Appendix D
Noise Modeling



Type of Project	Commercial/Institutional
Distance of Nearest Noise Sensitive Use	5
hard or soft terrain	0

Construction Noise at 50 Feet (dBA Leq) **50** **Reference Distance**

Construction Phase	Minimum Required Equipment in Use[1]
Ground Clearing/Demolition	84
Excavation	79
Foundation Construction	78
Building Construction	75
Finishing and Site Cleanup	75

Construction Noise at Noise Sensitive Use (dBA Leq)

500 Closest Distance to Northern Receptor

Construction Phase	Minimum Required Equipment in Use[1]
Ground Clearing/Demolition	64
Excavation	59
Foundation Construction	58
Building Construction	55
Finishing and Site Cleanup	55

(Resurrection Cemetary)

424 Average Distance to Eastern Receptor

Construction Phase	Minimum Required Equipment in Use[1]
Ground Clearing/Demolition	65
Excavation	60
Foundation Construction	59
Building Construction	56
Finishing and Site Cleanup	56

(Multi-Family Residences)

1920 Average Distance to Western Receptor

Construction Phase	Minimum Required Equipment in Use[1]
Ground Clearing/Demolition	52
Excavation	47
Foundation Construction	46
Building Construction	43
Finishing and Site Cleanup	43

(Single-Family Residences)

1325 Closest Distance to Southern Receptor

Construction Phase	Minimum Required Equipment in Use[1]
Ground Clearing/Demolition	56
Excavation	51
Foundation Construction	50
Building Construction	47
Finishing and Site Cleanup	47

Type of Project	Public Works
Distance of Nearest Noise Sensitive Use	5
hard or soft terrain	0

Construction Noise at 50 Feet (dBA Leq)	**50**	**Reference Distance**

Construction Phase	**Maximum Required Equipment in Use**[1]
Ground Clearing/Demolition	84
Excavation	78
Foundation Construction	88
Building Construction	78
Finishing and Site Cleanup	84

Minimum Equipment Use

	Commercial/Institutional	Industrial	Public Works	Residential
Ground Clearing	84	83	84	83
Excavation	79	71	78	75
Foundations	78	77	88	81
Erection	75	72	78	65
Finishing	75	74	84	72

Construction Noise at Noise Sensitive Use (dBA Leq)

50	Closest Distance to Armstrong MFR

Construction Phase	**Maximum Required Equipment in Use**[1]
Ground Clearing/Demolition	84
Excavation	78
Foundation Construction	88
Building Construction	78
Finishing and Site Cleanup	84

Maximum Equipment Use

	Commercial/Institutional	Industrial	Public Works	Residential
Ground Clearing	84	84	84	83
Excavation	89	89	88	88
Foundations	78	77	88	81
Erection	87	84	79	81
Finishing	89	89	84	88

Construction generated Vibration

Market Place Road			Distance	11
			To northern commercial building	
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate RMS a Velocity at 25 ft, inch/second	Approximate Velocity Level, VdB	Approximate RMS Velocity, inch/second
Large bulldozer	87	**0.089**	94	0.30
Small bulldozer	58	0.003	65	0.01
Vibratory Roller	94	0.21	101	0.72
Jackhammer	80	0.035	87	0.12
Loaded trucks	86	0.076	93	0.26
		Criteria	**84**	**0.2**

Market Place Road			Distance	380
			To northern commercial building	
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate RMS a Velocity at 25 ft, inch/second	Approximate Velocity Level, VdB	Approximate RMS Velocity, inch/second
Large bulldozer	87	**0.089**	63	0.0015
Small bulldozer	58	0.003	34	0.0001
Vibratory Roller	94	0.21	70	0.0035
Jackhammer	79	0.035	55	0.0006
Loaded trucks	86	0.076	62	0.0013
		Criteria	**84**	**0.2**

Market Place Road			Distance	45
			To northern multi-family residences	
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate RMS a Velocity at 25 ft, inch/second	Approximate Velocity Level, VdB	Approximate RMS Velocity, inch/second
Large bulldozer	87	**0.089**	82	0.04
Small bulldozer	58	0.003	53	0.00
Vibratory Roller	94	0.21	89	0.09
Jackhammer	79	0.035	74	0.01
Loaded trucks	86	0.076	81	0.03
		Criteria	**78**	**0.2**

