0	0	66.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	827	10,210	8.1%	0	0	65.4
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	956	11,802	8.1%	0	0	66.7

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**FUTURE NO PROJECT CONDITIONS**

**WEEKEND - CNEL**

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,569	19,370	8.1%	0	0	67.6
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,714	21,160	8.1%	0	0	68.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,610	19,877	8.1%	0	0	68.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,594	19,679	8.1%	0	0	68.3
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,478	42,938	8.1%	0	0	72.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,900	48,148	8.1%	0	0	72.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,967	48,975	8.1%	0	0	72.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,179	51,593	8.1%	0	0	72.5
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,410	17,407	8.1%	0	0	68.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,186	14,642	8.1%	0	0	67.0
- Between Erwin St. and Oxnard St.	60	10	40	35	858	10,593	8.1%	0	0	65.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	639	7,889	8.1%	0	0	64.3
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,140	26,420	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,532	31,259	8.1%	0	0	70.3
- Between Erwin St. and Oxnard St.	60	10	40	35	2,165	26,728	8.1%	0	0	69.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,650	20,370	8.1%	0	0	68.4
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,130	26,296	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,226	27,481	8.1%	0	0	69.7
- Between Erwin St. and Oxnard St.	60	10	40	35	2,284	28,198	8.1%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,469	30,481	8.1%	0	0	70.2
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,916	23,654	8.1%	0	0	70.4

## FUTURE NO PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,832	22,617	8.1%	0	0	68.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,131	26,309	8.1%	0	0	69.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,529	31,222	8.1%	0	0	70.9
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,410	29,753	8.1%	0	0	71.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,369	29,247	8.1%	0	0	70.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,796	34,519	8.1%	0	0	70.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,841	35,074	8.1%	0	0	71.4
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	558	6,889	8.1%	0	0	63.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	995	12,284	8.1%	0	0	66.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	914	11,284	8.1%	0	0	66.5
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	576	7,111	8.1%	0	0	65.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	823	10,160	8.1%	0	0	65.4
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,098	13,556	8.1%	0	0	66.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,339	16,531	8.1%	0	0	68.1
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	539	6,654	8.1%	0	0	64.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	993	12,259	8.1%	0	0	66.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	918	11,333	8.1%	0	0	65.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,055	13,025	8.1%	0	0	67.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**FUTURE + PROJECT CONDITIONS**

**WEEKEND - CNEL**

<b>Roadway Segment</b>	<b>Roadway Width*, ft</b>	<b>Distance to Edge of Roadway, ft</b>	<b>Distance to Centerline, feet</b>	<b>Speed mph</b>	<b>Traffic Volume PHV</b>	<b>ADT</b>	<b>PHV to ADT factor</b>	<b>Barrier Atten.</b>	<b>Site Adjust., dBA</b>	<b>24-Hour CNEL</b>
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,599	19,741	8.1%	0	0	67.7
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,746	21,556	8.1%	0	0	68.7
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,649	20,358	8.1%	0	0	68.4
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,642	20,272	8.1%	0	0	68.4
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,539	43,691	8.1%	0	0	72.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,998	49,358	8.1%	0	0	72.3
- Between Erwin St. and Oxnard St.	60	10	40	35	4,190	51,728	8.1%	0	0	72.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,404	54,370	8.1%	0	0	72.7
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,501	18,531	8.1%	0	0	68.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,331	16,432	8.1%	0	0	67.5
- Between Erwin St. and Oxnard St.	60	10	40	35	908	11,210	8.1%	0	0	65.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	630	7,778	8.1%	0	0	64.3
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,167	26,753	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,614	32,272	8.1%	0	0	70.4
- Between Erwin St. and Oxnard St.	60	10	40	35	2,235	27,593	8.1%	0	0	69.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,695	20,926	8.1%	0	0	68.6
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,167	26,753	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,247	27,741	8.1%	0	0	69.8
- Between Erwin St. and Oxnard St.	60	10	40	35	2,280	28,148	8.1%	0	0	69.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,483	30,654	8.1%	0	0	70.2
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,939	23,938	8.1%	0	0	70.4

## FUTURE + PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,852	22,864	8.1%	0	0	68.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,159	26,654	8.1%	0	0	69.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,568	31,704	8.1%	0	0	71.0
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,467	30,457	8.1%	0	0	71.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,396	29,580	8.1%	0	0	70.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,847	35,148	8.1%	0	0	70.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,978	36,765	8.1%	0	0	71.6
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	599	7,395	8.1%	0	0	64.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,283	15,840	8.1%	0	0	67.4
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,078	13,309	8.1%	0	0	67.2
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	592	7,309	8.1%	0	0	65.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	851	10,506	8.1%	0	0	65.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,201	14,827	8.1%	0	0	67.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,554	19,185	8.1%	0	0	68.8
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	552	6,815	8.1%	0	0	65.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,018	12,568	8.1%	0	0	66.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	911	11,247	8.1%	0	0	65.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,063	13,123	8.1%	0	0	67.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

PHV to  
ADT factor  
8.1%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

**WEEKEND - CNEL**

<b>Roadway Segment</b>	<b>Roadway Width*, ft</b>	<b>Distance to Edge of Roadway, ft</b>	<b>Distance to Centerline, feet</b>	<b>Speed mph</b>	<b>Traffic Volume PHV</b>	<b>ADT</b>	<b>PHV to ADT factor</b>	<b>Barrier Atten.</b>	<b>Site Adjust., dBA</b>	<b>24-Hour CNEL</b>
Shoup Avenue										
- Between Vanowen St. and Victory Blvd.	70	10	45	35	1,537	18,975	8.1%	0	0	67.5
- Between Victory Blvd. and Oxnard St.	60	10	40	35	1,794	22,148	8.1%	0	0	68.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,746	21,556	8.1%	0	0	68.7
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	1,784	22,025	8.1%	0	0	68.8
Topanga Boulevard										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	3,593	44,358	8.1%	0	0	72.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	3,924	48,444	8.1%	0	0	72.2
- Between Erwin St. and Oxnard St.	60	10	40	35	3,787	46,753	8.1%	0	0	72.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	4,011	49,519	8.1%	0	0	72.3
Owensmouth Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	1,526	18,840	8.1%	0	0	68.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,354	16,716	8.1%	0	0	67.6
- Between Erwin St. and Oxnard St.	60	10	40	35	933	11,519	8.1%	0	0	66.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	636	7,852	8.1%	0	0	64.3
Canoga Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,169	26,778	8.1%	0	0	70.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,696	33,284	8.1%	0	0	70.6
- Between Erwin St. and Oxnard St.	60	10	40	35	2,092	25,827	8.1%	0	0	69.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	1,694	20,914	8.1%	0	0	68.6
Desoto Avenue										
- Between Vanowen St. and Victory Blvd.	50	10	35	35	2,430	30,000	8.1%	0	0	70.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	2,471	30,506	8.1%	0	0	70.2
- Between Erwin St. and Oxnard St.	60	10	40	35	2,412	29,778	8.1%	0	0	70.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	2,585	31,914	8.1%	0	0	70.4
Vanowen Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	1,913	23,617	8.1%	0	0	70.4



## FUTURE CUMULATIVE + PROJECT CONDITIONS

### WEEKEND - CNEL

Roadway Segment	Roadway Width*, ft	Distance to Edge of Roadway, ft	Distance to Centerline, feet	Speed mph	Traffic Volume PHV	ADT	PHV to ADT factor	Barrier Atten.	Site Adjust., dBA	24-Hour CNEL
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,866	23,037	8.1%	0	0	69.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	2,132	26,321	8.1%	0	0	69.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	2,481	30,630	8.1%	0	0	70.8
Victory Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	2,596	32,049	8.1%	0	0	71.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	2,657	32,802	8.1%	0	0	70.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	3,317	40,951	8.1%	0	0	71.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	3,864	47,704	8.1%	0	0	72.7
Erwin Street										
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	719	8,877	8.1%	0	0	64.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,099	13,568	8.1%	0	0	66.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,093	13,494	8.1%	0	0	67.3
Oxnard Street										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	551	6,802	8.1%	0	0	65.0
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	901	11,123	8.1%	0	0	65.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	1,287	15,889	8.1%	0	0	67.4
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	1,452	17,926	8.1%	0	0	68.5
Burbank Boulevard										
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	580	7,160	8.1%	0	0	65.2
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,051	12,975	8.1%	0	0	66.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	908	11,210	8.1%	0	0	65.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	992	12,247	8.1%	0	0	66.8

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	569	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	550	0	0	63.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	496	0	0	62.9
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	454	0	0	62.5
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	762	0	0	63.7
- Between Victory Blvd. and Erwin St.	90	10	55	35	815	0	0	63.5
- Between Erwin St. and Oxnard St.	80	10	50	35	826	0	0	64.1
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	878	0	0	63.8
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	434	0	0	62.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	436	0	0	62.3
- Between Erwin St. and Oxnard St.	60	10	40	35	292	0	0	60.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	250	0	0	59.9
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	662	0	0	64.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	737	0	0	64.6
- Between Erwin St. and Oxnard St.	60	10	40	35	769	0	0	64.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	752	0	0	64.7
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	630	0	0	64.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	691	0	0	64.3
- Between Erwin St. and Oxnard St.	60	10	40	35	747	0	0	64.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	811	0	0	65.0
Vanowen Street								

## EXISTING CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	424	0	0	63.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	407	0	0	62.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	461	0	0	62.5
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	559	0	0	64.0
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	507	0	0	64.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	508	0	0	63.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	648	0	0	64.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	756	0	0	65.3
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	192	0	0	58.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	256	0	0	60.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	233	0	0	60.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	527	0	0	64.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	475	0	0	62.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	349	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	313	0	0	61.5
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	168	0	0	59.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	313	0	0	60.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	423	0	0	62.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	355	0	0	62.0

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	580	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	562	0	0	63.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	507	0	0	63.0
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	466	0	0	62.6
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	776	0	0	63.8
- Between Victory Blvd. and Erwin St.	90	10	55	35	836	0	0	63.6
- Between Erwin St. and Oxnard St.	80	10	50	35	875	0	0	64.3
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	923	0	0	64.1
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	461	0	0	63.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	476	0	0	62.7
- Between Erwin St. and Oxnard St.	60	10	40	35	299	0	0	60.7
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	238	0	0	59.7
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	675	0	0	64.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	765	0	0	64.7
- Between Erwin St. and Oxnard St.	60	10	40	35	790	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	767	0	0	64.7
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	640	0	0	64.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	696	0	0	64.3
- Between Erwin St. and Oxnard St.	60	10	40	35	747	0	0	64.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	817	0	0	65.0
Vanowen Street								

## EXISTING + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	429	0	0	63.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	411	0	0	62.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	466	0	0	62.6
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	568	0	0	64.0
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	519	0	0	64.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	514	0	0	63.0
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	667	0	0	64.1
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	797	0	0	65.5
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	206	0	0	59.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	331	0	0	61.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	281	0	0	61.0
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	541	0	0	64.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	489	0	0	62.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	378	0	0	61.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	357	0	0	62.0
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	173	0	0	59.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	320	0	0	61.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	420	0	0	62.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	355	0	0	62.0

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE NO PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	588	0	0	63.0
- Between Victory Blvd. and Oxnard St.	60	10	40	35	568	0	0	63.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	512	0	0	63.0
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	482	0	0	62.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	781	0	0	63.8
- Between Victory Blvd. and Erwin St.	90	10	55	35	840	0	0	63.6
- Between Erwin St. and Oxnard St.	80	10	50	35	854	0	0	64.2
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	912	0	0	64.0
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	477	0	0	63.3
- Between Victory Blvd. and Erwin St.	60	10	40	35	472	0	0	62.6
- Between Erwin St. and Oxnard St.	60	10	40	35	323	0	0	61.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	290	0	0	60.5
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	699	0	0	64.9
- Between Victory Blvd. and Erwin St.	60	10	40	35	761	0	0	64.7
- Between Erwin St. and Oxnard St.	60	10	40	35	814	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	800	0	0	64.9
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	661	0	0	64.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	724	0	0	64.5
- Between Erwin St. and Oxnard St.	60	10	40	35	803	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	864	0	0	65.3
Vanowen Street								

## FUTURE NO PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	458	0	0	63.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	432	0	0	62.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	490	0	0	62.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	634	0	0	64.5
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	521	0	0	64.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	523	0	0	63.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	694	0	0	64.3
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	835	0	0	65.7
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	205	0	0	59.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	297	0	0	60.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	277	0	0	60.9
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	556	0	0	64.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	494	0	0	62.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	376	0	0	61.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	337	0	0	61.8
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	177	0	0	59.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	326	0	0	61.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	470	0	0	62.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	410	0	0	62.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	599	0	0	63.1
- Between Victory Blvd. and Oxnard St.	60	10	40	35	580	0	0	63.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	523	0	0	63.1
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	493	0	0	62.8
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	795	0	0	63.9
- Between Victory Blvd. and Erwin St.	90	10	55	35	861	0	0	63.8
- Between Erwin St. and Oxnard St.	80	10	50	35	903	0	0	64.5
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	958	0	0	64.2
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	505	0	0	63.5
- Between Victory Blvd. and Erwin St.	60	10	40	35	512	0	0	63.0
- Between Erwin St. and Oxnard St.	60	10	40	35	330	0	0	61.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	278	0	0	60.3
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	712	0	0	65.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	789	0	0	64.9
- Between Erwin St. and Oxnard St.	60	10	40	35	836	0	0	65.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	815	0	0	65.0
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	671	0	0	64.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	729	0	0	64.5
- Between Erwin St. and Oxnard St.	60	10	40	35	803	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	869	0	0	65.3
Vanowen Street								



## FUTURE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	463	0	0	63.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	436	0	0	62.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	495	0	0	62.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	643	0	0	64.6
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	533	0	0	64.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	530	0	0	63.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	712	0	0	64.4
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	876	0	0	65.9
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	219	0	0	59.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	372	0	0	61.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	325	0	0	61.6
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	570	0	0	64.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	507	0	0	63.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	406	0	0	62.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	381	0	0	62.3
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	182	0	0	59.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	334	0	0	61.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	466	0	0	62.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	411	0	0	62.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKDAY - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	581	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	594	0	0	63.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	552	0	0	63.3
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	530	0	0	63.1
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	812	0	0	64.0
- Between Victory Blvd. and Erwin St.	90	10	55	35	857	0	0	63.7
- Between Erwin St. and Oxnard St.	80	10	50	35	824	0	0	64.1
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	882	0	0	63.9
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	517	0	0	63.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	535	0	0	63.2
- Between Erwin St. and Oxnard St.	60	10	40	35	347	0	0	61.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	289	0	0	60.5
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	707	0	0	65.0
- Between Victory Blvd. and Erwin St.	60	10	40	35	817	0	0	65.0
- Between Erwin St. and Oxnard St.	60	10	40	35	789	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	825	0	0	65.1
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	735	0	0	65.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	789	0	0	64.9
- Between Erwin St. and Oxnard St.	60	10	40	35	842	0	0	65.2
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	898	0	0	65.4
Vanowen Street								

## FUTURE CUMULATIVE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
WEEKDAY - Nighttime	Roadway	Edge of	Centerline,	Speed	Traffic	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	Volume PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	457	0	0	63.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	440	0	0	62.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	491	0	0	62.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	628	0	0	64.5
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	565	0	0	64.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	590	0	0	63.6
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	859	0	0	65.2
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,140	0	0	67.1
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	257	0	0	60.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	337	0	0	61.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	329	0	0	61.7
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	544	0	0	64.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	524	0	0	63.1
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	439	0	0	62.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	367	0	0	62.1
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	186	0	0	59.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	337	0	0	61.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	463	0	0	62.6
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	397	0	0	62.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	573	0	0	62.9
- Between Victory Blvd. and Oxnard St.	60	10	40	35	628	0	0	63.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	593	0	0	63.6
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	575	0	0	63.5
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,283	0	0	66.0
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,432	0	0	66.0
- Between Erwin St. and Oxnard St.	80	10	50	35	1,454	0	0	66.5
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,532	0	0	66.3
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	485	0	0	63.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	416	0	0	62.1
- Between Erwin St. and Oxnard St.	60	10	40	35	292	0	0	60.6
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	209	0	0	59.1
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	768	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	934	0	0	65.6
- Between Erwin St. and Oxnard St.	60	10	40	35	768	0	0	64.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	588	0	0	63.6
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	770	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	811	0	0	65.0
- Between Erwin St. and Oxnard St.	60	10	40	35	810	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	883	0	0	65.4
Vanowen Street								

## EXISTING CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	673	0	0	65.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	657	0	0	64.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	759	0	0	64.7
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	842	0	0	65.8
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	888	0	0	66.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	874	0	0	65.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	993	0	0	65.9
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	981	0	0	66.4
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	198	0	0	58.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	324	0	0	61.0
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	293	0	0	61.2
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	202	0	0	60.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	300	0	0	60.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	385	0	0	61.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	464	0	0	63.2
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	193	0	0	60.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	364	0	0	61.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	317	0	0	60.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	360	0	0	62.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**EXISTING + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	584	0	0	63.0
- Between Victory Blvd. and Oxnard St.	60	10	40	35	641	0	0	64.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	608	0	0	63.7
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	593	0	0	63.6
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,305	0	0	66.1
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,469	0	0	66.1
- Between Erwin St. and Oxnard St.	80	10	50	35	1,539	0	0	66.8
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,616	0	0	66.5
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	520	0	0	63.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	471	0	0	62.6
- Between Erwin St. and Oxnard St.	60	10	40	35	311	0	0	60.8
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	205	0	0	59.0
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	780	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	966	0	0	65.7
- Between Erwin St. and Oxnard St.	60	10	40	35	795	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	605	0	0	63.7
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	784	0	0	65.4
- Between Victory Blvd. and Erwin St.	60	10	40	35	819	0	0	65.0
- Between Erwin St. and Oxnard St.	60	10	40	35	809	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	889	0	0	65.4
Vanowen Street								

## EXISTING + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	681	0	0	65.5
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	664	0	0	64.1
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	770	0	0	64.8
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	856	0	0	65.8
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	909	0	0	66.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	883	0	0	65.4
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,012	0	0	66.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,034	0	0	66.6
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	214	0	0	59.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	434	0	0	62.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	355	0	0	62.0
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	208	0	0	60.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	310	0	0	60.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	423	0	0	62.2
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	546	0	0	63.9
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	197	0	0	60.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	374	0	0	61.6
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	313	0	0	60.9
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	362	0	0	62.1

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE NO PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	596	0	0	63.1
- Between Victory Blvd. and Oxnard St.	60	10	40	35	652	0	0	64.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	612	0	0	63.8
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	606	0	0	63.7
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,320	0	0	66.1
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,481	0	0	66.1
- Between Erwin St. and Oxnard St.	80	10	50	35	1,507	0	0	66.7
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,588	0	0	66.4
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	536	0	0	63.8
- Between Victory Blvd. and Erwin St.	60	10	40	35	451	0	0	62.4
- Between Erwin St. and Oxnard St.	60	10	40	35	326	0	0	61.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	242	0	0	59.7
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	812	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	962	0	0	65.7
- Between Erwin St. and Oxnard St.	60	10	40	35	822	0	0	65.0
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	627	0	0	63.9
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	809	0	0	65.6
- Between Victory Blvd. and Erwin St.	60	10	40	35	845	0	0	65.2
- Between Erwin St. and Oxnard St.	60	10	40	35	867	0	0	65.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	938	0	0	65.6
Vanowen Street								



## FUTURE NO PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	727	0	0	65.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	696	0	0	64.3
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	808	0	0	65.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	961	0	0	66.3
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	916	0	0	66.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	899	0	0	65.4
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,061	0	0	66.2
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,079	0	0	66.8
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	212	0	0	59.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	378	0	0	61.7
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	348	0	0	61.9
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	218	0	0	60.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	313	0	0	60.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	418	0	0	62.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	509	0	0	63.6
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	205	0	0	60.3
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	378	0	0	61.7
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	349	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	401	0	0	62.5

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	608	0	0	63.1
- Between Victory Blvd. and Oxnard St.	60	10	40	35	664	0	0	64.1
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	626	0	0	63.9
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	624	0	0	63.9
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,342	0	0	66.2
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,518	0	0	66.2
- Between Erwin St. and Oxnard St.	80	10	50	35	1,592	0	0	66.9
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,673	0	0	66.6
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	571	0	0	64.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	506	0	0	62.9
- Between Erwin St. and Oxnard St.	60	10	40	35	344	0	0	61.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	238	0	0	59.7
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	824	0	0	65.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	994	0	0	65.9
- Between Erwin St. and Oxnard St.	60	10	40	35	849	0	0	65.2
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	644	0	0	64.0
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	823	0	0	65.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	853	0	0	65.2
- Between Erwin St. and Oxnard St.	60	10	40	35	865	0	0	65.3
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	944	0	0	65.6
Vanowen Street								

## FUTURE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	735	0	0	65.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	703	0	0	64.4
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	819	0	0	65.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	976	0	0	66.4
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	937	0	0	66.9
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	909	0	0	65.5
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,080	0	0	66.2
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,132	0	0	67.0
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	228	0	0	59.5
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	488	0	0	62.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	411	0	0	62.6
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	224	0	0	60.7
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	323	0	0	61.0
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	456	0	0	62.5
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	590	0	0	64.2
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	209	0	0	60.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	388	0	0	61.8
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	346	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	403	0	0	62.6

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

Off-Site Traffic Noise Calculations - WITHOUT ESC

**Project: Westfield Promenade Project**

<b>Traffic Distribution as % of ADT</b>				
<b>Vehicle Type</b>	<b>Day</b>	<b>Eve</b>	<b>Night</b>	<b>Sub total</b>
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

**FUTURE CUMULATIVE + PROJECT CONDITIONS**

		Distance to	Distance to				Site	Nighttime
<b>WEEKEND - Nighttime</b>								
Roadway Segment	Roadway Width*, ft	Edge of Roadway, ft	Centerline, feet	Speed mph	Traffic Volume PHV	Barrier Atten.	Adjust., dBA	Hour, Leq**
Shoup Avenue								
- Between Vanowen St. and Victory Blvd.	70	10	45	35	583	0	0	63.0
- Between Victory Blvd. and Oxnard St.	60	10	40	35	681	0	0	64.2
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	662	0	0	64.1
- Between Burbank Blvd. and Ventura Blvd.	60	10	40	35	677	0	0	64.2
Topanga Boulevard								
- Between Vanowen St. and Victory Blvd.	80	10	50	35	1,364	0	0	66.2
- Between Victory Blvd. and Erwin St.	90	10	55	35	1,490	0	0	66.1
- Between Erwin St. and Oxnard St.	80	10	50	35	1,438	0	0	66.5
- Between Oxnard St. and Burbank Blvd.	90	10	55	35	1,524	0	0	66.2
Owensmouth Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	579	0	0	64.1
- Between Victory Blvd. and Erwin St.	60	10	40	35	515	0	0	63.0
- Between Erwin St. and Oxnard St.	60	10	40	35	355	0	0	61.4
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	243	0	0	59.8
Canoga Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	824	0	0	65.7
- Between Victory Blvd. and Erwin St.	60	10	40	35	1,025	0	0	66.0
- Between Erwin St. and Oxnard St.	60	10	40	35	794	0	0	64.9
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	643	0	0	64.0
Desoto Avenue								
- Between Vanowen St. and Victory Blvd.	50	10	35	35	923	0	0	66.2
- Between Victory Blvd. and Erwin St.	60	10	40	35	938	0	0	65.6
- Between Erwin St. and Oxnard St.	60	10	40	35	916	0	0	65.5
- Between Oxnard St. and Burbank Blvd.	60	10	40	35	982	0	0	65.8
Vanowen Street								

## FUTURE CUMULATIVE + PROJECT CONDITIONS

		Distance to	Distance to				Site	Nighttime
					Traffic			
WEEKEND - Nighttime	Roadway	Edge of	Centerline,	Speed	Volume	Barrier	Adjust.,	Hour,
Roadway Segment	Width*, ft	Roadway, ft	feet	mph	PHV	Atten.	dBA	Leq**
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	726	0	0	65.8
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	709	0	0	64.4
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	810	0	0	65.0
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	942	0	0	66.2
Victory Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	986	0	0	67.1
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	1,009	0	0	65.9
- Between Topanga Blvd. and Canoga Ave.	60	10	40	35	1,260	0	0	66.9
- Between Canoga Ave. and Desoto Ave.	50	10	35	35	1,467	0	0	68.2
Erwin Street								
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	274	0	0	60.3
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	419	0	0	62.1
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	416	0	0	62.7
Oxnard Street								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	209	0	0	60.4
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	342	0	0	61.2
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	489	0	0	62.8
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	552	0	0	63.9
Burbank Boulevard								
- Between Fallbrook Ave. and Shoup Ave.	40	10	30	35	220	0	0	60.6
- Between Shoup Ave. and Topanga Blvd.	60	10	40	35	398	0	0	61.9
- Between Topanga Blvd. and Owensmouth Ave.	60	10	40	35	346	0	0	61.3
- Between Owensmouth Ave. and Canoga Ave.	50	10	35	35	378	0	0	62.3

\* Estimated based on Google Earth map.

\*\* Calculated using FHWA's TNM Version 2.5 Computer Noise Model.

## Project Composite Noise Calculations (CNEL)

Project: Westfield Promenade

[illegible]

<sup>a</sup> - traffic noise levels at each receptor is based on the traffic noise analysis for the roadway segment in front of the receptor.

[illegible]

## Outdoor Mechanical Equipment Noise Calculations

Project: Westfield Promenade

[illegible][illegible]

## TOTAL COMBINED

[illegible]

## Parking Noise Calculations

Project: Westfield Promenade

						Hours of Operations		
			Estimated noise levels, Leq (FROM SOUNDPLAN)			Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
Receptor					Leq	12	3	4
R1					31.4	31.4	31.4	27.9
R2					41.0	41.0	41.0	37.5
R3					26.6	26.6	26.6	23.1
R4					29.7	29.7	29.7	26.2

Receptor	Ambient CNEL	Project CNEL	Ambient + Project (CNEL)	Increase (CNEL)	Lowest ambient (Leq)	Project Noise, (Leq)	Ambient + Project (Leq)	Significance threshold (Leq)	Exceed Threshold
R1	69.0	35.5	69.0	0.0	59.1	31.4	59.1	64.1	0.0
R2	61.6	45.1	61.7	0.1	56.0	41.0	56.1	61.0	0.0
R3	63.1	30.7	63.1	0.0	54.9	26.6	54.9	59.9	0.0
R4	59.5	33.8	59.5	0.0	52.4	29.7	52.4	57.4	0.0



## Loading/Trash Compactor Noise Calculations

Project: Westfield Promenade

[illegible]

## TOTAL COMBINED

[illegible]

## Entertainment & Sport Center Noise Calculations

Project: Westfield Promenade

### PARTIAL ROOF

		Estimated noise levels, Leq (FROM SOUNDPLAN)			Hours of Operations		
Receptor		Sound System	Occupants	Total	Ld (7am to 7pm)	Le (7pm to 10pm)	Ln (10pm to 7am)
					<b>3</b>	<b>3</b>	<b>4</b>
R1		29.0	38.0	38.5	32.5	38.5	35.0
R2		55.9	49.7	56.8	50.8	56.8	53.3
R3		50.5	46.9	52.1	46.1	52.1	48.6
R4		37.2	45.6	46.2	40.2	46.2	42.7

### TOTAL COMBINED

Receptor	Ambient (CNEL)	Project (CNEL)	Ambient + Project (CNEL)	Increase (CNEL)	Lowest Ambient (Leq)	Project Noise, (Leq)	Ambient + Project (Leq)	Significance threshold (Leq)	Increase over ambient (Leq)
R1	69.0	41.9	69.0	0.0	59.1	38.5	59.1	64.1	0.0
R2	61.6	60.2	64.0	2.4	56.0	56.8	59.4	61.0	3.4
R3	63.1	55.5	63.8	0.7	54.9	52.1	56.7	59.9	1.8
R4	59.5	49.6	59.9	0.4	52.4	46.2	53.3	57.4	0.9

## Outdoor Spaces Noise Calculations

Project: Westfield Promenade

[illegible]

## TOTAL COMBINED

[illegible]

# Westfield Promenade

## Octave spectra of the sources in dB(A) - Sport\_Arena\_Partial\_Roof-People

3

Name	Source type	Lw	Emission spectrum				63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
Stadium_People_W	Area	124.	People Shouting				82.8	87.1	99.6	119.7	120.8	116.1	108.1	90.9	
Stadium_People_E	Area	126.	People Shouting				84.6	88.9	101.4	121.5	122.6	117.9	109.9	92.7	
Stadium_People_S	Area	122.	People Shouting				81.3	85.6	98.1	118.2	119.3	114.6	106.6	89.4	
Stadium_People_N	Area	119.	People Shouting				78.3	82.6	95.1	115.2	116.3	111.6	103.6	86.4	

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## Westfield Promenade

### Assessed contribution level - Sport\_Arena\_Partial\_Roof-People

Source	Leq,d dB(A)	
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Receiver R1	Leq,d 38.0	dB(A)					
-------------	------------	-------	--	--	--	--	--

Stadium_People_W	33.1	
Stadium_People_E	33.8	
Stadium_People_S	31.0	
Stadium_People_N	27.4	

Receiver R2	Leq,d 49.7	dB(A)					
-------------	------------	-------	--	--	--	--	--

Stadium_People_W	42.4	
Stadium_People_E	28.2	
Stadium_People_S	48.3	
Stadium_People_N	38.7	

Receiver R3	Leq,d 46.9	dB(A)					
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Stadium_People_W	42.4	
Stadium_People_E	42.5	
Stadium_People_S	39.7	
Stadium_People_N	36.2	

Receiver R4	Leq,d 45.6	dB(A)					
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Stadium_People_W	42.2	
Stadium_People_E	42.1	
Stadium_People_S	34.9	
Stadium_People_N	20.5	

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Sport\_Arena\_Partial\_Roof-Speaker

3

Name	Source type	Lw	Emission spectrum				125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)		
Main_A	Point	138.	12xK2-Stage_B				114.9	122.1	127.4	130.7	132.1	132.3	130.4	
Main_B	Point	138.	12xK2-Stage_B				114.9	122.1	127.4	130.7	132.1	132.3	130.4	
Delay_A	Point	138.	6xK2-Stage_A-Delay				114.8	122.1	127.3	130.7	132.1	132.3	130.4	
Delay_B	Point	138.	6xK2-Stage_A-Delay				114.8	122.1	127.3	130.7	132.1	132.3	130.4	
Delay_A	Point	138.	6xK2-Stage_A-Delay				114.8	122.1	127.3	130.7	132.1	132.3	130.4	
Delay_B	Point	138.	6xK2-Stage_A-Delay				114.8	122.1	127.3	130.7	132.1	132.3	130.4	

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# Westfield Promenade

## Assessed contribution level - Sport\_Arena\_Partial\_Roof-Speaker

Source	Leq,d dB(A)	
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Receiver R1	Leq,d 29.0	dB(A)							
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Main_A	21.1	
Main_B	21.4	
Delay_A	20.9	
Delay_B	19.9	
Delay_A	23.6	
Delay_B	19.2	

Receiver R2	Leq,d 55.9	dB(A)							
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Main_A	46.5	
Main_B	47.9	
Delay_A	46.0	
Delay_B	47.7	
Delay_A	48.0	
Delay_B	50.8	

Receiver R3	Leq,d 50.5	dB(A)							
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Main_A	44.5	
Main_B	42.9	
Delay_A	42.3	
Delay_B	40.7	
Delay_A	43.7	
Delay_B	40.8	

Receiver R4	Leq,d 37.2	dB(A)							
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Main_A	34.0	
Main_B	14.7	
Delay_A	29.3	
Delay_B	29.9	
Delay_A	26.0	
Delay_B	27.1	

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Generators

3

Name	Source type	Lw	500Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
Generator-NEA	Point	100.	100.0							
Generator-NEB	Point	100.	100.0							
Generator-NWA	Point	100.	100.0							
Generator-NWB	Point	100.	100.0							
Generator-SE	Point	100.	100.0							
Generator-SW	Point	100.	100.0							

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## Westfield Promenade Assessed contribution level - Generators

Source	Leq,d dB(A)	
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Receiver R1	Leq,d 32.8	dB(A)					
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Generator-NWB	20.3	
Generator-NWA	14.6	
Generator-NEA	30.3	
Generator-NEB	27.7	
Generator-SW	14.0	
Generator-SE	17.4	

Receiver R2	Leq,d 47.2	dB(A)					
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Generator-NWB	26.8	
Generator-NWA	20.9	
Generator-NEA	24.5	
Generator-NEB	23.6	
Generator-SW	47.0	
Generator-SE	30.0	

Receiver R3	Leq,d 34.3	dB(A)					
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Generator-NWB	32.9	
Generator-NWA	16.5	
Generator-NEA	20.2	
Generator-NEB	21.7	
Generator-SW	21.9	
Generator-SE	24.4	

Receiver R4	Leq,d 42.4	dB(A)					
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Generator-NWB	16.5	
Generator-NWA	41.9	
Generator-NEA	14.5	
Generator-NEB	31.5	
Generator-SW	17.5	
Generator-SE	26.0	

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Loading

3

Name	Source type	Lw	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
NEA-LoadingTrash (Inside)	Point	94.6	61.6	71.6	78.6	84.6	87.6	88.6	88.6	86.6	
NWB-LoadingTrash (Inside)	Point	94.6	61.6	71.6	78.6	84.6	87.6	88.6	88.6	86.6	
SE1-LoadingTrash (Inside)	Point	94.6	61.6	71.6	78.6	84.6	87.6	88.6	88.6	86.6	
SE2-LoadingTrash (Inside)	Point	94.6	61.6	71.6	78.6	84.6	87.6	88.6	88.6	86.6	
NWB-Loading-Trash (Inside)	Point	94.6	61.6	71.6	78.6	84.6	87.6	88.6	88.6	86.6	
NW-Loading-Trash (Inside)	Point	94.6	61.6	71.6	78.6	84.6	87.6	88.6	88.6	86.6	
SW-Loading1	Point	104.	71.6	81.6	88.6	94.6	97.6	98.6	98.6	96.6	
SW-Loading2	Point	104.	71.6	81.6	88.6	94.6	97.6	98.6	98.6	96.6	
SW-Loading3	Point	104.	71.6	81.6	88.6	94.6	97.6	98.6	98.6	96.6	

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## Westfield Promenade

### Assessed contribution level - Loading

Source	Leq,d dB(A)						
<b>Receiver R1</b>	<b>Leq,d 22.5</b>	<b>dB(A)</b>					
NEA-LoadingTrash (Inside)	18.9						
NWB-LoadingTrash (Inside)	12.9						
SE1-LoadingTrash (Inside)	6.3						
SE2-LoadingTrash (Inside)	3.8						
NWB-Loading-Trash (Inside)	5.4						
NW-Loading-Trash (Inside)	5.6						
SW-Loading1	13.2						
SW-Loading2	13.4						
SW-Loading3	13.5						
<b>Receiver R2</b>	<b>Leq,d 38.5</b>	<b>dB(A)</b>					
NEA-LoadingTrash (Inside)	1.5						
NWB-LoadingTrash (Inside)	3.5						
SE1-LoadingTrash (Inside)	8.1						
SE2-LoadingTrash (Inside)	11.0						
NWB-Loading-Trash (Inside)	8.1						
NW-Loading-Trash (Inside)	4.7						
SW-Loading1	33.3						
SW-Loading2	33.7						
SW-Loading3	34.2						
<b>Receiver R3</b>	<b>Leq,d 23.5</b>	<b>dB(A)</b>					
NEA-LoadingTrash (Inside)	-0.8						
NWB-LoadingTrash (Inside)	0.4						
SE1-LoadingTrash (Inside)	3.0						
SE2-LoadingTrash (Inside)	4.9						
NWB-Loading-Trash (Inside)	4.5						
NW-Loading-Trash (Inside)	5.8						
SW-Loading1	18.7						
SW-Loading2	18.5						
SW-Loading3	18.3						
<b>Receiver R4</b>	<b>Leq,d 22.9</b>	<b>dB(A)</b>					
NEA-LoadingTrash (Inside)	0.2						
NWB-LoadingTrash (Inside)	0.6						
SE1-LoadingTrash (Inside)	2.4						
SE2-LoadingTrash (Inside)	2.3						
NWB-Loading-Trash (Inside)	6.9						
NW-Loading-Trash (Inside)	19.9						
SW-Loading1	14.7						
SW-Loading2	14.5						
SW-Loading3	14.3						

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Mechanical

3

Name	Source type	Lw	500Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
NEA-Mech1	Point	90.0	90.0							
NEA-Mech2	Point	90.0	90.0							
NEA-Mech3	Point	90.0	90.0							
NEA-Mech4	Point	90.0	90.0							
NEA-Mech5	Point	90.0	90.0							
NEA-Mech6	Point	90.0	90.0							
NEA-Mech7	Point	90.0	90.0							
NEA-Mech8	Point	90.0	90.0							
NEA-Mech9	Point	90.0	90.0							
NEA-Mech10	Point	90.0	90.0							
NEA-Mech11	Point	90.0	90.0							
NEA-Mech12	Point	90.0	90.0							
NEA-Mech13	Point	90.0	90.0							
NEA-Mech14	Point	90.0	90.0							
NEA-Mech15	Point	90.0	90.0							
NEA-Mech16	Point	90.0	90.0							
NEA-Mech17	Point	90.0	90.0							
NEB-Mech1	Point	90.0	90.0							
NEB-Mech2	Point	90.0	90.0							
NEB-Mech3	Point	90.0	90.0							
NEB-Mech4	Point	90.0	90.0							
NEB-Mech5	Point	90.0	90.0							
NEB-Mech6	Point	90.0	90.0							
NEB-Mech7	Point	90.0	90.0							
NEB-Mech8	Point	90.0	90.0							
NEB-Mech9	Point	90.0	90.0							
NEB-Mech10	Point	90.0	90.0							
NEB-Mech11	Point	90.0	90.0							
NEB-Mech12	Point	90.0	90.0							
NEB-Mech13	Point	90.0	90.0							
NEB-Mech14	Point	90.0	90.0							
NEB-Mech15	Point	90.0	90.0							
NEB-Mech16	Point	90.0	90.0							
NEB-Mech17	Point	90.0	90.0							
NEB-Mech18	Point	90.0	90.0							
NEB-Mech19	Point	90.0	90.0							
NEB-Mech20	Point	90.0	90.0							
NW-A Office-Mechanical	Point	90.0	90.0							
NWA-Office1-Mech1	Point	90.0	90.0							
NWA-Office1-Mech2	Point	90.0	90.0							
NWA-Office1-Mech3	Point	90.0	90.0							
NWA-Office1-Mech4	Point	90.0	90.0							
NWA-Office1-Mech5	Point	90.0	90.0							
NWA-Office1-Mech6	Point	90.0	90.0							
NWA-Office1-Mech7	Point	90.0	90.0							
NWA-Office1-Mech8	Point	90.0	90.0							
NWA-Office1-Mech9	Point	90.0	90.0							
NWA-Office1-Mech10	Point	90.0	90.0							
NWA-Office1-Mech12	Point	90.0	90.0							
NWA-Office1-Mech13	Point	90.0	90.0							
NWA-Office-Mech1	Point	90.0	90.0							
NWA-Office-Mech2	Point	90.0	90.0							
NWA-Office-Mech3	Point	90.0	90.0							

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Mechanical

3

Name	Source type	Lw	500Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
NWB-Mech1	Point	90.0	90.0							
NWB-Mech2	Point	90.0	90.0							
NWB-Mech3	Point	90.0	90.0							
NWB-Mech4	Point	90.0	90.0							
NWB-Mech5	Point	90.0	90.0							
NWB-Mech6	Point	90.0	90.0							
NWB-Mech7	Point	90.0	90.0							
NWB-Mech8	Point	90.0	90.0							
NWB-Mech9	Point	90.0	90.0							
NWB-Mech10	Point	90.0	90.0							
NWB-Mech11	Point	90.0	90.0							
NWB-Mech12	Point	90.0	90.0							
NWB-Mech13	Point	90.0	90.0							
NWB-Mech14	Point	90.0	90.0							
NWB-Mech15	Point	90.0	90.0							
NWB-Mech16	Point	90.0	90.0							
NWB-Mech17	Point	90.0	90.0							
NWB-Mech18	Point	90.0	90.0							
NWB-Mech19	Point	90.0	90.0							
NWB-Mech20	Point	90.0	90.0							
NWB-Mech21	Point	90.0	90.0							
NWB-Mech22	Point	90.0	90.0							
NWB-Mech23	Point	90.0	90.0							
NWB-Mech24	Point	90.0	90.0							
NWB-Mech25	Point	90.0	90.0							
NWB-Mech26	Point	90.0	90.0							
NWB-Mech27	Point	90.0	90.0							
NWB-Mech28	Point	90.0	90.0							
NWB-Mech29	Point	90.0	90.0							
NWB-Mech30	Point	90.0	90.0							
NWB-Mech31	Point	90.0	90.0							
NWB-Mech32	Point	90.0	90.0							
NWB-Mech33	Point	90.0	90.0							
NWB-Mech34	Point	90.0	90.0							
NWB-Mech35	Point	90.0	90.0							
NWB-Mech36	Point	90.0	90.0							
NWHotel-Mech1	Point	90.0	90.0							
NWHotel-Mech2	Point	90.0	90.0							
SE-Mech1	Point	90.0	90.0							
SE-Mech2	Point	90.0	90.0							
SE-Mech3	Point	90.0	90.0							
SE-Mech4	Point	90.0	90.0							
SE-Mech5	Point	90.0	90.0							
SE-Mech6	Point	90.0	90.0							
SE-Mech7	Point	90.0	90.0							
SE-Mech8	Point	90.0	90.0							
SE-Mech9	Point	90.0	90.0							
SE-Mech10	Point	90.0	90.0							
SE-Mech11	Point	90.0	90.0							
SE-Mech12	Point	90.0	90.0							
SE-Mech13	Point	90.0	90.0							
SE-Mech14	Point	90.0	90.0							
SE-Mech15	Point	90.0	90.0							

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Mechanical

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Name	Source type	Lw	500Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
SE-Mech16	Point	90.0	90.0							
SE-Mech17	Point	90.0	90.0							
SE-Mech18	Point	90.0	90.0							
SE-Mech19	Point	90.0	90.0							
SE-Mech20	Point	90.0	90.0							
SE-Mech21	Point	90.0	90.0							
SE-Mech22	Point	90.0	90.0							
SE-Mech23	Point	90.0	90.0							
SW-Mech1	Point	100.	100.0							
SW-Mech2	Point	100.	100.0							
SW-Mech3	Point	100.	100.0							
SW-Mech4	Point	100.	100.0							