Market Place Road			Distance	340
			To northern multi-family residences	
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate RMS a Velocity at 25 ft, inch/second	Approximate Velocity Level, VdB	Approximate RMS Velocity, inch/second
Large bulldozer	87	**0.089**	64	0.0018
Small bulldozer	58	0.003	35	0.0001
Vibratory Roller	94	0.21	71	0.0042
Jackhammer	79	0.035	56	0.0007
Loaded trucks	86	0.076	63	0.0015
		Criteria	**78**	**0.2**

Main Project Site			Distance	424
			To northern multi-family residences	
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate RMS a Velocity at 25 ft, inch/second	Approximate Velocity Level, VdB	Approximate RMS Velocity, inch/second
Large bulldozer	87	**0.089**	62	0.0013
Small bulldozer	58	0.003	33	0.0000
Vibratory Roller	94	0.21	69	0.0030
Jackhammer	79	0.035	54	0.0005
Loaded trucks	86	0.076	61	0.0011
		Criteria	**78**	**0.2**

Main Project Site			Distance	1570
			To northern multi-family residences	
Equipment	Approximate Velocity Level at 25 ft, VdB	Approximate RMS a Velocity at 25 ft, inch/second	Approximate Velocity Level, VdB	Approximate RMS Velocity, inch/second
Large bulldozer	87	**0.089**	51	0.0002
Small bulldozer	58	0.003	22	0.0000
Vibratory Roller	94	0.21	58	0.0004
Jackhammer	79	0.035	43	0.0001
Loaded trucks	86	0.076	50	0.0002
		Criteria	**78**	**0.2**

Construction generated Vibration with Mitigation

Market Place Road			**Distance**	**20**
Equipment	**Approximate Velocity Level at 25 ft, VdB**	**Approximate RMS a Velocity at 25 ft, inch/second**	**Approximate Velocity Level, VdB**	**Approximate RMS Velocity, inch/second**
Loaded trucks	86	0.076	88	0.11
		Criteria	**84**	**0.2**

Market Place Road			**Distance** To northern commercial building	**40**
Equipment	**Approximate Velocity Level at 25 ft, VdB**	**Approximate RMS a Velocity at 25 ft, inch/second**	**Approximate Velocity Level, VdB**	**Approximate RMS Velocity, inch/second**
Large bulldozer	87	**0.089**	83	0.0440
		Criteria		**0.2**

Market Place Road			**Distance** To northern commercial building	**50**
Equipment	**Approximate Velocity Level at 25 ft, VdB**	**Approximate RMS a Velocity at 25 ft, inch/second**	**Approximate Velocity Level, VdB**	**Approximate RMS Velocity, inch/second**
Vibratory Roller	94	0.21	88	0.07
		Criteria		**0.2**

Noise Monitoring

Noise monitoring Site No. 1






1-800-GET-FIT(NY

Noise monitoring Site No. 2





CNEL Calculation - Monitoring Site 1

CNEL
Adjusted

Hour	Leq(h)	Weight dBA	Weighted Noise dBA
0	75.2	10	85.2
1	75.1	10	85.1
2	75.2	10	85.2
3	76.3	10	86.3
4	78.4	10	88.4
5	80.6	10	90.6
6	78.6	10	88.6
7	76.1	0	76.1
8	77.5	0	77.5
9	79.2	0	79.2
10	80.5	0	80.5
11	80.4	0	80.4
12	80.0	0	80.0
13	80.0	0	80.0
14	79.4	0	79.4
15	79.2	0	79.2
16	78.9	0	78.9
17	78.7	0	78.7
18	77.8	0	77.8
19	78.0	4.77	82.8
20	77.9	4.77	82.7
21	78.2	4.77	83.0
22	76.6	10	86.6
23	76.2	10	86.2
		CNEL	**84.3**

at property line 30 feet from centerline
79.6

Monitoring Site 1 - Hourly Leq

Rec #	Date	Time	Maximum	Hourly Leq	Minimum
	9-Mar	11:00 AM	90	80	71
	9-Mar	12:00 PM	86	80	72
	9-Mar	1:00 PM	87	80	73
	9-Mar	2:00 PM	85	79	72
	9-Mar	3:00 PM	90	79	70
	9-Mar	4:00 PM	88	79	68
	9-Mar	5:00 PM	86	79	70
	9-Mar	6:00 PM	86	78	69
	9-Mar	7:00 PM	86	78	69
	9-Mar	8:00 PM	89	78	69
	9-Mar	9:00 PM	95	78	70
	9-Mar	10:00 PM	86	77	64
	9-Mar	11:00 PM	96	76	61
	10-Mar	12:00 AM	92	75	52
	10-Mar	1:00 AM	93	75	54
	10-Mar	2:00 AM	86	75	58
	10-Mar	3:00 AM	87	76	59
	10-Mar	4:00 AM	86	78	66
	10-Mar	5:00 AM	88	81	71
	10-Mar	6:00 AM	92	79	70
	10-Mar	7:00 AM	86	76	68
	10-Mar	8:00 AM	86	77	69
	10-Mar	9:00 AM	88	79	70
	10-Mar	10:00 AM	87	80	73

Description: The noise meter was placed on the eastern portion of the project site along the southern ridge approximately 135 feet from the centerline of SR-60.