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## Westfield Promenade Assessed contribution level - Mechanical

Source	Leq,d dB(A)						
Receiver R1	Leq,d 46.2	dB(A)					
SW-Mech1	17.4						
SW-Mech2	15.4						
SW-Mech3	16.9						
SW-Mech4	16.9						
NW-A Office-Mechanical	4.4						
NWHotel-Mech2	11.8						
NWHotel-Mech1	3.9						
NWA-Office-Mech1	5.3						
NWA-Office-Mech2	5.1						
NWA-Office-Mech3	8.5						
NWA-Office1-Mech5	12.8						
NWA-Office1-Mech6	9.4						
NWA-Office1-Mech7	20.3						
NWA-Office1-Mech8	6.2						
NWA-Office1-Mech9	6.0						
NWA-Office1-Mech10	5.8						
NWA-Office1-Mech1	4.8						
NWA-Office1-Mech2	4.8						
NWA-Office1-Mech3	4.7						
NWA-Office1-Mech4	4.6						
NWA-Office1-Mech12	6.1						
NWA-Office1-Mech13	5.9						
NWB-Mech1	24.2						
NWB-Mech2	13.4						
NWB-Mech3	9.9						
NWB-Mech4	8.6						
NWB-Mech5	8.4						
NWB-Mech6	8.2						
NWB-Mech7	8.3						
NWB-Mech8	9.2						
NWB-Mech9	7.8						
NWB-Mech10	7.6						
NWB-Mech11	7.4						
NWB-Mech12	7.8						
NWB-Mech13	7.6						
NWB-Mech14	8.0						
NWB-Mech15	8.8						
NEA-Mech1	20.3						
NEA-Mech2	21.0						

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# Westfield Promenade

## Assessed contribution level - Mechanical

Source	Leq,d dB(A)	
NEA-Mech3	23.5	
NEA-Mech4	29.6	
NEA-Mech5	20.3	
NEA-Mech6	20.0	
NEA-Mech7	21.4	
NEA-Mech8	21.9	
NEA-Mech9	25.0	
NEA-Mech10	31.5	
NEA-Mech11	34.7	
NEA-Mech12	35.3	
NEA-Mech13	35.8	
NEA-Mech14	39.0	
NEA-Mech15	34.6	
NEA-Mech16	34.2	
NEA-Mech17	33.6	
NEB-Mech1	13.2	
NEB-Mech2	13.3	
NEB-Mech3	15.2	
NEB-Mech4	16.1	
NEB-Mech5	16.2	
NEB-Mech6	17.5	
NEB-Mech7	22.6	
NEB-Mech8	21.8	
NEB-Mech9	25.9	
NEB-Mech10	27.7	
NEB-Mech11	31.9	
NEB-Mech12	30.2	
NEB-Mech13	31.0	
NEB-Mech14	31.3	
NEB-Mech15	34.1	
NEB-Mech16	25.0	
NEB-Mech17	22.1	
NEB-Mech18	20.1	
NEB-Mech19	16.1	
NEB-Mech20	14.5	
SE-Mech1	22.0	
SE-Mech2	22.1	
SE-Mech3	22.4	
SE-Mech4	22.1	
SE-Mech5	12.4	
SE-Mech6	12.3	

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## Westfield Promenade

### Assessed contribution level - Mechanical

Source	Leq,d dB(A)	
SE-Mech7	3.7	
SE-Mech8	3.8	
SE-Mech9	3.9	
SE-Mech10	4.1	
SE-Mech11	4.3	
SE-Mech12	4.5	
SE-Mech13	4.9	
SE-Mech14	18.3	
SE-Mech15	18.7	
SE-Mech16	14.7	
SE-Mech17	12.9	
SE-Mech18	12.8	
SE-Mech19	14.9	
SE-Mech20	24.8	
SE-Mech21	20.3	
SE-Mech22	17.5	
SE-Mech23	16.1	
NWB-Mech16	14.7	
NWB-Mech17	14.2	
NWB-Mech18	13.9	
NWB-Mech19	13.6	
NWB-Mech20	11.1	
NWB-Mech21	11.1	
NWB-Mech22	9.9	
NWB-Mech23	10.1	
NWB-Mech24	10.8	
NWB-Mech25	14.8	
NWB-Mech26	17.3	
NWB-Mech27	14.7	
NWB-Mech28	18.7	
NWB-Mech29	16.1	
NWB-Mech30	15.9	
NWB-Mech31	15.4	
NWB-Mech32	6.2	
NWB-Mech33	6.8	
NWB-Mech34	7.1	
NWB-Mech35	7.2	
NWB-Mech36	6.8	

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## Westfield Promenade Assessed contribution level - Mechanical

Source	Leq,d dB(A)						
Receiver R2	Leq,d 48.9	dB(A)					
SW-Mech1	41.1						
SW-Mech2	41.2						
SW-Mech3	41.9						
SW-Mech4	42.0						
NW-A Office-Mechanical	10.9						
NWHotel-Mech2	23.2						
NWHotel-Mech1	20.3						
NWA-Office-Mech1	20.1						
NWA-Office-Mech2	20.0						
NWA-Office-Mech3	20.7						
NWA-Office1-Mech5	9.3						
NWA-Office1-Mech6	7.1						
NWA-Office1-Mech7	8.5						
NWA-Office1-Mech8	10.2						
NWA-Office1-Mech9	10.6						
NWA-Office1-Mech10	18.3						
NWA-Office1-Mech1	9.6						
NWA-Office1-Mech2	9.7						
NWA-Office1-Mech3	9.5						
NWA-Office1-Mech4	8.7						
NWA-Office1-Mech12	10.4						
NWA-Office1-Mech13	10.7						
NWB-Mech1	8.2						
NWB-Mech2	8.7						
NWB-Mech3	9.2						
NWB-Mech4	6.5						
NWB-Mech5	6.5						
NWB-Mech6	6.5						
NWB-Mech7	6.5						
NWB-Mech8	7.2						
NWB-Mech9	7.2						
NWB-Mech10	7.2						
NWB-Mech11	7.2						
NWB-Mech12	9.6						
NWB-Mech13	9.4						
NWB-Mech14	9.2						
NWB-Mech15	8.9						
NEA-Mech1	14.5						
NEA-Mech2	14.5						

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**Westfield Promenade**  
**Assessed contribution level - Mechanical**

Source	Leq,d dB(A)	
NEA-Mech3	14.5	
NEA-Mech4	6.8	
NEA-Mech5	10.4	
NEA-Mech6	9.6	
NEA-Mech7	4.3	
NEA-Mech8	4.1	
NEA-Mech9	3.9	
NEA-Mech10	3.8	
NEA-Mech11	2.9	
NEA-Mech12	2.8	
NEA-Mech13	2.7	
NEA-Mech14	2.7	
NEA-Mech15	2.8	
NEA-Mech16	3.1	
NEA-Mech17	3.3	
NEB-Mech1	10.6	
NEB-Mech2	5.6	
NEB-Mech3	13.5	
NEB-Mech4	13.4	
NEB-Mech5	13.4	
NEB-Mech6	13.4	
NEB-Mech7	6.5	
NEB-Mech8	5.9	
NEB-Mech9	5.8	
NEB-Mech10	5.7	
NEB-Mech11	5.5	
NEB-Mech12	6.3	
NEB-Mech13	4.6	
NEB-Mech14	4.3	
NEB-Mech15	4.0	
NEB-Mech16	9.6	
NEB-Mech17	4.4	
NEB-Mech18	4.6	
NEB-Mech19	4.9	
NEB-Mech20	5.4	
SE-Mech1	19.3	
SE-Mech2	18.9	
SE-Mech3	18.7	
SE-Mech4	18.6	
SE-Mech5	29.9	
SE-Mech6	30.1	

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**Westfield Promenade**  
**Assessed contribution level - Mechanical**

Source	Leq,d dB(A)	
SE-Mech7	30.2	
SE-Mech8	36.0	
SE-Mech9	33.3	
SE-Mech10	33.8	
SE-Mech11	33.0	
SE-Mech12	32.6	
SE-Mech13	32.0	
SE-Mech14	16.4	
SE-Mech15	12.7	
SE-Mech16	12.9	
SE-Mech17	13.0	
SE-Mech18	16.5	
SE-Mech19	16.5	
SE-Mech20	6.9	
SE-Mech21	6.8	
SE-Mech22	6.9	
SE-Mech23	23.5	
NWB-Mech16	15.2	
NWB-Mech17	24.3	
NWB-Mech18	24.7	
NWB-Mech19	23.4	
NWB-Mech20	16.5	
NWB-Mech21	13.7	
NWB-Mech22	10.4	
NWB-Mech23	10.6	
NWB-Mech24	9.7	
NWB-Mech25	9.2	
NWB-Mech26	8.8	
NWB-Mech27	9.9	
NWB-Mech28	10.1	
NWB-Mech29	8.5	
NWB-Mech30	8.5	
NWB-Mech31	12.4	
NWB-Mech32	12.3	
NWB-Mech33	10.6	
NWB-Mech34	7.7	
NWB-Mech35	7.4	
NWB-Mech36	9.9	

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## Westfield Promenade Assessed contribution level - Mechanical

Source	Leq,d dB(A)						
Receiver R3	Leq,d 38.7	dB(A)					
SW-Mech1	18.7						
SW-Mech2	18.4						
SW-Mech3	19.3						
SW-Mech4	19.1						
NW-A Office-Mechanical	6.8						
NWHotel-Mech2	25.6						
NWHotel-Mech1	25.4						
NWA-Office-Mech1	15.0						
NWA-Office-Mech2	14.9						
NWA-Office-Mech3	14.9						
NWA-Office1-Mech5	5.4						
NWA-Office1-Mech6	5.5						
NWA-Office1-Mech7	4.0						
NWA-Office1-Mech8	4.4						
NWA-Office1-Mech9	4.7						
NWA-Office1-Mech10	5.3						
NWA-Office1-Mech1	5.5						
NWA-Office1-Mech2	5.7						
NWA-Office1-Mech3	5.8						
NWA-Office1-Mech4	6.0						
NWA-Office1-Mech12	4.5						
NWA-Office1-Mech13	4.9						
NWB-Mech1	15.1						
NWB-Mech2	15.5						
NWB-Mech3	16.0						
NWB-Mech4	13.0						
NWB-Mech5	11.2						
NWB-Mech6	11.9						
NWB-Mech7	12.5						
NWB-Mech8	11.1						
NWB-Mech9	11.4						
NWB-Mech10	11.7						
NWB-Mech11	12.3						
NWB-Mech12	13.1						
NWB-Mech13	13.1						
NWB-Mech14	13.1						
NWB-Mech15	13.2						
NEA-Mech1	9.9						
NEA-Mech2	9.5						

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**Westfield Promenade**  
**Assessed contribution level - Mechanical**

Source	Leq,d dB(A)	
NEA-Mech3	9.1	
NEA-Mech4	17.7	
NEA-Mech5	7.7	
NEA-Mech6	9.8	
NEA-Mech7	7.5	
NEA-Mech8	7.9	
NEA-Mech9	1.9	
NEA-Mech10	1.7	
NEA-Mech11	7.6	
NEA-Mech12	7.3	
NEA-Mech13	6.7	
NEA-Mech14	0.9	
NEA-Mech15	1.1	
NEA-Mech16	1.2	
NEA-Mech17	1.3	
NEB-Mech1	8.3	
NEB-Mech2	8.2	
NEB-Mech3	13.5	
NEB-Mech4	13.0	
NEB-Mech5	12.4	
NEB-Mech6	11.9	
NEB-Mech7	8.8	
NEB-Mech8	8.4	
NEB-Mech9	8.3	
NEB-Mech10	8.1	
NEB-Mech11	8.0	
NEB-Mech12	7.9	
NEB-Mech13	7.8	
NEB-Mech14	7.6	
NEB-Mech15	1.8	
NEB-Mech16	2.0	
NEB-Mech17	2.3	
NEB-Mech18	2.5	
NEB-Mech19	2.9	
NEB-Mech20	3.2	
SE-Mech1	22.1	
SE-Mech2	17.6	
SE-Mech3	16.9	
SE-Mech4	17.2	
SE-Mech5	28.3	
SE-Mech6	28.1	

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**Westfield Promenade**  
**Assessed contribution level - Mechanical**

Source	Leq,d dB(A)	
SE-Mech7	27.0	
SE-Mech8	28.9	
SE-Mech9	27.8	
SE-Mech10	27.4	
SE-Mech11	26.8	
SE-Mech12	25.6	
SE-Mech13	23.4	
SE-Mech14	18.1	
SE-Mech15	12.9	
SE-Mech16	12.9	
SE-Mech17	12.9	
SE-Mech18	18.0	
SE-Mech19	18.1	
SE-Mech20	3.1	
SE-Mech21	3.2	
SE-Mech22	3.6	
SE-Mech23	3.8	
NWB-Mech16	12.6	
NWB-Mech17	12.7	
NWB-Mech18	12.9	
NWB-Mech19	13.4	
NWB-Mech20	12.2	
NWB-Mech21	11.7	
NWB-Mech22	11.2	
NWB-Mech23	10.7	
NWB-Mech24	10.7	
NWB-Mech25	10.6	
NWB-Mech26	10.5	
NWB-Mech27	12.8	
NWB-Mech28	12.6	
NWB-Mech29	11.3	
NWB-Mech30	11.9	
NWB-Mech31	12.5	
NWB-Mech32	13.0	
NWB-Mech33	12.3	
NWB-Mech34	12.1	
NWB-Mech35	12.0	
NWB-Mech36	12.9	

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## Westfield Promenade Assessed contribution level - Mechanical

Source	Leq,d dB(A)						
Receiver R4	Leq,d 44.6	dB(A)					
SW-Mech1	16.6						
SW-Mech2	16.6						
SW-Mech3	16.3						
SW-Mech4	16.0						
NW-A Office-Mechanical	27.6						
NWHotel-Mech2	28.0						
NWHotel-Mech1	23.3						
NWA-Office-Mech1	10.8						
NWA-Office-Mech2	10.9						
NWA-Office-Mech3	11.0						
NWA-Office1-Mech5	29.4						
NWA-Office1-Mech6	31.4						
NWA-Office1-Mech7	29.4						
NWA-Office1-Mech8	29.7						
NWA-Office1-Mech9	30.8						
NWA-Office1-Mech10	29.4						
NWA-Office1-Mech1	32.7						
NWA-Office1-Mech2	33.0						
NWA-Office1-Mech3	33.2						
NWA-Office1-Mech4	31.9						
NWA-Office1-Mech12	30.1						
NWA-Office1-Mech13	29.2						
NWB-Mech1	25.5						
NWB-Mech2	25.6						
NWB-Mech3	6.5						
NWB-Mech4	24.8						
NWB-Mech5	20.8						
NWB-Mech6	25.3						
NWB-Mech7	25.9						
NWB-Mech8	6.7						
NWB-Mech9	7.1						
NWB-Mech10	26.9						
NWB-Mech11	27.2						
NWB-Mech12	27.7						
NWB-Mech13	26.8						
NWB-Mech14	26.7						
NWB-Mech15	26.6						
NEA-Mech1	4.0						
NEA-Mech2	4.0						

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## Westfield Promenade Assessed contribution level - Mechanical

Source	Leq,d dB(A)	
NEA-Mech3	3.5	
NEA-Mech4	3.6	
NEA-Mech5	4.8	
NEA-Mech6	4.1	
NEA-Mech7	4.1	
NEA-Mech8	3.0	
NEA-Mech9	2.6	
NEA-Mech10	2.4	
NEA-Mech11	3.1	
NEA-Mech12	2.6	
NEA-Mech13	2.2	
NEA-Mech14	1.9	
NEA-Mech15	2.0	
NEA-Mech16	2.0	
NEA-Mech17	2.1	
NEB-Mech1	5.4	
NEB-Mech2	4.6	
NEB-Mech3	25.0	
NEB-Mech4	24.0	
NEB-Mech5	22.7	
NEB-Mech6	21.7	
NEB-Mech7	15.5	
NEB-Mech8	3.2	
NEB-Mech9	3.1	
NEB-Mech10	3.0	
NEB-Mech11	3.4	
NEB-Mech12	7.6	
NEB-Mech13	5.0	
NEB-Mech14	14.8	
NEB-Mech15	2.4	
NEB-Mech16	2.5	
NEB-Mech17	2.7	
NEB-Mech18	3.0	
NEB-Mech19	3.4	
NEB-Mech20	4.1	
SE-Mech1	22.7	
SE-Mech2	18.7	
SE-Mech3	16.4	
SE-Mech4	15.3	
SE-Mech5	13.4	
SE-Mech6	18.8	

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**Westfield Promenade**  
**Assessed contribution level - Mechanical**

Source	Leq,d dB(A)	
SE-Mech7	19.1	
SE-Mech8	19.4	
SE-Mech9	19.5	
SE-Mech10	19.4	
SE-Mech11	19.3	
SE-Mech12	19.2	
SE-Mech13	19.1	
SE-Mech14	18.8	
SE-Mech15	13.7	
SE-Mech16	13.7	
SE-Mech17	13.7	
SE-Mech18	18.5	
SE-Mech19	18.7	
SE-Mech20	22.3	
SE-Mech21	22.3	
SE-Mech22	18.9	
SE-Mech23	19.1	
NWB-Mech16	8.5	
NWB-Mech17	8.6	
NWB-Mech18	28.3	
NWB-Mech19	29.2	
NWB-Mech20	26.8	
NWB-Mech21	25.7	
NWB-Mech22	24.8	
NWB-Mech23	26.0	
NWB-Mech24	24.1	
NWB-Mech25	6.6	
NWB-Mech26	6.4	
NWB-Mech27	5.8	
NWB-Mech28	5.8	
NWB-Mech29	7.1	
NWB-Mech30	7.7	
NWB-Mech31	8.8	
NWB-Mech32	9.2	
NWB-Mech33	8.2	
NWB-Mech34	7.8	
NWB-Mech35	7.5	
NWB-Mech36	28.1	

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Outdoor\_Spaces-People

3

Name	Source type	Lw		Emission spectrum				500Hz	8kHz	
		dB(A)	dB(A)	B(A)	dB(A)	dB(A)	dB	dB(A)	dB(A)	
NE-A-Courtyard	Area		93.2	Voice level, raised				93.2		
NE-B-Courtyard	Area		93.7	Voice level, raised				93.7		
NW-A-Courtyard	Area		90.3	Voice level, raised				90.3		
Promenade-Square	Area		110.5	Voice level, raised				110.5		
NE-A-Resi	Area		95.7	Voice level, raised				95.7		
NE-B-Resi	Area		95.6	Voice level, raised				95.6		
NW-A-Hotel	Area		87.5	Voice level, raised				87.5		
NW-A-Office1	Area		87.1	Voice level, raised				87.1		
NW-A-Office1	Area		80.8	Voice level, raised				80.8		
NW-A-Office2	Area		87.1	Voice level, raised				87.1		
NW-B-Res1	Area		91.9	Voice level, raised				91.9		
NW-B-Resi2	Area		93.4	Voice level, raised				93.4		
NW-B-Resi3	Area		90.0	Voice level, raised				90.0		
SE-Resi	Area		95.0	Voice level, raised				95.0		
SE-Hotel	Area		96.1	Voice level, raised				96.1		

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## Westfield Promenade

### Assessed contribution level - Outdoor\_Spaces-People

Source	Leq,d dB(A)	
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Receiver R1	Leq,d	37.7	dB(A)				
NE-A-Courtyard	18.8						
NE-B-Courtyard	15.8						
NW-A-Courtyard	8.4						
Promenade-Square	29.1						
NE-A-Resi	36.3						
NE-B-Resi	24.7						
NW-A-Hotel	1.0						
NW-A-Office1	2.2						
NW-A-Office1	-1.0						
NW-A-Office2	3.7						
NW-B-Res1	13.8						
NW-B-Resi2	14.6						
NW-B-Resi3	12.2						
SE-Resi	15.3						
SE-Hotel	25.1						

Receiver R2	Leq,d	37.8	dB(A)				
NE-A-Courtyard	10.5						
NE-B-Courtyard	13.0						
NW-A-Courtyard	14.3						
Promenade-Square	36.0						
NE-A-Resi	10.7						
NE-B-Resi	12.5						
NW-A-Hotel	10.8						
NW-A-Office1	6.0						
NW-A-Office1	2.3						
NW-A-Office2	10.8						
NW-B-Res1	9.2						
NW-B-Resi2	12.4						
NW-B-Resi3	11.9						
SE-Resi	31.9						
SE-Hotel	23.5						

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## Westfield Promenade

### Assessed contribution level - Outdoor\_Spaces-People

Source	Leq,d dB(A)	
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Receiver R3	Leq,d 32.7	dB(A)				
NE-A-Courtyard	9.3					
NE-B-Courtyard	10.6					
NW-A-Courtyard	10.4					
Promenade-Square	26.6					
NE-A-Resi	12.9					
NE-B-Resi	11.9					
NW-A-Hotel	28.1					
NW-A-Office1	3.8					
NW-A-Office1	-0.4					
NW-A-Office2	4.9					
NW-B-Res1	9.3					
NW-B-Resi2	14.3					
NW-B-Resi3	12.3					
SE-Resi	27.2					
SE-Hotel	19.8					