NOISE MONITORING MEASUREMENT RECORD

Project #: CMP-02 | Serial # | Monitor: #1
Location: Site #1 | Date: 3/9/2011 | Calibrator:
Purpose of Monitoring: Noise for SR-60

Calibration (within 0.5 db) Before 114.1 After 114.1

Microphone Height 5ft

SLM Height 5ft

Wind Speed Average 1.5 Maximum 1.9

Wind Direction N→S

Relative Humidity 39

Temp. (F) 76.8

Measurement Summary

Start 10:40 AM
End 11:13 Am
Interval 1 min

Leq 78.4
Lmax 95.5 11:52Am 3-9
Lmin

Photo Log

No.	Description

Diagram

Notes:

CNEL Calculation - Monitoring Site 2

CNEL
Adjusted

Hour	Leq(h)	Weight dBA	Weighted Noise dBA
0	61.3	10	71.3
1	61.1	10	71.1
2	61.8	10	71.8
3	62.6	10	72.6
4	64.2	10	74.2
5	65.2	10	75.2
6	62.5	10	72.5
7	60.0	0	60.0
8	60.2	0	60.2
9	60.1	0	60.1
10	62.5	0	62.5
11	61.8	0	61.8
12	61.2	0	61.2
13	61.8	0	61.8
14	63.2	0	63.2
15	64.3	0	64.3
16	64.2	0	64.2
17	64.4	0	64.4
18	63.5	0	63.5
19	63.6	4.77	68.4
20	63.2	4.77	67.9
21	63.7	4.77	68.5
22	61.7	10	71.7
23	61.3	10	71.3
		CNEL	**69.4**

at property line 30 feet from centerline
64.9

Monitoring Site 2 - Hourly Leq

Rec #	Date	Time	Maximum	Hourly Leq	Minimum
	9-Mar	11:10 AM	71	62	55
	9-Mar	12:10 PM	70	61	55
	9-Mar	1:10 PM	72	62	56
	9-Mar	2:10 PM	70	63	59
	9-Mar	3:10 PM	74	64	58
	9-Mar	4:10 PM	69	64	60
	9-Mar	5:10 PM	72	64	60
	9-Mar	6:10 PM	69	63	58
	9-Mar	7:10 PM	75	64	59
	9-Mar	8:10 PM	74	63	58
	9-Mar	9:10 PM	84	64	54
	9-Mar	10:10 PM	70	62	54
	9-Mar	11:10 PM	78	61	51
	10-Mar	12:10 AM	80	61	47
	10-Mar	1:10 AM	79	61	54
	10-Mar	2:10 AM	70	62	54
	10-Mar	3:10 AM	72	63	55
	10-Mar	4:10 AM	70	64	57
	10-Mar	5:10 AM	72	65	60
	10-Mar	6:10 AM	71	63	56
	10-Mar	7:10 AM	69	60	55
	10-Mar	8:10 AM	75	60	54
	10-Mar	9:10 AM	67	60	55
	10-Mar	10:10 AM	71	63	58

Description: The noise meter was placed in the eastern portion of the project site along the northern ridgeline approximate 395 feet from the centerline of SR-60.

NOISE MONITORING MEASUREMENT RECORD

Project #: CMP-02 | Serial # | Monitor: SCM #2

Location: S/L #2 | Date: 3/9/2011 | Calibrator:

Purpose of Monitoring: Ambient noise

Calibration (within 0.5 db) Before 113.9 After 114.0

Microphone Height 5ft

SLM Height 5ft

Wind Speed Average 1.6 Maximum 3.1

Wind Direction N→S

Relative Humidity 36-5

Temp. (F) 83.9

Measurement Summary

Start 11:08 Am

End 11:20 Am

Interval 1 min

Leq 62.7

Lmax 84.0 @ 9:27pm - 3/9

Lmin

Diagram

Photo Log

No.	Description

Notes:

Berm Analysis

60 Freeway Traffic Volumes

CMP Station	Fwy Route	Post Mile	Location	Eastbound AM Peak Hour Demand	AM Peak Hour Capacity	AM Peak Hour D/C	AM Peak Hour LOS	Eastbound PM Peak Hour Demand	PM Peak Hour Capacity	PM Peak Hour D/C	PM Peak Hour LOS
2003 CMP LEVELS OF SERVICE [1]											
1028	SR 60	10.60	w/o Peck Rd	6,820	10,000	0.682	C	13,600	10,000	1.360	F(2)
2009 CALTRANS TRAFFIC VOLUMES [2]											
--	SR 60	10.23	w/o Peck Rd	5,780	10,000	0.578	C	8,220	10,000	0.822	D
Averaged for Year 2011 (corrected for Noise Monitoring)											
--	SR 60	10.23	w/o Peck Rd	6,536	10,000			11,336	12,000		
OPENING YEAR 2015 BASELINE VOLUMES											
1028	SR 60	10.60	w/o Peck Rd	7,293	10,000	0.729	C	14,453	10,000	1.445	F(2)
OPENING YEAR 2015 BASELINE PLUS PROJECT VOLUMES											
1028	SR 60	10.23	w/o Peck Rd	7,338	10,000	0.734	C	14,555	10,000	1.456	F(3)
BUILDOUT YEAR 2025 BASELINE VOLUMES											
1028	SR 60	10.60	w/o Peck Rd	7,975	10,000	0.798	D	15,813	10,000	1.581	F(3)
BUILDOUT YEAR 2025 BASELINE PLUS PROJECT VOLUMES											
1028	SR 60	10.23	w/o Peck Rd	8,020	10,000	0.802	D	15,915	10,000	1.592	F(3)

Traffic Growth from 2011 to 2025

1028	SR 60	10.23	w/o Peck Rd	123%	morning peak is highest monitored	140%

Initial SPL	0	
Initial number of noise sources	6,536	
New number of noise sources	8,020	0.23
Adjusted SPL	0.9	

2000 MPTP Berm Modification Results	65.0
2011 Noise Monitoring with Berm Mod	66.0
SR-60 Cumulative Traffic Noise Increase	0.9
	66.9

BERM ANALYSIS

	dBA CNEL	Feet	dBA CNEL
SR-60	69.4	395	
Residents	65.5	715	
highest Peak	65.2	395	
Residents	61.3	715	

Parking Lots

Parking Lot Noise

Site	Leq	SEL	Lmax	Lmin	Peak	Uwpk	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)	Measurement Distance
UCIParkingStructure	61.7	92.5	79.1	50.5	93.1	97.6	70.9	64.4	61.3	59.8	57.5	54.1	42

Source: Noise monitoring of sports activities taken at Miles Square Park in Fountain Valley California. Noise monitoring of noise sources common in parking lots and parking structures obtained from noise monitoring conducted at the University of California, Irvine.

		Distance to Property Line	Leq	SEL	Lmax	Lmin	Peak	Uwpk	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)
Residences to the North	Parking 1	430	41.5	72.3	58.9	30.3	72.9	77.4	50.7	44.2	41.1	39.6	37.3	33.9

Traffic Modeling

Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Project Access 2015

Roadway Segment		Speed	24-hour Traffic Volume			Distance to CNEL from Roadway Centerline													
						Existing				Future No Project				Future With Project				Change	Change
			Existing	2015 Future Without Project	2015 Future With Project	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	From Existing	due to Project
Market Place Drive	west of Paramount Boulevard	25	2,170	2,250	20,983	56.8	31	14	7	57.0	32	15	7	66.7	140	65	30	9.9	9.7
Assumptions:																			9.7

Federal Highway Administration Highway Traffic Noise Prediction Model, December, 1978. Baseline California vehicle noise levels from Caltrans, TAN 95-03, 1995

Simplified to 2 lanes 6.1 meters= 20.0

future 6.1 meters= 20.0

Noise path decay parameter for hard site

24-hour distribution of traffic volumes based Analysis of L.A. County 24-hour traffic counts for selected arterial streets

Day	85%	LDA	97%
Evening	15%	MDT	2%
Night	0%	HDT	1%

Site parameter: 0.0

HALFSEP 1/2 lane separation 6.1

HALFSEPFUT 1/2 lane separation (future) 6.1

Lane separation: consider moving lanes only

2 ___ ___
+ +

4 ___ ___ ___ ___
+ <--------> +

6 ___ ___ ___ ___ ___ ___
+ <----------> +

8 + ___ ___ ___ ___ ___ ___ ___ ___
+ <----------> +

California base noise levels:

Autos 5.2+38.8 Log10 (speed, mi/hr) = -2.8 + 38.8 Log10 (speed, km/hr)

Light trucks: 35.3 + 25.6 Log10 (speed, mi/hr) = 30 + 25.6 Log10 (speed, km/hr)

Heavy trucks:
- 25-31 mi/hr: 51.9 + 19.2 Log10 (speed, mi/hr) = 47.9 + 19.2 Log10 (speed, km/hr)
- 35-65 mi/hr: 50.4 + 19.2 Log10 (speed, mi/hr) = 46.4 + 19.2 Log10 (speed, km/hr)
- 31-35 mi/hr: straight line interpolation between above two curves

Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Year 2015

Roadway Segment		Speed	24-hour Traffic Volume			Distance to CNEL from Roadway Centerline												Change From Existing	Change due to Project
						Existing				Future No Project				Future With Project					
			Existing	2015 Future Without Project	2015 Future With Project	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL		
Greenwood Avenue	east of Potrero Grande Drive	25	150	150	1,136	50.0	11	5	2	50.0	11	5	2	58.8	41	19	9	8.8	8.8
Paramount	btwn Montebello and SR-60 EB Ramps	40	23,540	27,440	28,820	74.1	433	201	93	74.7	479	222	103	74.9	495	230	107	0.9	0.2
	btwn SR-60 EB Ramps and SR-60 Ramps	40	27,750	30,850	36,988	74.8	483	224	104	75.2	518	241	112	76.0	585	271	126	1.2	0.8
	btwn SR-60 WB Ramps and Arroyo	40	18,130	19,760	21,140	72.9	364	169	78	73.3	385	179	83	73.6	403	187	87	0.7	0.3
	btwn Arroyo and San Gabriel	40	13,550	14,990	16,370	71.7	299	139	65	72.1	320	149	69	72.5	340	158	73	0.8	0.4
	north of San Gabriel	40	14,800	15,650	16,636	72.0	318	147	68	72.3	330	153	71	72.6	343	159	74	0.5	0.3
Arroyo	west of Neil Armstrong	35	6,100	6,340	6,340	67.2	151	70	33	67.4	155	72	33	67.4	155	72	33	0.2	0.0
	btwn Neil Armstrong and Paramount	35	6,400	6,660	6,660	67.4	156	72	34	67.6	160	74	35	67.6	160	74	35	0.2	0.0
	east of Paramount	25	2,870	2,970	2,970	62.8	77	36	17	63.0	79	37	17	63.0	79	37	17	0.1	0.0
San Gabriel	west of Paramount	40	13,590	14,270	14,270	71.7	300	139	65	71.9	310	144	67	71.9	310	144	67	0.2	0.0
	btwn Paramount and Town Center Dr	40	22,040	23,280	23,477	73.8	414	192	89	74.0	430	199	93	74.0	432	200	93	0.3	0.0
	btwn Town Center and Rosemead	40	21,400	22,540	22,737	73.6	406	188	87	73.9	420	195	91	73.9	423	196	91	0.3	0.0
Town Center Dr	btwn Paramount and SR-60 EB Ramps	25	5,110	5,290	5,290	65.3	113	52	24	65.5	116	54	25	65.5	116	54	25	0.2	0.0
	btwn SR-60 EB Ramps and San Gabriel	25	18,420	19,290	19,389	70.9	265	123	57	71.1	274	127	59	71.1	275	128	59	0.2	0.0
Montebello	btwn Town Center and Paramount	35	28,590	31,270	31,467	73.9	423	197	91	74.3	450	209	97	74.3	451	210	97	0.4	0.0
	btwn Lincoln and Beverly	35	23,110	24,700	25,686	73.0	367	171	79	73.3	384	178	83	73.5	394	183	85	0.5	0.2
Potrero Grande	btwn Pomona and Markland	45	8,520	8,890	11,429	70.6	253	118	55	70.8	261	121	56	71.8	308	143	66	1.3	1.1
	btwn Markland and Greenwood	45	15,470	16,150	22,608	73.2	377	175	81	73.3	388	180	84	74.8	485	225	105	1.6	1.5
	east of Greenwood	45	15,170	15,810	16,304	73.1	372	173	80	73.3	382	177	82	73.4	390	181	84	0.3	0.1
Markland	btwn Via Campo and Potrero Grande	25	12,070	12,590	16,016	69.0	200	93	43	69.2	206	96	44	70.3	242	112	52	1.2	1.0
Pomona	btwn Garfield and Wilcox	40	16,620	17,340	19,091	72.5	343	159	74	72.7	353	164	76	73.1	376	175	81	0.6	0.4
	east of Wilcox	40	16,550	17,280	19,819	72.5	342	159	74	72.7	352	163	76	73.3	386	179	83	0.8	0.6
Via Campo	btwn Garfield and Wilcox	35	20,230	21,080	22,831	72.4	336	156	72	72.6	346	160	74	72.9	364	169	79	0.5	0.3
	btwn Wilcox and Markland	35	18,390	19,200	21,739	72.0	316	146	68	72.2	325	151	70	72.7	353	164	76	0.7	0.5
	east of Markland	35	15,620	16,300	16,793	71.3	283	131	61	71.5	291	135	63	71.6	297	138	64	0.3	0.1
Garfield Avenue	north of Pomona	35	20,170	21,040	22,618	72.4	336	156	72	72.6	345	160	74	72.9	362	168	78	0.5	0.3
	btwn Pomona and Via Campo	35	24,400	25,410	26,495	73.2	381	177	82	73.4	391	182	84	73.6	402	187	87	0.4	0.2
	south of Via Campo	35	30,370	31,590	32,182	74.2	441	205	95	74.4	453	210	98	74.4	458	213	99	0.3	0.1
Wilcox Avenue	north of Pomona	25	7,660	7,990	8,976	67.1	148	69	32	67.2	152	71	33	67.8	164	76	35	0.7	0.5
	btwn Pomona and Via Campo	35	14,250	14,840	15,629	70.9	266	124	57	71.1	273	127	59	71.3	283	131	61	0.4	0.2
	south of Via Campo	35	19,870	20,680	21,272	72.3	332	154	72	72.5	341	158	74	72.6	348	161	75	0.3	0.1