Receiver R4	Leq,d 42.4	dB(A)				
NE-A-Courtyard	10.8					
NE-B-Courtyard	11.9					
NW-A-Courtyard	32.3					
Promenade-Square	40.3					
NE-A-Resi	9.9					
NE-B-Resi	19.1					
NW-A-Hotel	34.5					
NW-A-Office1	31.1					
NW-A-Office1	0.5					
NW-A-Office2	21.8					
NW-B-Res1	12.2					
NW-B-Resi2	11.1					
NW-B-Resi3	12.1					
SE-Resi	16.9					
SE-Hotel	25.6					

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Outdoor\_Spaces-Speakers

3

Name	Source type	Lw	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
NE-A-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-A-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
Promenade-Spkr1	Point	126.	92.4	105.5	113.7	118.8	121.0	120.8	120.7
Promenade-Spkr2	Point	126.	92.4	105.5	113.7	118.8	121.0	120.8	120.7
Promenade-Spkr3	Point	126.	92.4	105.5	113.7	118.8	121.0	120.8	120.7
Promenade-Spkr4	Point	126.	92.4	105.5	113.7	118.8	121.0	120.8	120.7
NW-A-Hotel-Spkr2	Point	118.	84.3	97.4	105.6	110.7	112.9	112.7	112.6
NW-A-Office2-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-A-Office2-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-A-Office1-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-A-Office1-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi1-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi1-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi1-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi1-Spkr4	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi3-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi3-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi2-Spkr4	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi2-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi2-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi2-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi3-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NW-B-Resi3-Spkr4	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-B-Spkr4	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr5	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
NE-A-Spkr5	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
SE-Hotel-Spkr1	Point	118.	84.3	97.4	105.6	110.7	112.9	112.7	112.6
SE-Hotel-Spkr2	Point	118.	84.3	97.4	105.6	110.7	112.9	112.7	112.6
SE-Hotel-Spkr3	Point	118.	84.3	97.4	105.6	110.7	112.9	112.7	112.6
SE-Hotel-Spkr4	Point	118.	84.3	97.4	105.6	110.7	112.9	112.7	112.6
SE-Resi-Spkr1	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
SE-Resi-Spkr2	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6
SE-Resi-Spkr3	Point	108.	74.3	87.4	95.6	100.7	102.9	102.7	102.6

## Westfield Promenade

### Assessed contribution level - Outdoor\_Spaces-Speakers

Source	Leq,d dB(A)				
Receiver R1	Leq,d 43.1	dB(A) 100.	102.	102.	102.
NE-A-Spkr1	11.3				
NE-A-Spkr2	17.4				
NE-A-Spkr3	18.1				
NE-B-Spkr1	8.1				
NE-B-Spkr3	15.9				
NE-B-Spkr2	15.0				
NW-A-Spkr1	3.8				
Promenade-Spkr1	22.7				
Promenade-Spkr2	24.1				
Promenade-Spkr3	26.4				
Promenade-Spkr4	19.8				
NW-A-Hotel-Spkr2	9.8				
NW-A-Office2-Spkr1	11.0				
NW-A-Office2-Spkr2	1.5				
NW-A-Office1-Spkr1	2.5				
NW-A-Office1-Spkr2	5.8				
NW-B-Resi1-Spkr1	17.7				
NW-B-Resi1-Spkr2	4.6				
NW-B-Resi1-Spkr3	4.9				
NW-B-Resi1-Spkr4	22.7				
NW-B-Resi3-Spkr1	16.4				
NW-B-Resi3-Spkr2	5.2				
NW-B-Resi2-Spkr4	17.5				
NW-B-Resi2-Spkr3	5.8				
NW-B-Resi2-Spkr2	4.7				
NW-B-Resi2-Spkr1	14.9				
NW-B-Resi3-Spkr3	18.1				
NW-B-Resi3-Spkr4	4.7				
NE-B-Spkr1	19.2				
NE-B-Spkr2	19.6				
NE-B-Spkr3	24.6				
NE-B-Spkr4	26.4				
NE-A-Spkr1	28.9				
NE-A-Spkr2	28.1				
NE-A-Spkr3	24.9				
NE-A-Spkr5	40.5				
NE-A-Spkr5	24.7				
SE-Hotel-Spkr1	25.7				
SE-Hotel-Spkr2	33.2				

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# Westfield Promenade

## Assessed contribution level - Outdoor\_Spaces-Speakers

Source	Leq,d dB(A)	
SE-Hotel-Spkr3	31.0	
SE-Hotel-Spkr4	27.8	
SE-Resi-Spkr1	1.3	
SE-Resi-Spkr2	13.0	
SE-Resi-Spkr3	7.1	
Receiver R2	Leq,d 43.8	dB(A) 100. 102. 102. 102.
NE-A-Spkr1	8.5	
NE-A-Spkr2	13.1	
NE-A-Spkr3	11.9	
NE-B-Spkr1	9.5	
NE-B-Spkr3	15.7	
NE-B-Spkr2	15.1	
NW-A-Spkr1	20.8	
Promenade-Spkr1	30.5	
Promenade-Spkr2	36.6	
Promenade-Spkr3	32.7	
Promenade-Spkr4	39.8	
NW-A-Hotel-Spkr2	26.1	
NW-A-Office2-Spkr1	9.7	
NW-A-Office2-Spkr2	17.3	
NW-A-Office1-Spkr1	15.0	
NW-A-Office1-Spkr2	2.7	
NW-B-Resi1-Spkr1	7.6	
NW-B-Resi1-Spkr2	5.2	
NW-B-Resi1-Spkr3	17.1	
NW-B-Resi1-Spkr4	3.5	
NW-B-Resi3-Spkr1	16.6	
NW-B-Resi3-Spkr2	18.3	
NW-B-Resi2-Spkr4	6.7	
NW-B-Resi2-Spkr3	11.8	
NW-B-Resi2-Spkr2	16.3	
NW-B-Resi2-Spkr1	14.5	
NW-B-Resi3-Spkr3	13.9	
NW-B-Resi3-Spkr4	12.3	
NE-B-Spkr1	2.0	
NE-B-Spkr2	9.7	
NE-B-Spkr3	12.3	
NE-B-Spkr4	0.9	
NE-A-Spkr1	-0.7	
NE-A-Spkr2	4.4	



## Westfield Promenade

### Assessed contribution level - Outdoor\_Spaces-Speakers

Source	Leq,d dB(A)				
NE-A-Spkr3	11.2				
NE-A-Spkr5	9.7				
NE-A-Spkr5	6.7				
SE-Hotel-Spkr1	26.9				
SE-Hotel-Spkr2	35.7				
SE-Hotel-Spkr3	25.3				
SE-Hotel-Spkr4	13.2				
SE-Resi-Spkr1	28.8				
SE-Resi-Spkr2	24.4				
SE-Resi-Spkr3	26.8				
Receiver R3	Leq,d 48.5	dB(A)	100.	102.	102.
NE-A-Spkr1	9.6				
NE-A-Spkr2	11.2				
NE-A-Spkr3	-1.9				
NE-B-Spkr1	11.5				
NE-B-Spkr3	11.3				
NE-B-Spkr2	10.0				
NW-A-Spkr1	16.8				
Promenade-Spkr1	29.9				
Promenade-Spkr2	30.5				
Promenade-Spkr3	25.3				
Promenade-Spkr4	34.0				
NW-A-Hotel-Spkr2	47.9				
NW-A-Office2-Spkr1	1.5				
NW-A-Office2-Spkr2	14.8				
NW-A-Office1-Spkr1	15.5				
NW-A-Office1-Spkr2	-0.4				
NW-B-Resi1-Spkr1	0.1				
NW-B-Resi1-Spkr2	7.4				
NW-B-Resi1-Spkr3	13.8				
NW-B-Resi1-Spkr4	6.6				
NW-B-Resi3-Spkr1	14.1				
NW-B-Resi3-Spkr2	15.0				
NW-B-Resi2-Spkr4	1.5				
NW-B-Resi2-Spkr3	13.2				
NW-B-Resi2-Spkr2	14.2				
NW-B-Resi2-Spkr1	13.0				
NW-B-Resi3-Spkr3	3.2				
NW-B-Resi3-Spkr4	14.9				
NE-B-Spkr1	2.8				

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# Westfield Promenade

## Assessed contribution level - Outdoor\_Spaces-Speakers

Source	Leq,d dB(A)				
NE-B-Spkr2	11.4				
NE-B-Spkr3	7.7				
NE-B-Spkr4	2.1				
NE-A-Spkr1	1.0				
NE-A-Spkr2	4.6				
NE-A-Spkr3	10.9				
NE-A-Spkr5	10.1				
NE-A-Spkr5	10.9				
SE-Hotel-Spkr1	26.9				
SE-Hotel-Spkr2	31.6				
SE-Hotel-Spkr3	30.5				
SE-Hotel-Spkr4	9.4				
SE-Resi-Spkr1	17.1				
SE-Resi-Spkr2	23.3				
SE-Resi-Spkr3	15.2				
Receiver R4	Leq,d 54.8	dB(A)	100.	102.	102.
NE-A-Spkr1	14.8				
NE-A-Spkr2	9.4				
NE-A-Spkr3	0.8				
NE-B-Spkr1	17.8				
NE-B-Spkr3	4.4				
NE-B-Spkr2	8.3				
NW-A-Spkr1	31.8				
Promenade-Spkr1	49.6				
Promenade-Spkr2	38.6				
Promenade-Spkr3	31.7				
Promenade-Spkr4	50.8				
NW-A-Hotel-Spkr2	47.8				
NW-A-Office2-Spkr1	10.4				
NW-A-Office2-Spkr2	36.7				
NW-A-Office1-Spkr1	37.7				
NW-A-Office1-Spkr2	29.1				
NW-B-Resi1-Spkr1	2.4				
NW-B-Resi1-Spkr2	14.1				
NW-B-Resi1-Spkr3	12.8				
NW-B-Resi1-Spkr4	13.1				
NW-B-Resi3-Spkr1	11.3				
NW-B-Resi3-Spkr2	9.2				
NW-B-Resi2-Spkr4	2.3				
NW-B-Resi2-Spkr3	15.5				

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# Westfield Promenade

## Assessed contribution level - Outdoor\_Spaces-Speakers

Source	Leq,d dB(A)	
NW-B-Resi2-Spkr2	10.1	
NW-B-Resi2-Spkr1	3.4	
NW-B-Resi3-Spkr3	22.6	
NW-B-Resi3-Spkr4	17.6	
NE-B-Spkr1	9.9	
NE-B-Spkr2	21.9	
NE-B-Spkr3	12.3	
NE-B-Spkr4	0.5	
NE-A-Spkr1	0.0	
NE-A-Spkr2	1.6	
NE-A-Spkr3	4.7	
NE-A-Spkr5	3.6	
NE-A-Spkr5	11.2	
SE-Hotel-Spkr1	20.7	
SE-Hotel-Spkr2	34.0	
SE-Hotel-Spkr3	34.6	
SE-Hotel-Spkr4	33.3	
SE-Resi-Spkr1	0.7	
SE-Resi-Spkr2	12.3	
SE-Resi-Spkr3	14.7	

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# Westfield Promenade

## Source level parking lots - Parking

14

IParking lot	park. lot type		f	Unit B0		Size B	kHz	8kHz	
	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
NW-Street		Visitors and staff	1.0	1 parking		20			
NW-ParkingStructure		Visitors and staff	1.0	1 parking		690			
NE-Parking A		Housing estate	1.0	1 parking		560			
NE_Parking B		Housing estate	1.0	1 parking		580			
SE_Parking Hotel		Hotel	1.0	1 parking		230			
SE_Parking Resi		Housing estate	1.0	1 parking		350			
SW-Parking		Visitors and staff	1.0	1 parking		290			

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## Westfield Promenade Assessed contribution level - Parking

Source	Leq,d dB(A)						
Receiver R1	Leq,d 31.4	dB(A)					
NW-Street	2.3						
NW-ParkingStructure	21.1						
NE-Parking A	28.9						
NE_Parking B	25.8						
SE_Parking Hotel	16.4						
SE_Parking Resi	15.6						
SW-Parking	14.7						
Receiver R2	Leq,d 41.0	dB(A)					
NW-Street	-1.6						
NW-ParkingStructure	20.0						
NE-Parking A	16.0						
NE_Parking B	18.0						
SE_Parking Hotel	19.8						
SE_Parking Resi	22.2						
SW-Parking	40.8						
Receiver R3	Leq,d 26.6	dB(A)					
NW-Street	10.4						
NW-ParkingStructure	18.4						
NE-Parking A	14.6						
NE_Parking B	16.2						
SE_Parking Hotel	13.8						
SE_Parking Resi	16.3						
SW-Parking	23.8						
Receiver R4	Leq,d 29.7	dB(A)					
NW-Street	26.5						
NW-ParkingStructure	21.3						
NE-Parking A	15.0						
NE_Parking B	19.8						
SE_Parking Hotel	22.8						
SE_Parking Resi	13.4						
SW-Parking	14.6						

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# Westfield Promenade

## Octave spectra of the sources in dB(A) - Pedestrians

3

Name	Source type	Lw dB(A)	Emission spectrum	500Hz dB(A)	
Pedestrian - East (Owensmouth)	Line	87.9	Voice level, raised	87.9	
Pedestrian - East (Promenade & Owensmout	Line	89.2	Voice level, raised	89.2	
Pedestrian - North (Warner & Erwin)	Line	87.9	Voice level, raised	87.9	
Pedestrian - Northeast (Owensmouth)	Line	87.9	Voice level, raised	87.9	
Pedestrian - Northwest (TCB & Erwin)	Line	87.9	Voice level, raised	87.9	
Pedestrian - South (Erwin & Warner)	Line	94.6	Voice level, raised	94.6	
Pedestrian - Southeast (Erwin & Owensmou	Line	89.2	Voice level, raised	89.2	
Pedestrian - Southwest (TCB & Erwin)	Line	94.6	Voice level, raised	94.6	

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# Westfield Promenade

## Assessed contribution level - Pedestrians

9

Source	Leq,d dB(A)	
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Receiver R1	Leq,d 43.7	dB(A)
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Pedestrian - Southeast (Erwin & Owensmou	18.2	
Pedestrian - South (Erwin & Warner)	7.3	
Pedestrian - Southwest (TCB & Erwin)	5.4	
Pedestrian - Northwest (TCB & Erwin)	19.8	
Pedestrian - North (Warner & Erwin)	22.4	
Pedestrian - East (Promenade &	26.3	
Pedestrian - Northeast (Owensmouth)	40.9	
Pedestrian - East (Owensmouth)	40.2	

Receiver R2	Leq,d 52.9	dB(A)
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Pedestrian - Southeast (Erwin & Owensmou	34.6	
Pedestrian - South (Erwin & Warner)	43.6	
Pedestrian - Southwest (TCB & Erwin)	52.3	
Pedestrian - Northwest (TCB & Erwin)	3.4	
Pedestrian - North (Warner & Erwin)	5.4	
Pedestrian - East (Promenade &	14.9	
Pedestrian - Northeast (Owensmouth)	-0.2	
Pedestrian - East (Owensmouth)	2.1	

Receiver R3	Leq,d 42.0	dB(A)
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Pedestrian - Southeast (Erwin & Owensmou	27.0	
Pedestrian - South (Erwin & Warner)	35.5	
Pedestrian - Southwest (TCB & Erwin)	40.7	
Pedestrian - Northwest (TCB & Erwin)	20.4	
Pedestrian - North (Warner & Erwin)	3.4	
Pedestrian - East (Promenade &	4.0	
Pedestrian - Northeast (Owensmouth)	-1.6	
Pedestrian - East (Owensmouth)	-0.5	

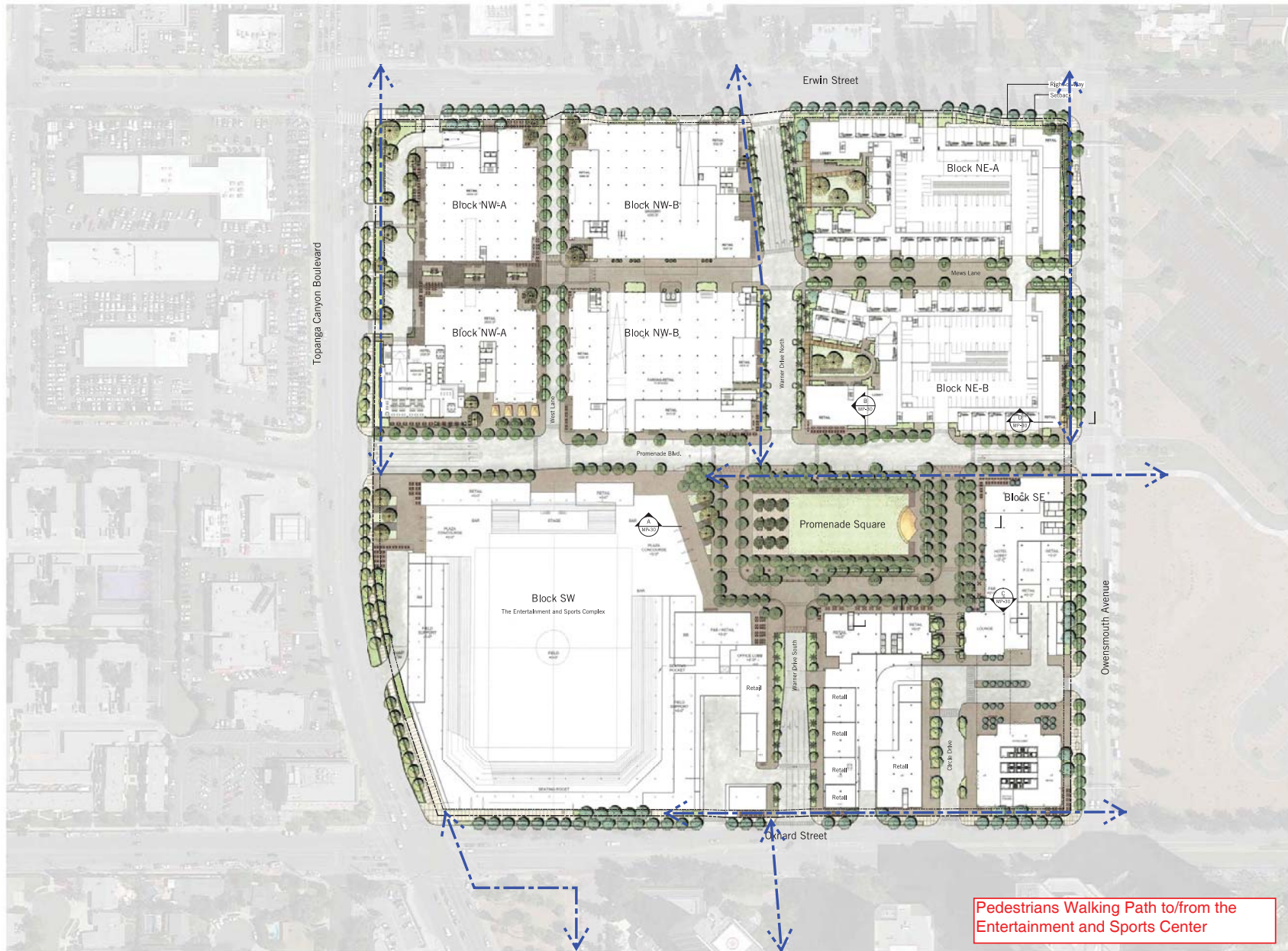
Receiver R4	Leq,d 33.4	dB(A)
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Pedestrian - Southeast (Erwin & Owensmou	6.1	
Pedestrian - South (Erwin & Warner)	13.6	
Pedestrian - Southwest (TCB & Erwin)	26.7	
Pedestrian - Northwest (TCB & Erwin)	31.4	
Pedestrian - North (Warner & Erwin)	19.5	
Pedestrian - East (Promenade &	22.6	
Pedestrian - Northeast (Owensmouth)	1.5	
Pedestrian - East (Owensmouth)	10.8	

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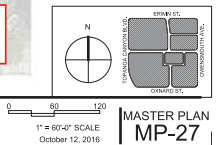
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PROMENADE 2035

LANDSCAPE PLAN - GROUND LEVEL





# Reference Information

- Westfield Promenade Noise Occupancy, Ground and Podium Levels, Johnson Fain, 2016.
- Wal-Mart/Sam's Club Reference Noise Level Study, RK Engineering Group, Inc., 2003.
- The Noise Guidebook, U.S. Department of Housing and Urban Development, 2009. Chapter 4 Noise Attenuation.