Assumptions: 8.8

Federal Highway Administration Highway Traffic Noise Prediction Model, December, 1978. Baseline California vehicle noise levels from Caltrans, TAN 95-03, 1995

	Simplified to 2 lanes	6.1	meters=	20.0
	future	6.1	meters=	20.0
	Noise path decay parameter for hard site			
	24-hour distribution of traffic volumes based on:	Analysis of L.A. County 24-hour traffic counts for selected arterial streets		
			Day 70%	LDA 92%
			Evening 15%	MDT 3%
	Site parameter:	0.0	Night 15%	HDT 5%
HALFSEP	1/2 lane separation		6.1	
HALFSEPFUT	1/2 lane separation (future)		6.1	

Lane separation:
consider moving lanes only

2 ___ ___
+ +

4 ___ ___ ___ ___
+ <--------> +

6 ___ ___ ___ ___ ___ ___
+ <------------> +

8 + ___ ___ ___ ___ ___ ___ ___ ___
+ <----------------> +

California base noise levels:

Autos	5.2+38.8 Log10 (speed, mi/hr) = -2.8 + 38.8 Log10 (speed, km/hr)	
Light trucks:	35.3 + 25.6 Log10 (speed, mi/hr) = 30 + 25.6 Log10 (speed, km/hr)	
Heavy trucks:	25-31 mi/hr:	51.9 + 19.2 Log10 (speed, mi/hr) = 47.9 + 19.2 Log10 (speed, km/hr)
	35-65 mi/hr:	50.4 + 19.2 Log10 (speed, mi/hr) = 46.4 + 19.2 Log10 (speed, km/hr)
	31-35 mi/hr:	straight line interpolation between above two curves

Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Project Access 2025

Roadway Segment		Speed	24-hour Traffic Volume			Distance to CNEL from Roadway Centerline												Change From Existing	Change due to Project
						Existing				Future No Project				Future With Project					
			Existing	2015 Future Without Project	2015 Future With Project	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL		
Market Place Drive	west of Paramount Boulevard	25	2,170	2,390	21,123	56.8	31	14	7	57.3	33	15	7	66.7	140	65	30	9.9	9.5

Assumptions: 9.5

Federal Highway Administration Highway Traffic Noise Prediction Model, December, 1978. Baseline California vehicle noise levels from Caltrans, TAN 95-03, 1995

Simplified to 2 lanes 6.1 meters= 20.0

future 6.1 meters= 20.0

Noise path decay parameter for hard site

24-hour distribution of traffic volume: Analysis of L.A. County 24-hour traffic counts for selected arterial streets