1	NORTHEAST-A COURTYARD		
	TOTAL DECK ASSEMBLY AREA	4,100 SF	
	LOAD FACTOR (15sf per person)		273
	TOTAL "FIXED" SEATS		0
	TOTAL OCCUPANCY		273
2	NORTHEAST-B COURTYARD		
	TOTAL DECK ASSEMBLY AREA	4,700 SF	
	LOAD FACTOR (15sf per person)		313
	TOTAL "FIXED" SEATS		0
	TOTAL OCCUPANCY		313
3	NORTHWEST-A COURTYARD		
	TOTAL DECK ASSEMBLY AREA	1,200 SF	
	LOAD FACTOR (15sf per person)		80
	TOTAL "FIXED" SEATS		60
	TOTAL OCCUPANCY		140
4	PROMENADE SQUARE		
	TOTAL DECK ASSEMBLY AREA	21,400 SF	
	LOAD FACTOR (15sf per person)		1,426
	TOTAL "FIXED" SEATS		152
	TOTAL OCCUPANCY		1,578





1	NORTHEAST-A		
	TOTAL POOL AREA	3,500 SF	
	LOAD FACTOR (50sf per person)		70
	TOTAL DECK ASSEMBLY AREA	3,100 SF	
	LOAD FACTOR (15sf per person)		206
		TOTAL "FIXED" SEATS	213
		TOTAL OCCUPANCY	489
2	NORTHEAST-B		
	TOTAL POOL AREA	5,200 SF	
	LOAD FACTOR (50sf per person)		104
	TOTAL DECK ASSEMBLY AREA	2,500 SF	
	LOAD FACTOR (15sf per person)		166
		TOTAL "FIXED" SEATS	214
		TOTAL OCCUPANCY	484
3	NORTHWEST-A HOTEL		
	TOTAL POOL AREA	1,500 SF	
	LOAD FACTOR (50sf per person)		30
	TOTAL DECK ASSEMBLY AREA	0 SF	
	LOAD FACTOR (15sf per person)		0
		TOTAL "FIXED" SEATS	44
		TOTAL OCCUPANCY	74
4	NORTHWEST-A OFFICE 1		
	TOTAL POOL AREA	0 SF	
	LOAD FACTOR (50sf per person)		0
	TOTAL DECK ASSEMBLY AREA	0 SF	
	LOAD FACTOR (15sf per person)		0
		TOTAL "FIXED" SEATS	84
		TOTAL OCCUPANCY	84
5	NORTHWEST-A OFFICE 2		
	TOTAL POOL AREA	0 SF	
	LOAD FACTOR (50sf per person)		0
	TOTAL DECK ASSEMBLY AREA	0 SF	
	LOAD FACTOR (15sf per person)		0
		TOTAL "FIXED" SEATS	68
		TOTAL OCCUPANCY	68
6	NORTHWEST-B RESIDENTIAL 1		
	TOTAL POOL AREA	2,500 SF	
	LOAD FACTOR (50sf per person)		50
	TOTAL DECK ASSEMBLY AREA	700 SF	
	LOAD FACTOR (15sf per person)		47
		TOTAL "FIXED" SEATS	108
		TOTAL OCCUPANCY	205
7	NORTHWEST-B RESIDENTIAL 2		
	TOTAL POOL AREA	0 SF	
	LOAD FACTOR (50sf per person)		0
	TOTAL DECK ASSEMBLY AREA	3,100 SF	
	LOAD FACTOR (15sf per person)		207
		TOTAL "FIXED" SEATS	80
		TOTAL OCCUPANCY	287
8	NORTHWEST-B RESIDENTIAL 3		
	TOTAL POOL AREA	2,600 SF	
	LOAD FACTOR (50sf per person)		52
	TOTAL DECK ASSEMBLY AREA	0 SF	
	LOAD FACTOR (15sf per person)		0
		TOTAL "FIXED" SEATS	81
		TOTAL OCCUPANCY	133
9	SOUTHEAST RESIDENTIAL		
	TOTAL POOL AREA	2,000 SF	
	LOAD FACTOR (50sf per person)		40
	TOTAL DECK ASSEMBLY AREA	3,800 SF	
	LOAD FACTOR (15sf per person)		253
		TOTAL "FIXED" SEATS	128
		TOTAL OCCUPANCY	421
10	SOUTHEAST HOTEL/ OFFICE		
	TOTAL POOL AREA	2,600 SF	
	LOAD FACTOR (50sf per person)		52
	TOTAL DECK ASSEMBLY AREA	4,300 SF	
	LOAD FACTOR (15sf per person)		286
		TOTAL "FIXED" SEATS	197
		TOTAL OCCUPANCY	535



- POOL AREA
- DECK ASSEMBLY AREA
- "FIXED" SEATS



# WAL-MART/SAM'S CLUB REFERENCE NOISE LEVEL STUDY California



May 1, 2003

Mr. William Parrish  
WILLIAM PARRISH DESIGN  
DEVELOPMENT CONSULTANTS, INC.  
1000 Lakes Drive, Suite 405  
West Covina, CA 91790

**Subject: Wal-Mart/Sam's Club Reference Noise Level Study**

Dear Mr. Parrish:

**INTRODUCTION**

RK ENGINEERING GROUP, INC. (RK) is pleased to submit this analysis of the Wal-Mart/Sam's Club reference noise levels for various on-site activities. Based upon our fieldwork, RK has obtained noise measurements at several Wal-Mart/Sam's Club sites with respect to reference noise levels for the following items:

- Standard delivery truck at the loading dock
- Cab over delivery truck at the loading dock
- Typical truck with refrigeration trailer at the loading dock
- Refrigeration trailer without tractor truck at the loading dock
- Trash compactor
- Air conditioner condenser (ground mounted)
- Tire/lube express facility

In order to complete this project, RK has visited a number of Wal-Mart/Sam's Club sites throughout Southern California. Short-term noise measurements were made for on-site activities, which generated noise at the Wal-Mart/Sam's Club sites with respect to the above activities. In some cases, it was not possible to obtain noise measurements for certain items (i.e. refrigeration trailer without tractor at loading dock, etc.) since these activities did not occur during the various visits which RK made to the sites.

In order to obtain sufficient number of noise measurements, RK visited several Wal-Mart/Sam's Club sites. The following sites were visited to obtain noise measurements:

- Wal-Mart/Sam's Club, La Habra - 1300 South Beach Boulevard
- Wal-Mart/Sam's Club, Chino - 3900 Block Grand Avenue
- Sam's Club, Ontario - 951 North Milliken
- Sam's Club, Irvine - 16555 Von Karman Avenue

The locations of the various sites are shown in Exhibits A through D.

RK had several discussions with the managers of each of the stores to ensure that the various activities could be properly measured. In addition, these sites were selected to ensure that ambient noise environment would not adversely affect the measurements for various activities. Although measurements were made at the Wal-Mart/Sam's Club in Chino, these measurements are not utilized for this study because the ambient noise environment was substantially impacted by the SR-71 Freeway. Since the freeway noise was substantially greater than the various activities occurring at the Wal-Mart/Sam's Club in Chino, the noise measurements that were made at this site cannot be used for reference noise levels.

## **FINDINGS**

The reference noise levels obtained in this study can be utilized in various noise impact reports prepared for Wal-Mart/Sam's Club facilities. Reference noise levels can be utilized to determine future noise impacts as a result of various activities at a particular site based upon agency noise standards. In addition, the information can be utilized at existing facilities in the event of complaints and; therefore, noise levels are needed for analysis.

The reference noise levels have been obtained for a number of sources for Wal-Mart/Sam's Club facilities. A summary of the various noise levels can be found on the attached Table 1. Table 1 indicates the Leq, Lmaximum, Lminimum and Ln noise levels and the distance from the receiver. A summary of acoustical terms is included in Appendix "A".

The actual noise measurements are included in Appendix "B". Those activities that are considered point sources (i.e. AC units, trash compactors, tire/lube express) have a drop-off rate of approximately 6 dBA per doubling of distance. The drop-off rate for truck activities would be closer to a line source with a drop-off rate of 4.5 dBA per doubling of distance. The drop-off rate relates to the amount noise level reduction as a result of distance from the source. Reference noise levels were made for a long enough period to stabilize the Leq at each noise measurement. Once the Leq noise level was stabilized, the measurements were completed.

EXHIBIT A  
**LOCATION MAP**  
**LA HABRA - WALMART/SAM'S CLUB**

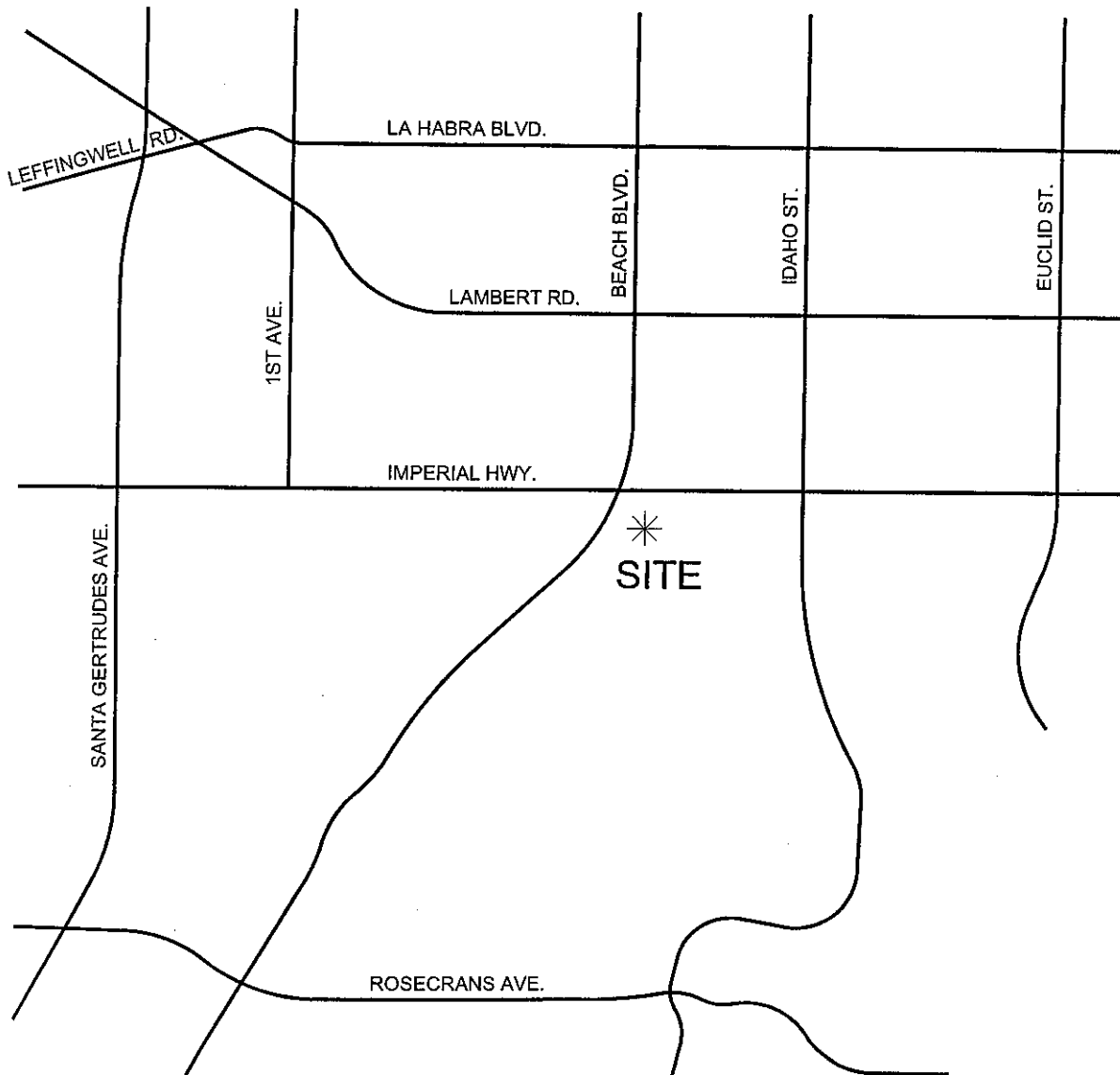


EXHIBIT B  
**LOCATION MAP**  
**CHINO - WALMART/SAM'S CLUB**

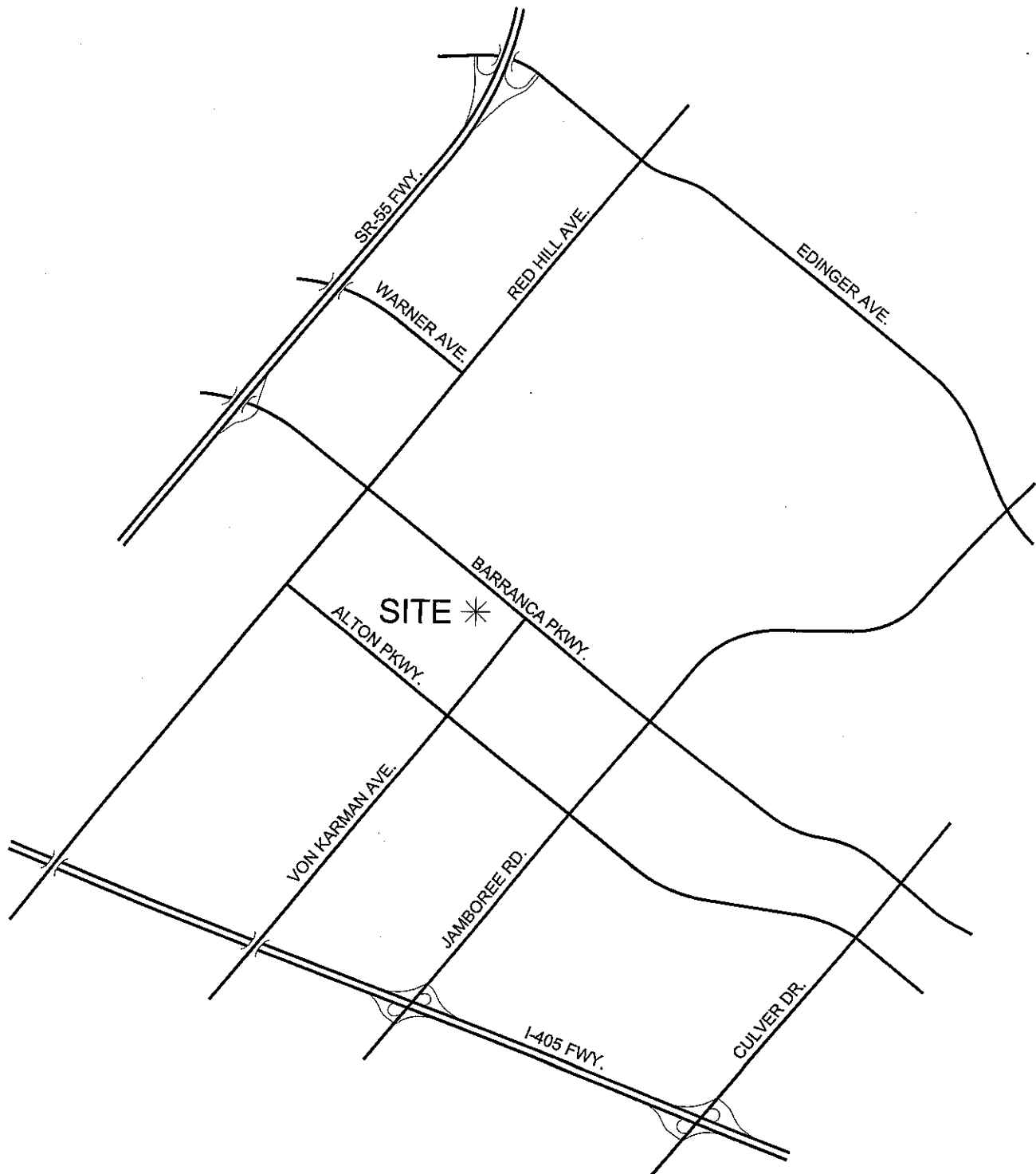




EXHIBIT C  
LOCATION MAP  
ONTARIO - SAM'S CLUB



EXHIBIT D  
LOCATION MAP  
IRVINE - SAM'S CLUB



**TABLE 1**  
**ENERGY AVERAGE REFERENCE NOISE LEVELS**

Noise Source	Distance to Source (feet)	Noise Level dBA <sup>2</sup>					
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
Standard delivery truck	100	64.2	77.8	67.5	65.2	64.3	63.5
Cab over delivery truck	100	64.7	79.4	71.1	68.5	65.1	62.3
Refrigeration unit at loading dock	100	66.0	80.5	73.5	70.7	65.8	60.3
Trash compactor	50	65.5	69.0	67.3	65.9	65.5	65.2
Air Conditioning Uni	50	64.6	71.8	68.0	66.5	64.2	63.9
Tire/lube express facility	50	65.1	73.7	66.6	65.4	64.6	64.2

<sup>1</sup> Adjusted to reference distance to the source.

<sup>2</sup> Leq = Equivalent Noise Level

Lmax = Maximum Noise Level

L2, L8, L25, L50 = Noise Level exceeded 2%, 8%, 25%, 50% of the time.

The noise measurements summarized in Table 1 should be sufficient to analyze future conditions at Wal-Mart/Sam's Club facilities. The noise levels may have to be converted to a daily noise level (CNEL or LdN) or to a "not to exceed level" pending on the noise requirements of an individual agency. Most agencies utilize some form of noise ordinance to control noise impacts from on-site generated noise; therefore, they usually relate to a not to exceed level or Leq.

#### Noise Monitoring

To determine a reference point of reference, noise level measurements were taken at four (4) Wal-Mart and Sam's Clubs sites located in Southern California. The location of the La Habra site is shown in Exhibit A, the Chino site in Exhibit B, the Ontario Site in Exhibit C and the Irvine Site in Exhibit D. Photographs of the various sites are included in Appendix "C".

Reference noise level measurements were taken at the time of various deliveries or other activities within the site. The time of the individual measurements can be found in the noise level measurement worksheets included in Appendix "B". Noise measurements were taken to ensure that other activities would not interfere with the reference noise levels. As previously mentioned, at the Chino Wal-Mart/Sam's Club site, there was a very high ambient noise generated from the SR-71 Freeway. As a result of that interference, the data obtained from the Chino site is not included as part of the recommended reference noise levels.

Noise level measurements were taken with a Larson Davis Model 700 and 712 Precision Integrating Sound Level Meter, programmed in a slow mode to record noise levels in a weighted form. The sound level meter was calibrated before and after monitoring with a Larson Davis Calibrator, Model CA250. The sound level meter and microphone were mounted on a tripod five (5) feet above the ground and with a wind screen during all measurements. The above instrument automatically calculates the percent noise level for any specific time along with Leq.

The percent noise level "L(n)" is used to evaluate intermittent noise levels. The percent noise level as the level exceeds "n" percent of the time during the measurement period. L50 is a noise level exceeded fifty percent of the time and can be seen as average noise level. L2 is the noise level exceeded two percent of the time measure and represents the peak or intrusive noise level. Lmax is the maximum noise level, which occurs at a site. The Leq represents the energy average noise level over the sample period of time.

#### Noise Rating Scales

A number of noise rating scales are used in California for land use compatibility assessment. These scales are: Equivalent Noise Level (LEQ), Day Night Noise Level

(LDN), and Community Noise Equivalent Noise Level (CNEL). These scales are described in the following paragraphs:

- A-weighted decibels (dBA) are the most common units used for measuring the loudness of a noise event. The human ear has different sensitivity to different frequencies of sound (noise). A weighting is an attempt to give the noise monitor the same frequency sensitivity as the human ear. Technically, it is the measurement of the energy being received when listening to (or monitoring) a source of noise. For example, the loudness of a highway may be 65 dBA when measured 50 feet away. The sound decreases as one moves away from the source, and the same highway would have a noise level of 62 dBA at 100 feet. The relationship between how one perceives a sound and the actual sound energy emitted by the source of noise is very complex. However, a good method of estimation is that if a noise increases 10 dBA, its apparent loudness will double. Therefore, a noise that is 70 dBA will appear twice as loud as a 60 dBA noise.
- The LEQ scale represents the energy average noise level over a sample period of time. It represents the decibel sound level that would contain the same amount of energy as a fluctuating sound level over the sample time period.
- The LDN scale represents a time weighted 24-hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise occurs during certain sensitive time periods is penalized for occurring at these times. For the LDN scale the nighttime period (10:00 PM and 7:00 AM) noises are penalized by 10 dBA.
- The CNEL scale is similar to the LDN scale except that it includes an additional 5 dBA penalty for the evening time period (7:00 PM to 10:00 PM).

A summary of the various individual noise measurements are included in Table 2. The actual noise measurements are included in Appendix "B". Leq noise levels ranged from Leq = 64.7 to 67.9 dBA for standard delivery trucks at 50 to 100 feet, 64.7 to 67.9 dBA for a Cab over delivery truck at 60 to 100 feet, 66.7 to 67.1 dBA for a Refrigeration truck at a loading dock at 75 to 100 feet, 65.5 dBA for a Trash Compactor at 50 feet, 63.7 to 65.3 dBA for Air Conditioner Units at 50 feet, and 65.3 to 64.9 dBA for a Tire\Lube Express at 50 feet. As previously noted, a summary of the reference noise levels is included in Table 1. In order to obtain the average reference noise levels shown in Table 1, the noise levels shown in Table 2 were standardized to a common distance. For trucks at a distance of 100 feet were utilized and for point sources such as trash compactors, air conditioner units and tire/lube express facilities at a distance of 50 feet were utilized. The standardized noise levels measurements, which have been adjusted to a common distance, are shown in Table 3.

**TABLE 2**  
**NOISE LEVEL MEASUREMENTS**

Noise Source	Distance to Source (Feet) <sup>1</sup>	Noise Level dBA <sup>2</sup>					
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
Standard delivery truck							
• La Habra	60	67.2	76.3	70.1	68.1	67.4	66.8
• La Habra	75	67.0	75.0	69.5	67.5	67.0	66.5
• Irvine	100	61.9	81.7	67.9	63.4	61.7	58.4
• Ontario	100	65.3	77.3	67.6	66.5	65.4	64.9
Cab over delivery truck							
• La Habra	60	67.9	79.5	71.1	70.0	68.5	68.0
• Irvine	100	64.8	81.0	72.5	69.4	65.3	60.4
• Ontario	100	64.7	79.6	71.7	68.9	64.9	60.1
Refrigeration unit at loading dock							
• La Habra	75	65.5	69.0	67.3	65.9	65.5	65.2
• Ontario	100	66.7	79.5	73.1	71.4	66.4	61.1
Trash compactor							
• La Habra	50	65.5	69.0	67.3	65.9	65.5	65.2
Air Conditioning Uni							
• La Habra	50	65.3	68.4	66.3	65.6	65.3	65.1
• La Habra	50	64.8	66.5	65.5	65.0	64.5	64.5
• Irvine	50	63.7	76.5	71.5	69.0	62.0	60.5
• Ontario	50	64.5	66.2	65.4	64.8	64.3	64.2
Tire/lube express facility							
• La Habra	50	64.9	71.2	65.8	65.1	64.5	64.1
• La Habra	50	65.3	75.3	67.2	65.6	64.6	64.2

<sup>1</sup> Distance from source to receiver for each measurement

<sup>2</sup> Leq = Equivalent Noise Level

Lmax = Maximum Noise Level

L2, L8, L25, L50 = Noise Level exceeded 2%, 8%, 25%, 50% of the time.

**TABLE 3**  
**NOISE LEVEL MEASUREMENTS ADJUSTED TO COMMON DISTANCE**

Noise Source	Distance to Source (Feet) <sup>1</sup>	Noise Level dBA					
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
Standard delivery truck							
• La Habra	100	63.9	73.0	66.8	64.8	64.1	63.5
• La Habra	100	65.1	73.1	67.6	65.6	65.1	64.6
• Irvine	100	61.9	81.7	67.9	63.4	61.7	58.4
• Ontario	100	65.3	77.3	67.6	66.5	65.4	64.9
Average	100	64.2	77.8	67.5	65.2	64.3	63.5
Cab over delivery truck							
• La Habra	100	64.6	76.2	67.8	66.7	65.2	64.7
• Irvine	100	64.8	81.0	72.5	69.4	65.3	60.4
• Ontario	100	64.7	79.6	71.7	68.9	64.9	60.1
Average	100	64.7	79.4	71.1	68.5	65.1	62.3
Refrigeration unit at loading dock							
• Irvine	100	65.2	81.3	73.9	70.0	65.0	59.2
• Ontario	100	66.7	79.5	73.1	71.4	66.4	61.1
Average	100	66.0	80.5	73.5	70.7	65.8	60.3
Trash compactor							
• La Habra	50	65.5	69	67.3	65.9	65.5	65.2
Average	50	65.5	69	67.7	65.9	65.5	65.2
Air conditioning Uni							
• La Habra	50	65.3	68.4	66.3	65.6	65.3	65.1
• La Habra	50	64.8	66.5	65.5	65.0	64.5	64.5
• Irvine	50	63.7	76.5	71.5	69.0	62.0	60.5
• Ontario	50	64.5	66.2	65.4	64.8	64.3	64.2
Average	50	64.6	71.8	68	66.5	64.2	63.9
Tire/lube express facility							
• La Habra	50	64.9	71.2	65.8	65.1	64.5	64.1
• La Habra	50	65.3	75.3	67.2	65.6	64.4	64.2
Average	50	65.1	73.7	66.6	65.4	64.6	64.2

<sup>1</sup> Adjusted to reference distance to the source.

<sup>2</sup> Leq = Equivalent Noise Level

Lmax = Maximum Noise Level

L2, L8, L25, L50 = Noise Level exceeded 2%, 8%, 25%, 50% of the time.

In cases where multiple site measurements were utilized, the energy average noise level was determined for the noise source. The results of average noise levels based upon the reference distance are included in Table 1.

For the purpose of future noise impacts, the reference noise levels included in Table 1 would need to be added to any ambient noise level within a site to determine the actual effect upon overall noise environment. In addition, if multiple activities are occurring they would have to be added to gather acoustically to determine the overall noise impact. Noise impacts at each individual site would depend on specific conditions at that location.

### CONCLUSIONS

RK has studied the reference noise level at several Wal-Mart/Sam's Club sites. The noise measurements were collected for various activities which occur at the sites, including delivery truck, refrigeration trailer, trash compactor, air conditioning and tire/lube express facility. Noise levels including Leq, Lmax, Lmin and Ln have been determined for each of these activities at a specified distance from the source. This information can be utilized in the future to determine noise impacts from new facilities or the potential impact of an existing facility.

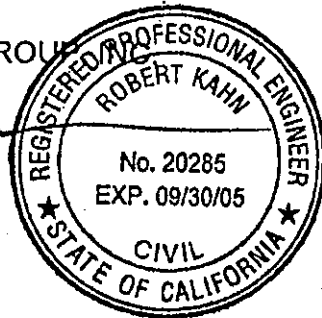
RK ENGINEERING GROUP, INC. appreciates this opportunity to work with WILLIAM PARRISH DESIGN DEVELOPMENT CONSULTANTS, INC. If you have any questions regarding this or need further review, please call me at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP

*Robert Kahn*

Robert Kahn, P.E.  
Principal



Attachments

RK:rd/1620  
JN:1555-03-01



**APPENDIX A**

**GLOSSARY OF ACOUSTICAL TERMS**

## APPENDIX A

### GLOSSARY OF ACOUSTICAL TERMS

**A-WEIGHTED SOUND LEVEL.** The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

**AMBIENT NOISE LEVEL.** The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

**COMMUNITY NOISE EQUIVALENT LEVEL (CNEL).** The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7 PM to 10 PM and after addition of ten (10) decibels to sound levels in the night before 7 AM and after 10 PM.

**DECIBEL (dB).** A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

**dB(A).** A-weighted sound level (see definition above).

**EQUIVALENT SOUND LEVEL (LEQ).** The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

**L(n).** The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90, L99 etc.

**NOISE.** Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

**PERCENT NOISE LEVELS.** See L(n).

**SOUND LEVEL (NOISE LEVEL).** The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

**SOUND LEVEL METER.** An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

**SINGLE EVENT NOISE EXPOSURE LEVEL (SENEL).** The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

**APPENDIX B**

**NOISE LEVEL MEASUREMENTS**

# NOISE LEVEL MEASUREMENTS

Project: Sam's Club/Wal-mart Reference Noise \_\_\_\_\_

Date: 03/20/03, 04/30/03 \_\_\_\_\_

Level Measurements \_\_\_\_\_

Job No.: 1555-03-01 \_\_\_\_\_

Prepared By: Mike Rosa \_\_\_\_\_

Job Location: Wal-mart - La Habra \_\_\_\_\_

Site	Start Time	End Time	$L_{eq}$	$L_{max}$	$L_{min}$	$L_2$	$L_8$	$L_{25}$	$L_{50}$
1	4:50 AM	5:05 AM	65.3	68.4	64.7	66.3	65.6	65.3	65.1
Comments: A/C Condenser (ground mounted) 50-feet from source									

Site	Start Time	End Time	$L_{eq}$	$L_{max}$	$L_{min}$	$L_2$	$L_8$	$L_{25}$	$L_{50}$
2	5:45 AM	6:00 AM	67.2	76.3	61.3	70.1	68.1	67.4	66.8
Comments: Standard Delivery Truck 60-feet from source									

Site	Start Time	End Time	$L_{eq}$	$L_{max}$	$L_{min}$	$L_2$	$L_8$	$L_{25}$	$L_{50}$
3	7:05 AM	7:35 AM	67.9	79.5	59.5	71.1	70.0	68.5	68.0
Comments: Cab-Over Delivery Truck 60-feet from source									

Site	Start Time	End Time	$L_{eq}$	$L_{max}$	$L_{min}$	$L_2$	$L_8$	$L_{25}$	$L_{50}$
4	1:05 PM	1:15 PM	65.5	69.0	64.9	67.3	65.9	65.5	65.2
Comments: Trash Compactor - 04/30/03 50-feet from source									

Site	Start Time	End Time	$L_{eq}$	$L_{max}$	$L_{min}$	$L_2$	$L_8$	$L_{25}$	$L_{50}$
5	:	:							
Comments:									

Site Location Map:

# NOISE LEVEL MEASUREMENTS

Project: Sam's Club/Wal-mart Reference Noise \_\_\_\_\_

Date: 03/20,27/03, 04/23/03 \_\_\_\_\_

Level Measurements \_\_\_\_\_

Job No.: 1555-03-01 \_\_\_\_\_

Prepared By: Mike Rosa \_\_\_\_\_

Job Location: Sam's Club - La Habra \_\_\_\_\_

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
1	5:10 AM	5:30 AM	64.8	66.5	64.0	65.5	65.0	64.5	64.5
Comments: A/C Condenser (ground mounted) - 03/20/03 50-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
2	6:05 AM	6:25 AM	67.0	75.0	65.5	69.5	67.5	67.0	66.5
Comments: Standard Delivery Truck - 03/20/03 75-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
3	11:00 AM	11:45 AM	64.9	71.2	63.2	65.8	65.1	64.5	64.1
Comments: Tire/Lube Express Facility - 03/27/03 50-feet from source, a couple of tire servicing jobs									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
4	12:00 PM	12:40 PM	65.3	75.3	62.8	67.2	65.6	64.6	64.2
Comments: Tire/Lube Express Facility - 04/23/03 50-feet from source, tire servicing/misc. repair jobs									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
5	:	:							
Comments:									

Site Location Map:

# NOISE LEVEL MEASUREMENTS

Project: Sam's Club/Wal-mart Reference Noise \_\_\_\_\_

Level Measurements \_\_\_\_\_

Date: 03/27/03 \_\_\_\_\_

Job No.: 1555-03-01 \_\_\_\_\_

Prepared By: Mike Rosa \_\_\_\_\_

Job Location: Sam's Club - Irvine \_\_\_\_\_

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
1	4:20 AM	4:50 AM	63.7	76.5	53.5	71.5	69.0	62.0	60.5

Comments:  
A/C Condenser (ground mounted)  
50-feet from source

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
2	5:00 AM	5:20 AM	61.9	81.7	52.8	67.9	63.4	61.7	58.4

Comments:  
Standard Delivery Truck  
100-feet from source

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
3	5:25 AM	5:50 AM	64.8	81.0	52.8	72.5	69.4	65.3	60.4

Comments:  
Cab-Over Delivery Truck  
100-feet from source

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
4	5:50 AM	6:15 AM	67.1	83.2	52.3	75.8	71.9	66.9	61.2

Comments:  
Typical Truck w/Refrigeration Unit at Loading Dock  
75-feet from source

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
5	:	:							

Comments:

Site Location Map:

# NOISE LEVEL MEASUREMENTS

Project: Sam's Club/Wal-mart Reference Noise \_\_\_\_\_

Date: 03/28/03 \_\_\_\_\_

Level Measurements \_\_\_\_\_

Job No.: 1555-03-01 \_\_\_\_\_

Prepared By: Mike Rosa \_\_\_\_\_

Job Location: Sam's Club - Ontario \_\_\_\_\_

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
1	3:00 AM	3:40 AM	64.5	66.2	63.8	65.4	64.8	64.3	64.2
Comments: A/C Condenser (ground mounted) 50-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
2	4:15 AM	4:25 AM	65.3	77.3	63.7	67.6	66.5	65.4	64.9
Comments: Standard Delivery Truck 100-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
3	5:05 AM	5:20 AM	64.7	79.6	54.6	71.7	68.9	64.9	60.1
Comments: Cab-Over Delivery Truck 100-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
4	5:25 AM	5:40 AM	66.7	79.5	56.1	73.1	71.4	66.4	61.1
Comments: Typical Truck x/Refrigeration Unit at Loading Dock 100-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
5	:	:							
Comments:									

Site Location Map:

# NOISE LEVEL MEASUREMENTS

Project: Sam's Club/Wal-mart Reference Noise \_\_\_\_\_

Date: 03/21/03 \_\_\_\_\_

Level Measurements \_\_\_\_\_

Job No.: 1555-03-01 \_\_\_\_\_

Prepared By: Mike Rosa \_\_\_\_\_

Job Location: Sam's Club - Chino \_\_\_\_\_

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
1	4:30 AM	4:55 AM	75.1	93.5	66.0	79.0	77.0	75.5	73.5
<i>Comments:</i> A/C Condenser (ground mounted) 50-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
2	5:00 AM	5:25 AM	76.7	86.0	70.3	79.5	78.8	78.0	76.4
<i>Comments:</i> Standard Delivery Truck 75-feet from source									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
3	4:30 AM	4:50 AM	73.5	82.3	62.4	77.9	76.2	74.5	72.8
<i>Comments:</i> Ambient (for reference)									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
4	:	:							
<i>Comments:</i>									

Site	Start Time	End Time	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>2</sub>	L <sub>8</sub>	L <sub>25</sub>	L <sub>50</sub>
5	:	:							
<i>Comments:</i>									

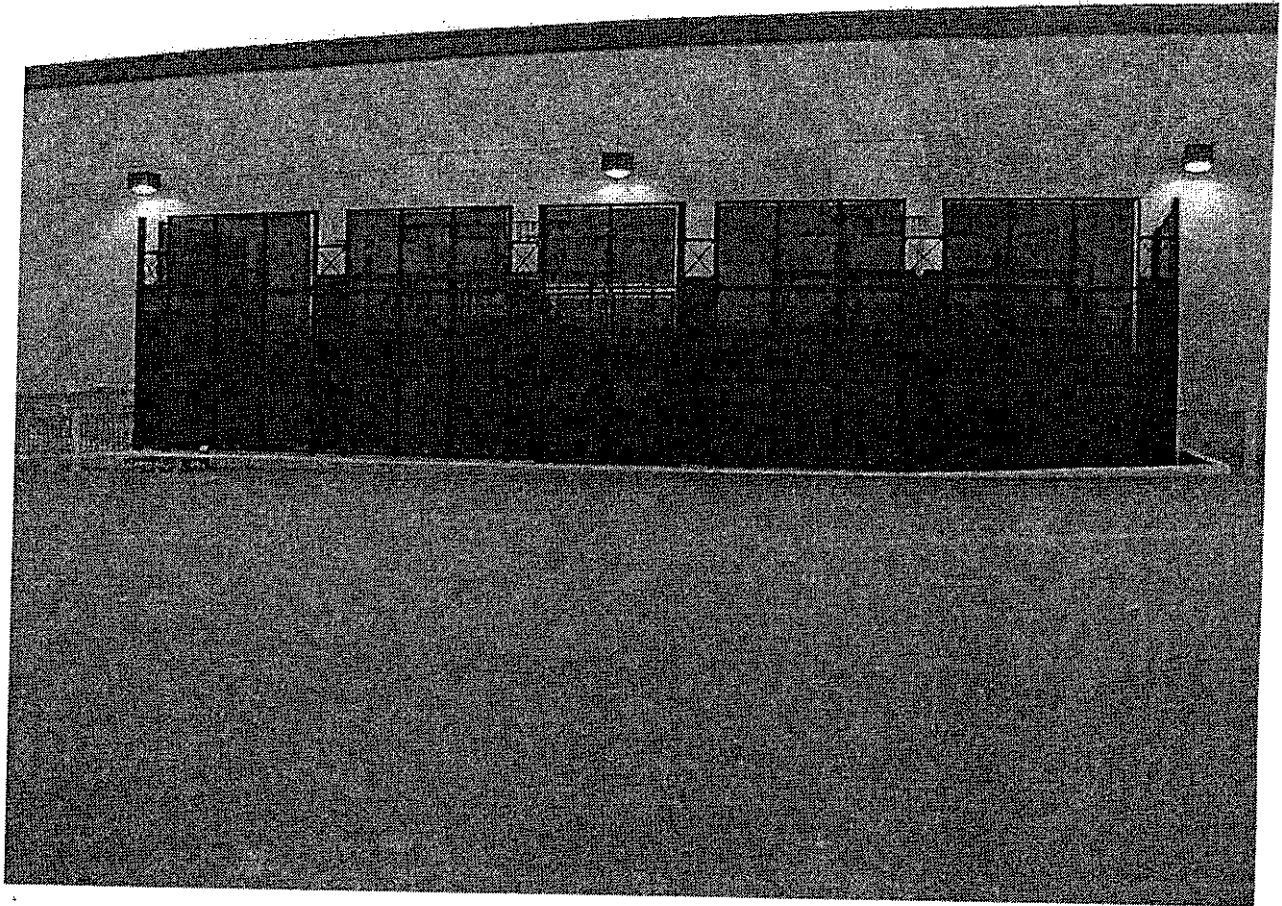
Site Location Map:



APPENDIX C

SITE PHOTOGRAPHS

EXHIBIT C-1  
**AIR CONDITIONING UNIT**  
**SAM'S CLUB - LA HABRA, CA**



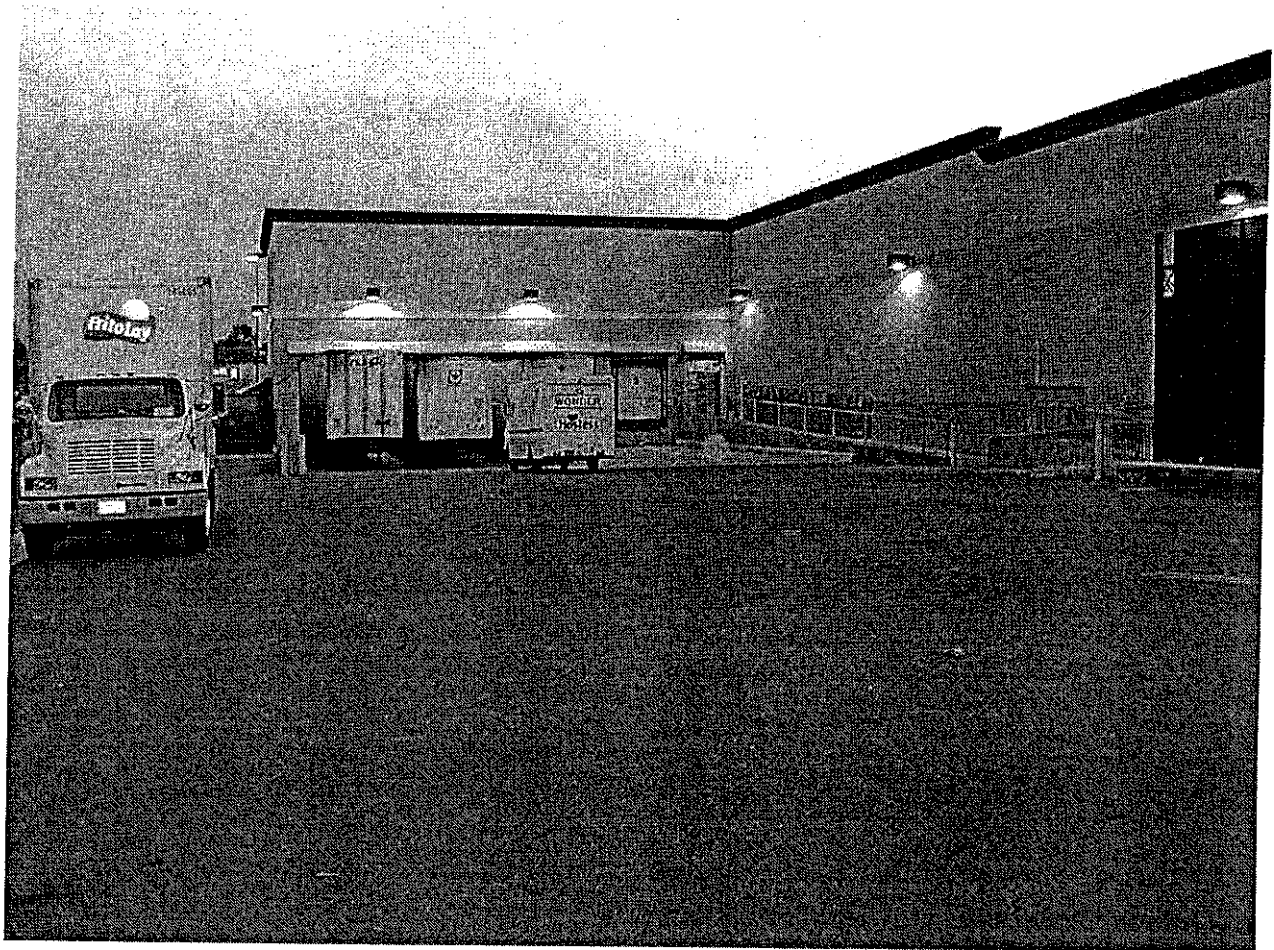
N

1555-03-01-EX\_C-1

SAMS CLUB/WALMART - REFERENCE NOISE LEVEL STUDY, California

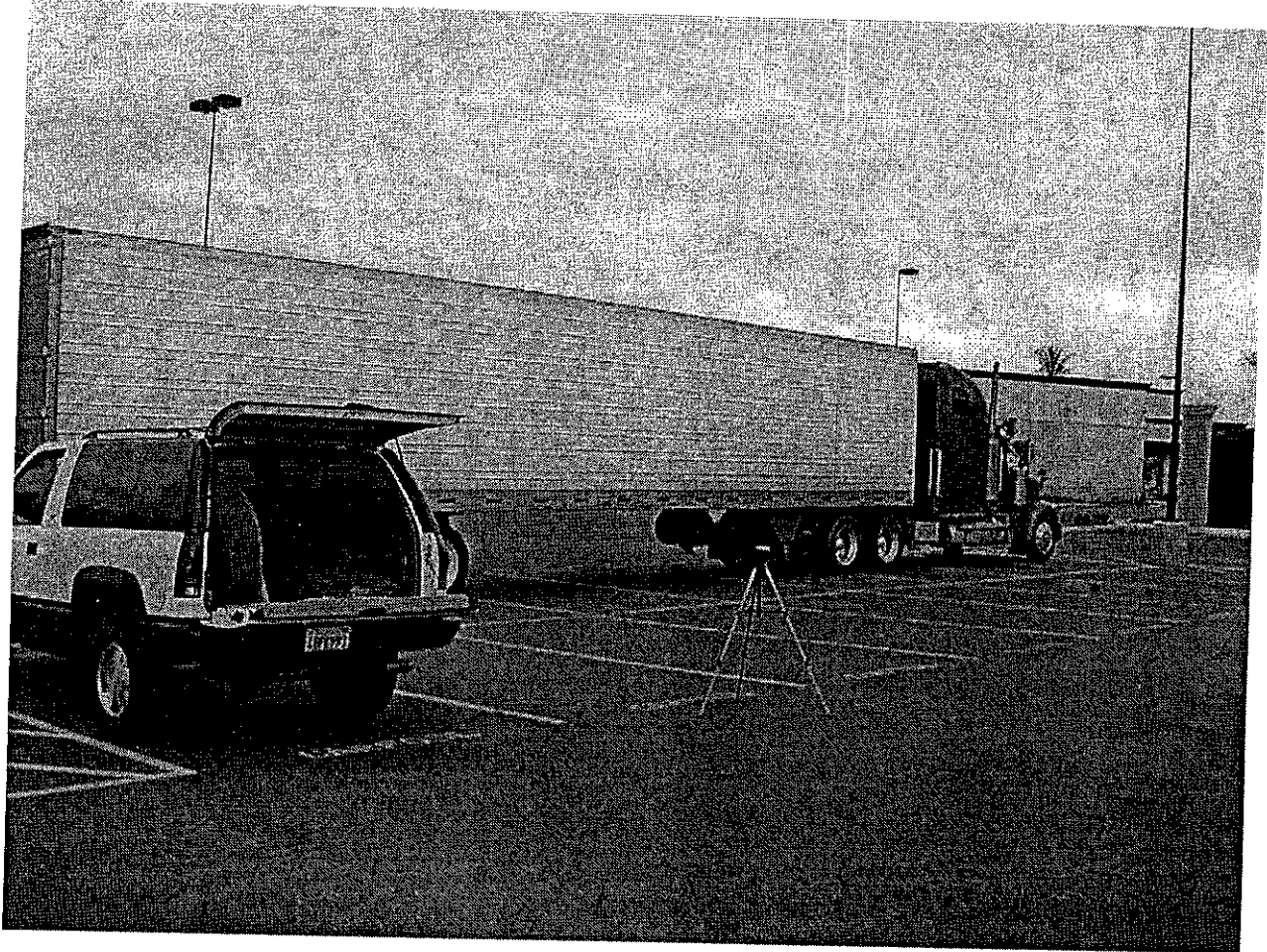
**RK** engineering  
group, inc.