Day 85% LDA 97%

Evening 15% MDT 2%

Night 0% HDT 1%

Site parameter: 0.0

HALFSEP 1/2 lane separation 6.1

HALFSEPFUT 1/2 lane separation (future) 6.1

Lane separation: consider moving lanes only

2 ___ ___
+ +

4 ___ ___ ___ ___
+ <--------> +

6 ___ ___ ___ ___ ___ ___
+ <----------> +

8 + ___ ___ ___ ___ ___ ___ ___ ___
+ <----------> +

California base noise levels:

Autos 5.2+38.8 Log10 (speed, mi/hr) = -2.8 + 38.8 Log10 (speed, km/hr)

Light trucks: 35.3 + 25.6 Log10 (speed, mi/hr) = 30 + 25.6 Log10 (speed, km/hr)

Heavy trucks: 25-31 mi/hr: 51.9 + 19.2 Log10 (speed, mi/hr) = 47.9 + 19.2 Log10 (speed, km/hr)

35-65 mi/hr: 50.4 + 19.2 Log10 (speed, mi/hr) = 46.4 + 19.2 Log10 (speed, km/hr)

31-35 mi/hr: straight line interpolation between above two curves

Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Year 2025

Roadway Segment		Speed	24-hour Traffic Volume			Distance to CNEL from Roadway Centerline												Change From Existing	Change due to Project
						Existing				Future No Project				Future With Project					
			Existing	2025 Future Without Project	2025 Future With Project	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL		
Market Place Drive	west of Paramount Blvd					4.8	0	0	0	4.8	0	0	0	4.8	0	0	0	0.0	0.0
Greenwood Avenue	east of Potrero Grande Drive	25	150	160	1,146	50.0	11	5	2	50.3	11	5	2	58.8	42	19	9	8.8	8.6
Paramount	btwn Montebello and SR-60 EB Ramps	40	23,540	30,780	32,160	74.1	433	201	93	75.2	517	240	111	75.4	533	247	115	1.4	0.2
	btwn SR-60 EB Ramps and SR-60 Ram	40	27,750	33,890	40,028	74.8	483	224	104	75.6	552	256	119	76.4	616	286	133	1.6	0.7
	btwn SR-60 WB Ramps and Arroyo	40	18,130	21,700	23,080	72.9	364	169	78	73.7	410	190	88	74.0	427	198	92	1.0	0.3
	btwn Arroyo and San Gabriel	40	13,550	16,580	17,960	71.7	299	139	65	72.5	343	159	74	72.9	361	168	78	1.2	0.3
	north of San Gabriel	40	14,800	17,070	18,056	72.0	318	147	68	72.7	349	162	75	72.9	363	168	78	0.9	0.2
Arroyo	west of Neil Armstrong	35	6,100	6,830	6,830	67.2	151	70	33	67.7	163	76	35	67.7	163	76	35	0.5	0.0
	btwn Neil Armstrong and Paramount	35	6,400	7,170	7,170	67.4	156	72	34	67.9	168	78	36	67.9	168	78	36	0.5	0.0
	east of Paramount	25	2,870	3,200	3,200	62.8	77	36	17	63.3	83	38	18	63.3	83	38	18	0.5	0.0
San Gabriel	west of Paramount	40	13,590	15,370	15,370	71.7	300	139	65	72.2	326	151	70	72.2	326	151	70	0.5	0.0
	btwn Paramount and Town Center Dr	40	22,040	25,570	25,767	73.8	414	192	89	74.4	457	212	99	74.5	460	213	99	0.7	0.0
	btwn Town Center and Rosemead	40	21,400	24,910	25,107	73.6	406	188	87	74.3	449	209	97	74.3	452	210	97	0.7	0.0
Town Center Dr	btwn Paramount and SR-60 EB Ramps	25	5,110	5,700	5,700	65.3	113	52	24	65.8	121	56	26	65.8	121	56	26	0.5	0.0
	btwn SR-60 EB Ramps and San Gabriel	25	18,420	20,950	21,049	70.9	265	123	57	71.4	289	134	62	71.5	290	135	63	0.6	0.0
Montebello	btwn Town Center and Paramount	35	28,590	34,010	34,207	73.9	423	197	91	74.7	475	221	102	74.7	477	222	103	0.8	0.0
	btwn Lincoln and Beverly	35	23,110	27,010	27,996	73.0	367	171	79	73.7	408	189	88	73.8	418	194	90	0.8	0.2
Potrero Grande	btwn Pomona and Markland	45	8,520	9,570	12,109	70.6	253	118	55	71.1	274	127	59	72.1	320	149	69	1.5	1.0
	btwn Markland and Greenwood	45	15,470	17,400	23,858	73.2	377	175	81	73.7	408	189	88	75.0	503	234	108	1.9	1.4
	east of Greenwood	45	15,170	17,040	17,534	73.1	372	173	80	73.6	402	187	87	73.7	410	190	88	0.6	0.1
Markland	btwn Via Campo and Potrero Grande	25	12,070	13,550	16,976	69.0	200	93	43	69.5	216	100	47	70.5	251	117	54	1.5	1.0
Pomona	btwn Garfield and Wilcox	40	16,620	18,670	20,421	72.5	343	159	74	73.1	371	172	80	73.4	394	183	85	0.9	0.4
	east of Wilcox	40	16,550	18,610	21,149	72.5	342	159	74	73.0	370	172	80	73.6	403	187	87	1.1	0.6
Via Campo	btwn Garfield and Wilcox	35	20,230	22,710	24,461	72.4	336	156	72	72.9	363	169	78	73.2	382	177	82	0.8	0.3
	btwn Wilcox and Markland	35	18,390	20,670	23,209	72.0	316	146	68	72.5	341	158	73	73.0	368	171	79	1.0	0.5
	east of Markland	35	15,620	17,540	18,033	71.3	283	131	61	71.8	306	142	66	71.9	311	145	67	0.6	0.1
Garfield Avenue	north of Pomona	35	20,170	22,650	24,228	72.4	336	156	72	72.9	363	168	78	73.2	379	176	82	0.8	0.3
	btwn Pomona and Via Campo	35	24,400	27,380	28,465	73.2	381	177	82	73.7	411	191	89	73.9	422	196	91	0.7	0.2
	south of Via Campo	35	30,370	34,020	34,612	74.2	441	205	95	74.7	475	221	102	74.7	481	223	104	0.6	0.1
Wilcox Avenue	north of Pomona	25	7,660	8,610	9,596	67.1	148	69	32	67.6	160	74	34	68.0	172	80	37	1.0	0.5
	btwn Pomona and Via Campo	35	14,250	15,980	16,769	70.9	266	124	57	71.4	287	133	62	71.6	297	138	64	0.7	0.2
	south of Via Campo	35	19,870	22,280	22,872	72.3	332	154	72	72.8	359	166	77	72.9	365	169	79	0.6	0.1

Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Year 2025

Roadway Segment	Speed	24-hour Traffic Volume: Existing	2025 Future Without Project	2025 Future With Project	Distance to CNEL from Roadway Centerline: Existing 50.0 Feet	Existing 60 CNEL	Existing 65 CNEL	Existing 70 CNEL	Future No Project 50.0 Feet	Future No Project 60 CNEL	Future No Project 65 CNEL	Future No Project 70 CNEL	Future With Project 50.0 Feet	Future With Project 60 CNEL	Future With Project 65 CNEL	Future With Project 70 CNEL	Change From Existing	Change due to Project
Assumptions:																		8.6

Federal Highway Administration Highway Traffic Noise Prediction Model, December, 1978. Baseline California vehicle noise levels from Caltrans, TAN 95-03, 1995

	Simplified to 2 lanes	6.1	meters=	20.0
	future	6.1	meters=	20.0

Noise path decay parameter for hard site 4.8 min

74.8 max

24-hour distribution of traffic volumes based on Analysis of L.A. County 24-hour traffic counts for selected arterial streets

Day	70%	LDA	92%
Evening	15%	MDT	3%
Night	15%	HDT	5%

Site parameter: 0.0

HALFSEP	1/2 lane separation	6.1
HALFSEPFUT	1/2 lane separation (future)	6.1

Lane separation: consider moving lanes only

2 ___ ___
+ +

4 ___ ___ ___ ___
+ <--------> +

6 ___ ___ ___ ___ ___ ___
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8 + ___ ___ ___ ___ ___ ___ ___ ___
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California base noise levels:

Autos	5.2+38.8 Log10 (speed, mi/hr) = -2.8 + 38.8 Log10 (speed, km/hr)	
Light trucks:	35.3 + 25.6 Log10 (speed, mi/hr) = 30 + 25.6 Log10 (speed, km/hr)	
Heavy trucks:	25-31 mi/hr:	51.9 + 19.2 Log10 (speed, mi/hr) = 47.9 + 19.2 Log10 (speed, km/hr)
	35-65 mi/hr:	50.4 + 19.2 Log10 (speed, mi/hr) = 46.4 + 19.2 Log10 (speed, km/hr)
	31-35 mi/hr:	straight line interpolation between above two curves