EXHIBIT C-2  
STANDARD DELIVERY TRUCK  
SAM'S CLUB - LA HABRA, CA



N

EXHIBIT C-3  
CAB OVER DELIVERY TRUCK  
WALMART - LA HABRA, CA



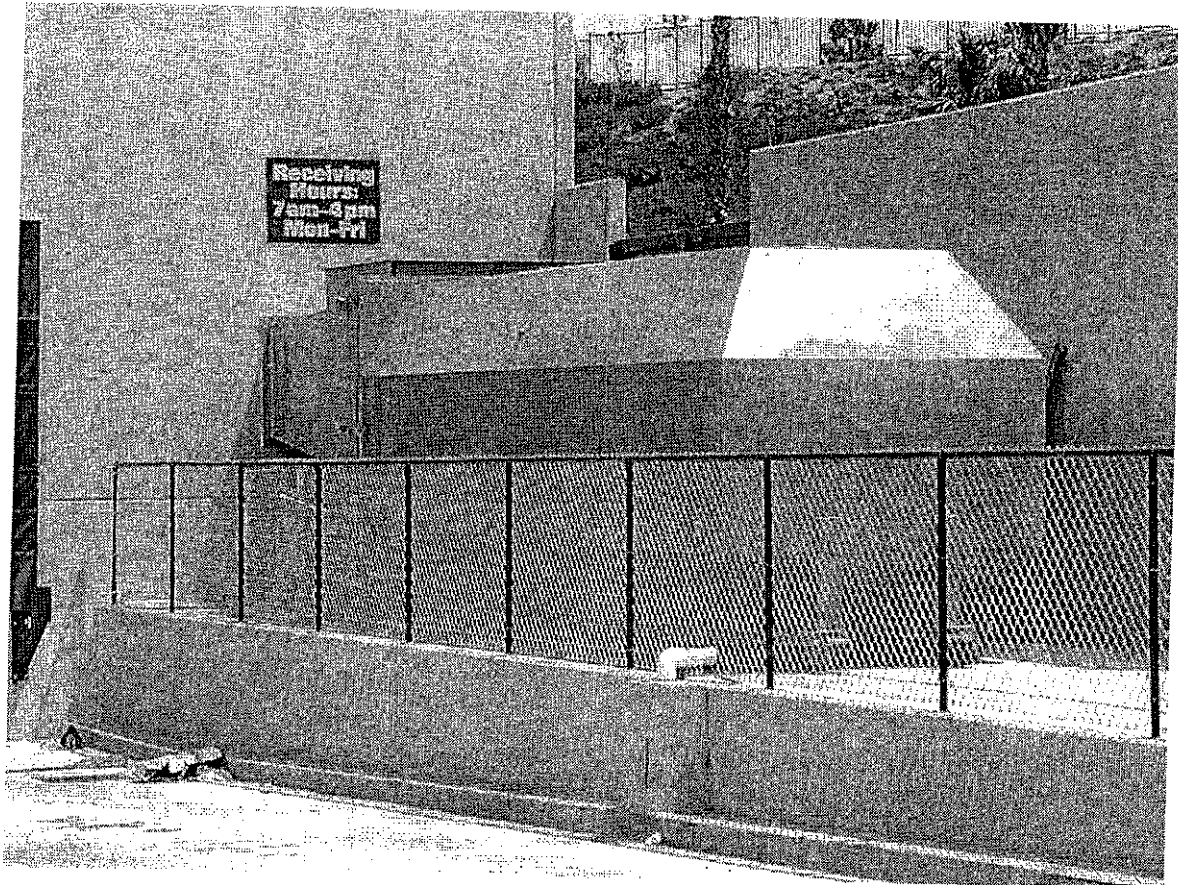
N

1555-03-01-EX\_C-3

SAMS CLUB/WALMART - REFERENCE NOISE LEVEL STUDY, California

**RK** engineering  
group, inc.

EXHIBIT C-4  
**TRASH COMPACTOR**  
**WALMART - LA HABRA, CA**



N

1555-03-01-EX\_C-4

SAMS CLUB/WALMART - REFERENCE NOISE LEVEL STUDY, California

**RK** engineering  
group, inc.



# The Noise Guidebook

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# **The Noise Guidebook**

A Reference Document for  
Implementing the Department of  
Housing and Urban Development's  
Noise Policy

Prepared By The Environmental  
Planning Division,  
Office of Environment and Energy

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## **Table of Contents**

1	<b>Chapter 1</b> Basic Overview of The Environmental Noise Problem
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## Chapter 4

### Noise Attenuation

#### Introduction

HUD's noise policy (24 CFR 51B) clearly requires that noise attenuation measures be provided when proposed projects are to be located in high noise areas. The requirements set out in Section 51.104(a) are designed to insure that interior levels do not exceed the 45  $L_{dn}$  level established as a goal in Section 51.101(a)(9). Thus, in effect, if the exterior noise level is 65  $L_{dn}$  to 70  $L_{dn}$ , 25 db of noise attenuation must be provided; if the exterior noise level is between 70 and 75  $L_{dn}$ , then 30 db of attenuation is required. Likewise, for projects proposed for areas where noise levels exceed 75  $L_{dn}$ , sufficient attenuation must be provided to bring interior levels down to 45  $L_{dn}$  or below.

There are three basic ways to provide the noise attenuation required:

1. the use of barriers or berms
2. site design
3. acoustical construction

Of these, only the first two provide any improvement in the exterior environment. Because HUD considers a quiet exterior environment to be important, we prefer the use of those measures that reduce exterior levels as well as interior levels. The use of acoustical construction by itself is, therefore, the least preferred alternative since it only affects the interior levels. While we recognize that in many cases barriers or site design cannot provide all the attenuation necessary, you should combine them with acoustical construction whenever possible.

Your responsibility as a HUD staff member is to:

- make sure the project sponsor or developer is aware of the attenuation requirements for the project.
- make the sponsor aware of the options available and
- review attenuation proposals to make sure they are adequate.

While it is not your responsibility to provide detailed design assistance to the sponsor or developer, you should know enough about the attenuation options to give him or her a basic understanding of what must be done. In many cases, you may be able to reassure the sponsor or developer that the necessary attenuation can be achieved through the use of common construction techniques or materials. Or you may be able to point out how a simple site design change can achieve the desired result without additional cost.

The following sections are designed to provide you with the information you will need to fulfill your responsibilities. Each attenuation approach is discussed both in terms of basic concepts and in terms of what to look for in reviewing attenuation proposals. The discussion does assume that you have a working knowledge of the *Noise Assessment Guidelines*. If you have not worked with the *Guidelines* before or not recently you may want to go back and review them, particularly the section on calculating the effects of barriers.

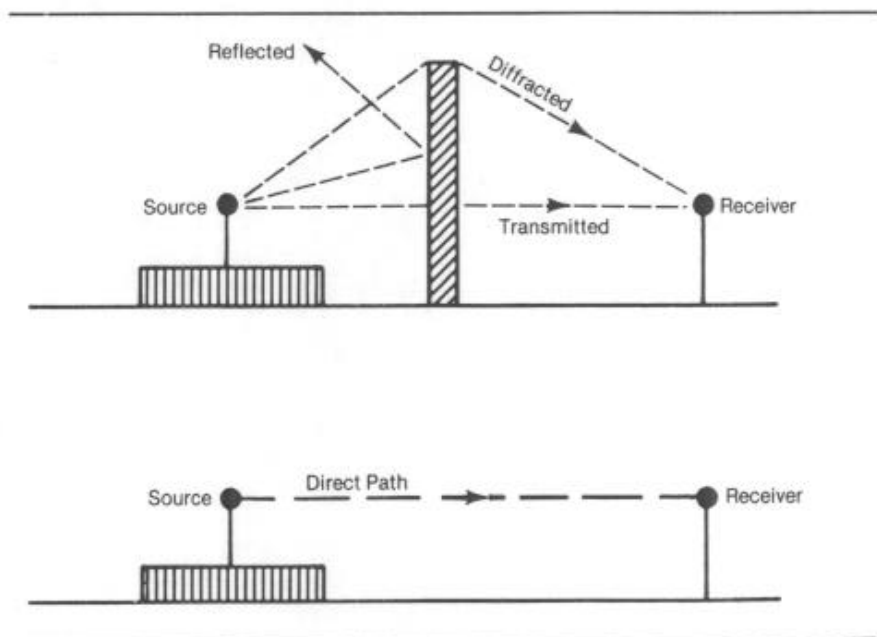
#### Barrier Noise Reduction Concepts

(The following, with some editing and with some additional graphics, is taken from the Federal Highway Administration's *Noise Barrier Design Handbook*.<sup>1</sup>)

When no obstacles are present between [a source] and adjoining areas, sound travels by a **direct** path from the "sources" ... to [the] "receivers" ..., as shown in Figure 1. Introduction of a barrier between the source and receiver redistributes the sound energy into several [indirect] paths: a **diffracted** path, over the top of the barrier; a **transmitted** path, through the barrier; and a **reflected** path, directed away from the receiver. These paths are also illustrated in Figure 1.

<sup>1</sup>Noise Barrier Design Handbook US Department of Transportation, Federal Highway Administration, February 1976. (FHWA-RD-76-58).

Figure 1  
Alteration of Noise  
Paths by a Barrier



## Barrier Diffraction and Attenuation

Consider an infinitely long, infinitely massive noise barrier placed between a highway and the receiver. Figure 2 illustrates a cross-section through such a configuration. [In] this example, the only way that sound can reach the receiver is by bending over the top of the barrier; as shown in the figure. The bending of sound waves in this manner over an obstacle is known as diffraction. The area in which diffraction occurs behind the barrier is known as the "shadow zone." The straight path from the source over the top of the barrier forms the boundary of this zone.

All receivers located in the shadow zone will experience some sound attenuation; the amount of attenuation is directly related to the magnitude of the diffraction angle  $\phi$ . As  $\phi$  increases, the barrier attenuation increases. The angle  $\phi$  will increase if the barrier height increases, or if the source or receiver are placed closer to the barrier. Clearly then the barrier attenuation is a function of the geometrical relationship between the source, receiver, and barrier. One way of relating these parameters to the barrier attenuation is to define the path-length difference as shown in Figure 3. This parameter is the difference in distance that the sound must travel in diffracting over the top of the barrier rather than passing directly through it.

In the preceding discussion it was assumed that the barrier was "infinite"; i.e., long enough to shield the receiver from all sound sources up and down the highway. For short barriers, the attenuation can be seriously limited by the sound from sections of highway beyond the barrier's ends, which are unshielded from the receiver, as shown in Figure 4. Similarly, when there are large gaps in the barrier (to permit access, for example), sound from the unshielded section of highway adjacent to the gap can greatly compromise barrier attenuation, especially for those receivers close to the opening.

Figure 2  
Barrier Diffraction

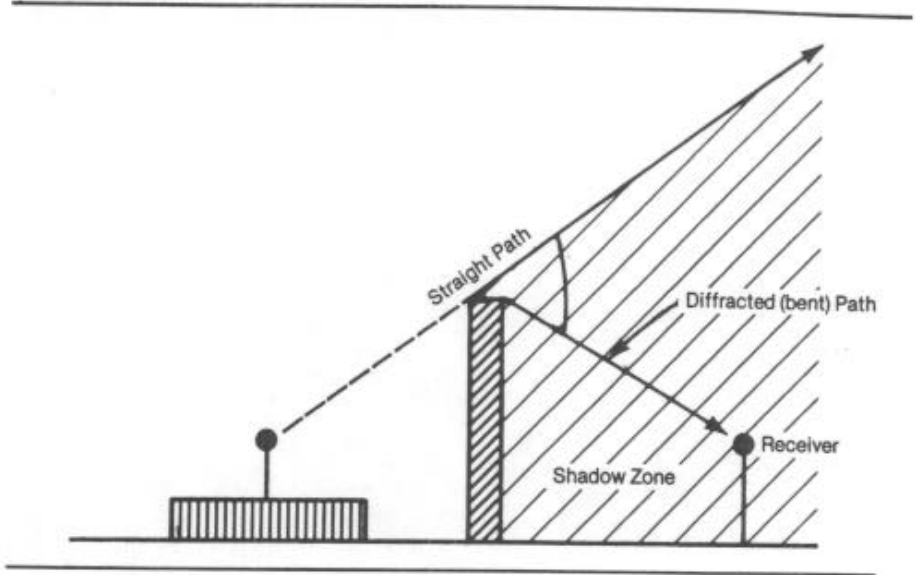


Figure 3  
Path Length  
Difference  $\delta = A + B - d$

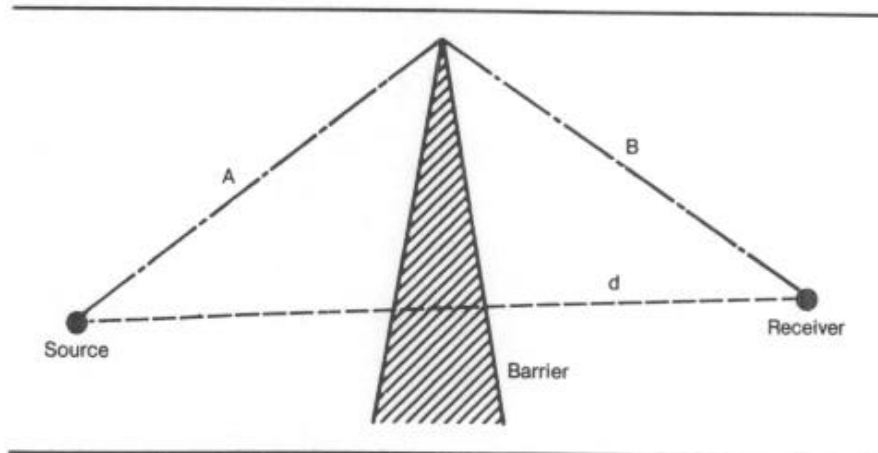
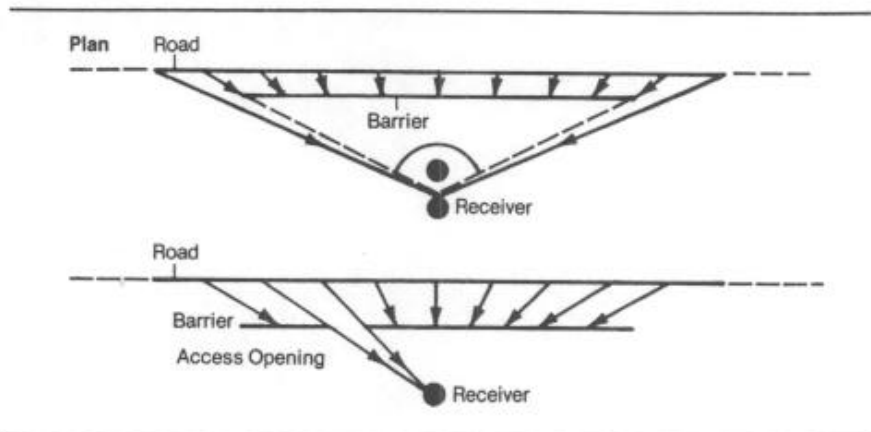


Figure 4  
Short-circuit of Barrier Around Ends  
and Through Openings



## Barrier Transmission

In addition to the sound that travels over the top of the barrier to reach the receiver, sound can travel through the barrier itself. The amount of sound "transmission" through the barrier depends upon factors relating to the barrier material (such as its weight and stiffness), the angle of incidence of the sound, and the frequency spectrum of the sound. One way of rating a material's ability to transmit noise is by the use of a quantity known as the transmission loss, TL. The TL is related to the ratio of the incident noise energy to the transmitted noise energy. Transmission loss values are normally expressed in decibels and represent the amount noise levels will be reduced when the sound waves pass through the material. The higher the TL value the less noise transmitted through the material. Typically, the TL value improves with increasing surface weight of the material.

The noise reduction provided by a barrier can be severely compromised if the TL value of the material permits too much noise to pass through the barrier. This is due to the fact that when attenuation is a function of two or more factors, the noise level at the measurement point is actually the combination of the reduced noise levels resulting from each attenuation factor. For example, with a typical barrier the noise levels are reduced by (1) sound waves being diffracted over the barrier and (2) sound waves passing through the barrier. The noise level at the receiver point is the combination of the attenuated levels resulting from each attenuation step. If the starting noise level is 65 db and the noise level is reduced 10 db when the sound waves pass through the barrier then the attenuated level reaching the receiver is 55 db. If the attenuation provided by the sound waves being diffracted over the barrier is also 10 db then the attenuated level reaching the receiver along that path is 55 db as well. Using the table in the *Noise Assessment Guidelines* to combine the two individual attenuated levels, one finds that the combined attenuated level is actually 58 db. Thus even though the attenuation value of each attenuation step was 10 db, the actual reduction for the receiver is only 7 db. It is, however, a function of the way noise levels combine that if the difference between levels is greater than 10 db it does not affect the levels. As a general rule, therefore, if the TL value

is at least 10 dB above the attenuation value resulting from diffraction over the top of the barrier, the barrier noise reduction will not be significantly affected by transmission through the barrier (decreased by less than 0.5 dB). For many common materials used in barrier construction, such as concrete and masonry blocks, TL values are usually more than adequate. For less massive materials such as steel, aluminum and wood, TL values may not be adequate, particularly for those cases where large attenuations are required. (See Table 1 for a list of typical TL values.)

Even if a barrier material is massive enough to prevent significant sound transmission, the barrier noise reduction can be severely compromised if there are holes or openings in the barrier. For large openings, sound energy incident on the barrier will be directly transmitted through the opening to the receiver. When the opening is small an additional phenomenon occurs: upon striking the barrier wall the sound pressure will **increase**, resulting in an amplification of the transmitted sound to the receiver. Thus, the presence of openings or holes may seriously degrade the noise reduction provided by otherwise effective barriers.

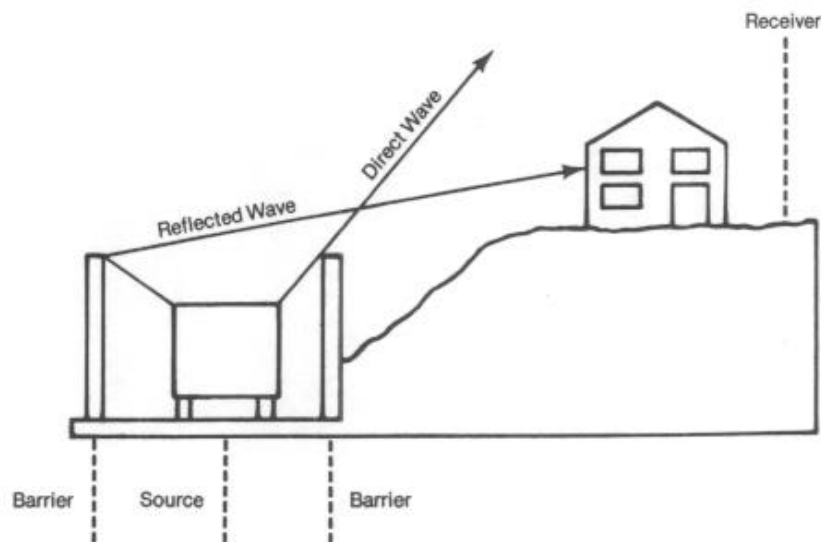
## Barrier Reflections

As shown in Figure 1, sound energy can be reflected by a barrier wall. For the configuration shown in that figure, the reflected energy does not affect the receiver, but may affect receivers located to the left of the highway. However the increase in noise level for these receivers would be less than 3 dB, because this single reflection can at most double the sound energy. (Remember how you combine noise levels? The most you add is 3 db when levels are the same.)

The situation is entirely different, however, when a double barrier situation is involved (refer to Figure 5). In addition to the energy that reaches the receiver by diffraction over the top of the barrier, if the barrier walls are reflective, additional sound energy can reach the receiver by a reflection from the left wall as illustrated in the figure. The same principles apply when there is a vertical retaining wall opposite a noise barrier; similarly, in a deep vertical cut the opposite walls will create multiple reflections.

If the barrier walls are not perfectly reflecting but absorb some of the sound energy, the contribution of each reflection is decreased by an amount that depends upon the absorptive characteristics of the barrier. For very hard, reflective surfaces, the absorption characteristics are very poor. Although a serious degradation in barrier performance may result for the double barrier situation, use of materials with good absorption values will usually recover all of the lost noise reduction.

Figure 5  
Reflections from an  
Opposing Barrier



It should be mentioned that the use of barrier walls with sloped sides (forming angles of greater than 10–15 degrees from the vertical) will also generally eliminate multiple reflections. Use of earth berms is particularly appropriate to accomplish this. Sloped barrier walls will require more material to achieve a desired height than a vertical wall, while berms will require greater right-of-way than a thin wall.

## Ground Effects

Consider again the direct path of sound from the source to receiver as illustrated in Figure 1 in the absence of any obstacles. For sources and receivers located close to the ground, in addition to this direct path sound energy may reach the receiver by reflecting off the ground. When the terrain is relatively hard and flat, such a reflection will add to the noise from the direct path to increase the level at the receiver. However, when the ground is soft, there may be a phase reversal upon reflection such that the noise from the ground reflection path will destructively interfere with the noise from the direct path resulting in a significant reduction in noise levels at the receiver.

This reduction in level, known as ground-effect attenuation, is in excess of the 3 dB per doubling of distance propagation loss for a line source of noise and occurs only above soft absorptive ground (such as normal earth and moist ground with vegetation). Over hard ground (such as concrete, stone and very hard-packed earth) these effects do not occur. These effects are most apparent for receivers on the ground floor, and decrease rapidly as receiver height above ground increases.

While ground absorption effects are not completely understood, it is generally believed that these effects account for the 4.5 dB per doubling of distance propagation loss observed over soft ground, as compared to the 3 dB propagation loss observed over hard ground. The implication with regard to barrier design is that placement of a barrier over soft ground between source and receiver will re-direct the sound over the top of the barrier, thus destroying the ground reflection and the additional 1.5 dB per doubling of distance attenuation. Thus, the barrier must be designed to provide more reduction than would otherwise be necessary, to compensate for the lost ground effects over absorptive ground.

## Summary

(From: *Design Guide*, National Bureau of Standards<sup>1</sup>)

In summary, the following can be said about noise barriers.

- If a barrier does not block the line-of-sight between the source and receiver, the barrier will provide little or no attenuation.
- If a barrier is constructed of a material with a surface weight density greater than 4 lb/ft<sup>2</sup> and there are no openings through the barrier, transmitted sound will usually be negligible.
- If there are openings totaling over 10 percent or more of the barrier area, barrier attenuation will be negligible.
- Diffracted sound is usually the most important aspect in estimating barrier attenuation.
- Reflected sound can be important for receivers on the source side of a barrier, but it normally is not a factor for receivers on the side opposite from the source. Hence reflected sound is usually not important to your building and site.
- Transmission of sound around the ends of the barrier can be critical if the barrier included angle is less than 170°.
- Barrier attenuations greater than an A-weighted sound level difference of 10 dB are difficult to obtain.
- For two or more barriers "in series," consider only the "dominant" barrier.
- Assume no attenuation for a receiver located beyond the end of a barrier.

## Reviewing Barrier Proposals

An effective barrier is one which reduces the noise level behind the barrier to 65 L<sub>dn</sub> or lower. If a barrier can reduce the exterior noise level to 65 L<sub>dn</sub>, then standard construction techniques should be sufficient to insure an interior level of 45 L<sub>dn</sub> or below. Therefore, if you determine that a proposed barrier is adequate to reduce the exterior noise level to 65 L<sub>dn</sub> then no additional attenuation measures should be necessary.

There are four things to check when determining the adequacy of a proposed barrier:

1. Is it high enough?
2. Is it long enough?
3. Is it made of the right materials?
4. Is it properly constructed?

## Is it High Enough?

In order for a barrier to be effective it must be at least high enough to break the line of sight between the source and the receiver. In the *Noise Assessment Guidelines* you will find the procedure for determining how much attenuation is provided by a barrier of a given height.

In general, barriers and berms are most effective for one and two story buildings because a relatively low barrier can often provide the attenuation needed. The height that might be required to provide attenuation for much taller buildings is often not feasible for either cost or aesthetic reasons. However, even if a barrier can not be made high enough to attenuate the upper floors of a multistory building, it may still be able to provide some protection for outdoor recreational areas. Before discarding the barrier idea check for this possibility.

If you find that the barrier as proposed is too short to be effective but the sponsor or developer tells you that he or she can not make the barrier any higher, there are some alternatives you can suggest. There are ways to get more attenuation out of each foot of overall height.

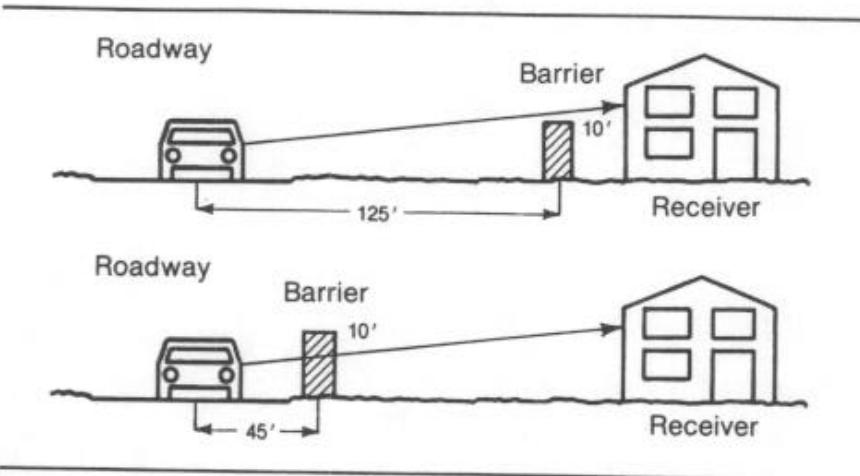
As a general rule, barriers work better the closer they are to the source. Figure 6 shows a barrier that does not block the line of sight at all when it is located next to the receiver, yet is quite tall enough when located next to the source. Thus, if the sponsor or developer can not make the barrier any taller, perhaps he or she can move it closer to the source.

Another way to get more attenuation without increasing overall barrier height is to bend the top of the barrier towards the source. Figure 7 shows a case where a barrier built perfectly straight provides 8 dB of attenuation. A barrier with the same overall height but with a 45 degree bend towards the source provides 9.5 dB of attenuation. Thus if the project sponsor or developer wants to keep the overall height of the barrier down, he or she can still increase the attenuation provided simply by bending the top.

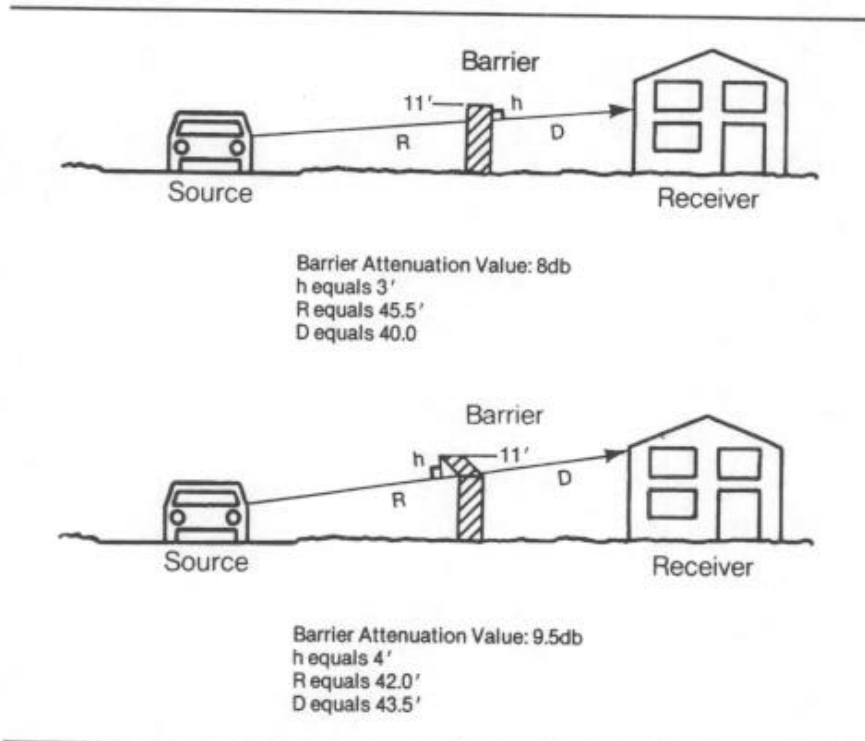
<sup>1</sup>*Design Guide for Reducing Transportation Noise in and Around Buildings*, US Department of Commerce, National Bureau of Standards, April 1978. (Building Science Series 84)



**Figure 6**  
Effect of Moving the Barrier  
Closer to the Source



**Figure 7**  
Effect of Bending the Top of the  
Barrier Towards the Source



Thus, if your review of a proposed barrier shows it to be too short, but it can not be made any higher, suggest that the barrier be moved closer to the source or that it be bent at the top, or both.

### Is It Long Enough?

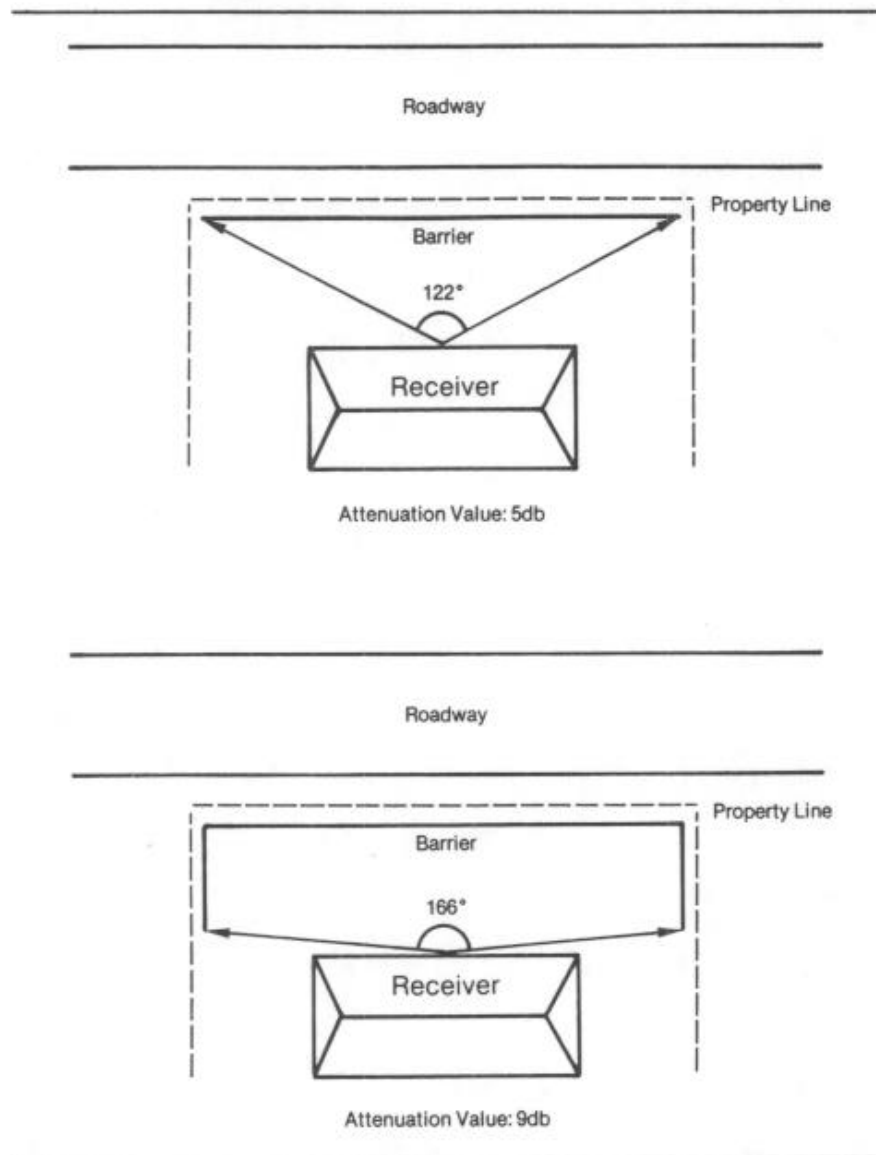
Once you have established how much attenuation the barrier provides due to its height, you must determine if the length of the barrier compromises that attenuation level. Again, the *Noise Assessment Guidelines* contain a procedure for calculating the effect of barrier length.

If you find that the barrier is too short but that there are limitations on how long it can be made, there are, as there were with barrier heights, some recommendations you can make on how to improve the effectiveness of the barrier.

Again, if you bend the edges of the barrier, this time towards the receiver not the source, you will increase the effectiveness of the barrier. Figure 8 shows how much a barrier's effectiveness can be improved by bending the edges.

You can also improve the effectiveness of the barrier by moving it closer to the receiver. Figure 9 shows how much a barrier's effectiveness can be increased by moving it closer to the receiver. Now obviously, this creates a conflict with what we said earlier about moving the barrier closer to the source. Clearly each case will require a different compromise. If height is not a limiting factor but length is, you might recommend to the project sponsor or developer that the barrier be moved closer to receiver and the height increased as necessary. If the reverse is true, you would want to recommend the opposite. If both height and length are limited, then the sponsor or developer must find that optimum point where the effectiveness of both the barrier height and the barrier length is as high as possible.

**Figure 8**  
**Effect of Bending the Edges of Barrier**  
**Towards Receiver**  
 (Both Barriers have Potential Value of 10db)



### Is It Made of The Right Materials?

Even if a barrier is high enough and long enough, its effectiveness can be severely reduced if it is made up of lightweight materials that easily transmit sound waves. In the preceding section on barrier concepts we talked about how if the transmission loss value for the barrier material was not at least 10 db higher than the attenuation value of the barrier based on length and height there would be a significant reduction in the effectiveness of the barrier.

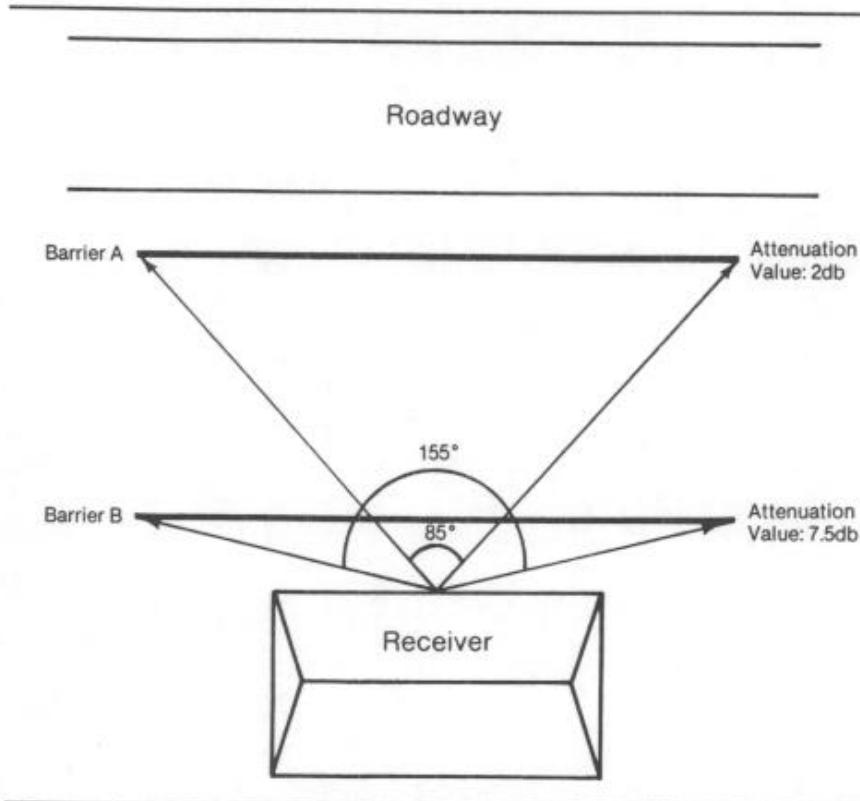
Therefore, once you have calculated the basic attenuation potential of the barrier, you must check to make sure the proper material is being used to build the barrier. Table 1 lists the transmission loss values for materials commonly used in barrier construction. Once you have found the transmission loss value for the material being used, go to Table 2. Read down the column with the transmission loss for the material at its top and across the line that has the attenuation potential for the barrier listed. Where the two intersect you will find the actual attenuation capability of the barrier.

If you find that the choice of material has severely reduced the effectiveness of the barrier, you should recommend that the sponsor or developer select another material.

### Is It Properly Constructed?

Holes or openings can substantially reduce the effectiveness of a barrier. A barrier that has openings totaling 50% or more of its total area will provide no attenuation. A barrier that has openings totaling 10% of its total area has a maximum attenuation value of approximately 4db. That is 4db no matter how high, how long or how thick the barrier. So you can see that it is very important that the barrier is made of solid materials and that it is tightly constructed. In general the intended openings in a barrier should equal no more than 1% of total area and the construction specifications should require that all joints are tightly sealed.

**Figure 9**  
Effect of Moving Barrier  
Closer to Receiver



### A Final Note

One thing should have become clear to you as you have been reading this section, and that is that in order for you to adequately review a project sponsor or developer's proposed barrier you must be given fairly specific information about the exact dimensions of the proposed barrier, the type and thickness of the barrier material, and the exact design of the barrier including construction specifications. Without this information you will be unable to do any more than a cursory evaluation, an evaluation that could be far from accurate. Make sure you make it clear to the developer or sponsor what you need to have.

**Table 1**  
Transmission Loss Value for Common  
Barrier Materials

Material	Thickness, (Inches)	Transmission Loss, dBA (1)						
Woods			Concrete, Masonry, etc.		Lamina on Plywood Plastic	3/4	21-23	
Fir	1/2	17	Light Concrete	4	36	Lamina on Particle Board	3/4	21-23
	1	20						
	2	24						
Pine	1/2	16	Dense Concrete	6	39			
	1	19						
	2	23						
Redwood	1/2	16	Concrete Block	4	32			
	1	19						
	2	23						
Cedar	1/2	15	Cinder Block (Hollow Core)	6	28	Glass (Safety Glass)	1/8	22
	1	18						
	2	22						
Plywood	1/2	20	Brick	4	33		1/4	26
	1	23						
Particle Board	1/2	20	Granite	4	40	Plexiglass (Shatterproof)		22-25
						Masonite	1/2	20
						Fiberglass/Resin	1/8	20
						Stucco on Metal Lath	1	32
						Polyester with Aggregate Surface	3	20-30
Metals								
Aluminum	1/16	23	Aluminum Faced Plywood	3/4	21-23			
	1/8	25	Aluminum Faced Particle Board	3/4	21-23			
	1/4	27	Plastic					
Steel	24 ga	18						
	20 ga	22						
	16 ga	15						
Lead	1/16	28						
<sup>1</sup> A-weighted TL based on generalized truck spectrum. Source: Noise Barrier Design Handbook, FHWA								

<sup>1</sup>A-weighted TL based on generalized truck spectrum. Source: *Noise Barrier Design Handbook*, FHWA

**Table 2**  
**Noise Reduction of a Barrier as a**  
**Function of Its Transmission Loss**

Designed Attenuation, dB (from height) and length)	Transmission Loss, dB of Materials				
	10	15	20	25	30
5	3.8	4.6	4.9	5.0	5.0
6	4.5	5.5	5.8	6.0	6.0
7	5.2	6.4	6.8	6.9	7.0
8	5.9	7.2	7.7	7.9	8.0
9	6.5	8.0	8.7	8.9	9.0
10	7.0	8.8	9.6	9.9	10.0
11	7.5	9.5	10.5	10.8	11.0
12	7.9	10.2	11.4	11.8	11.9
13	8.2	10.9	12.2	12.7	12.9
14	8.5	11.5	13.0	13.7	13.9
15	8.8	12.0	13.8	14.6	14.9
16	9.0	12.5	14.5	15.5	15.8
17	9.2	12.9	15.2	16.7	16.8
18	9.4	13.2	15.9	17.2	17.7
19	9.5	13.5	16.5	18.0	18.7
20	9.6	13.8	17.0	18.8	19.6

Source: *Noise Barrier Design Handbook*, FHWA