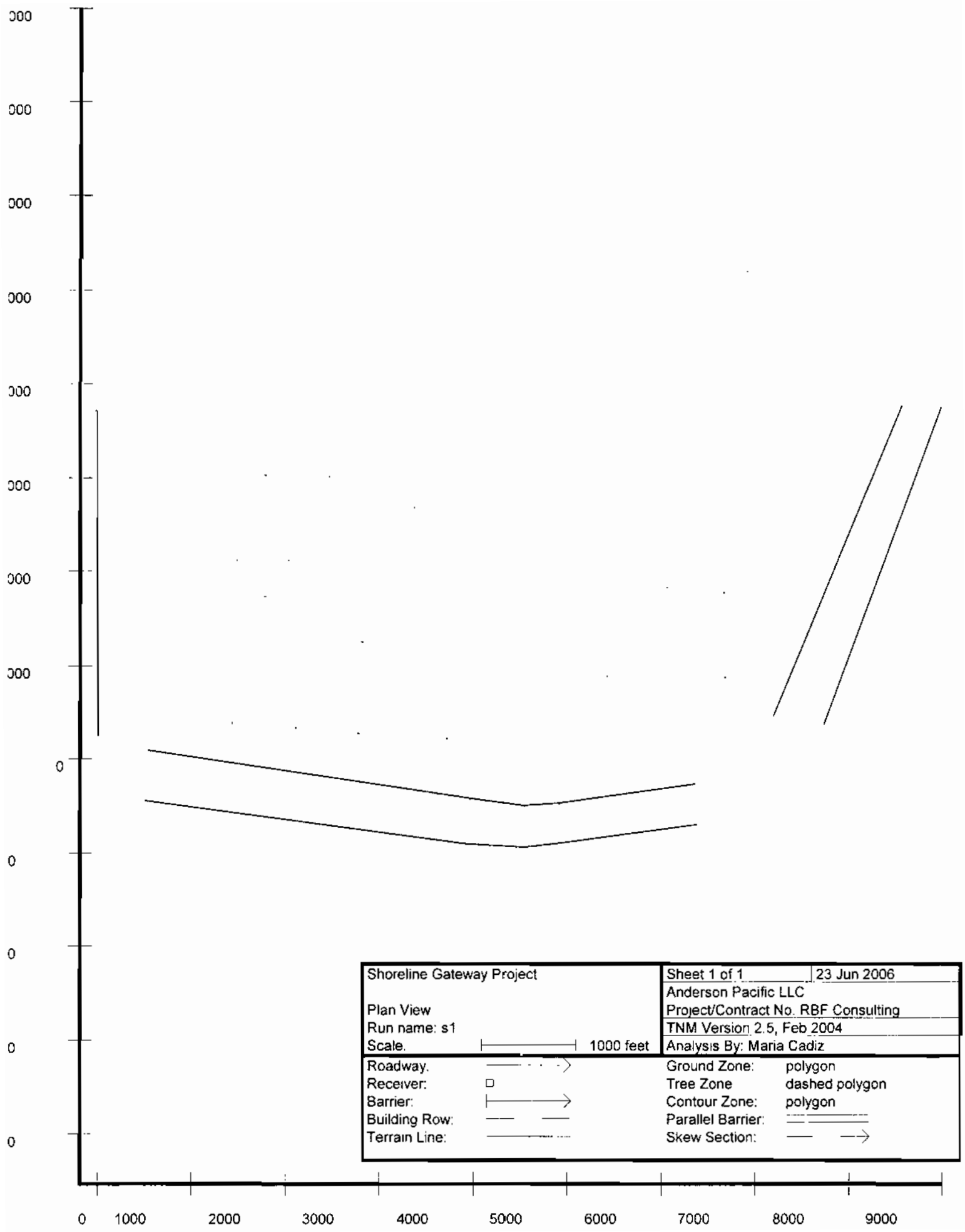
15.5 Noise Data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Shoreline Gateway Project
Plan View
Run name: s1
Scale.
1000 feet
Sheet 1 of 1
23 Jun 2006
Anderson Pacific LLC
Project/Contract No. RBF Consulting
TNM Version 2.5, Feb 2004
Analysis By: Maria Cadiz
Roadway.
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project

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

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Alamitos SB	15.0	point1	1	8,549.1	3,773.6	0.00				Average	
		point2	2	7,180.7	468.9	0.00					
Alamitos NB	15.0	point3	3	7,710.0	378.5	0.00	Signal	0.00	100	Average	
		point4	4	8,962.2	3,760.7	0.00					
Ocean EB	30.0	point5	5	6,354.5	-254.1	0.00	Signal	0.00	100	Average	
		point6	6	4,895.8	-460.6	0.00				Average	
		point7	7	4,521.4	-486.4	0.00				Average	
		point8	8	3,953.4	-409.0	0.00				Average	
		point9	9	532.4	107.4	0.00					
Ocean WB	30.0	point10	10	493.7	-434.8	0.00	Signal	0.00	100	Average	
		point11	11	3,888.8	-886.6	0.00				Average	
		point12	12	4,534.3	-925.3	0.00				Average	
		point13	13	4,960.3	-873.7	0.00				Average	
		point14	14	6,367.4	-680.1	0.00					
Atlantic NB	15.0	point15	15	-9.8	262.3	0.00	Signal	0.00	100	Average	
		point16	16	-22.7	3,722.0	0.00					
Atlantic SB	15.0	point17	17	-487.4	3,786.6	0.00				Average	
		point18	18	-487.4	223.6	0.00					

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project
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 Ldn	No Barrier Ldn Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated Ldn	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Ocean 1	11	1	0.0	62.9	66	62.9	10	—	62.9	0.0	8	-8.0
Ocean 2	12	1	0.0	62.6	66	62.6	10	—	62.6	0.0	8	-8.0
Ocean 3	13	1	0.0	62.3	66	62.3	10	—	62.3	0.0	8	-3.0
Ocean 4	14	1	0.0	61.5	66	61.5	10	—	61.5	0.0	8	-8.0
Alley 5	15	1	0.0	51.5	66	51.5	10	—	51.5	0.0	8	-8.0
Alley 6	16	1	0.0	51.6	66	51.6	10	—	51.6	0.0	8	-8.0
Alley 7	17	1	0.0	50.8	66	50.8	10	—	50.8	0.0	8	-8.0
Alley 8	18	1	0.0	51.1	66	51.1	10	—	51.1	0.0	8	-8.0
OceanB 9	19	1	0.0	53.6	66	53.6	10	—	53.6	0.0	8	-8.0
OceanB 10	20	1	0.0	53.4	66	53.4	10	—	53.4	0.0	8	-8.0
OceanB 11	21	1	0.0	53.2	66	53.2	10	—	53.2	0.0	8	-8.0
Rec 12	22	1	0.0	54.7	66	54.7	10	—	54.7	0.0	8	-8.0
Rec 13	23	1	0.0	56.4	66	56.4	10	—	56.4	0.0	8	-8.0
Medio 14	24	1	0.0	54.2	66	54.2	10	—	54.2	0.0	8	-8.0
Ocean 15	25	1	0.0	57.5	66	57.5	10	—	57.5	0.0	8	-8.0
Ocean 16	26	1	0.0	62.8	66	62.8	10	—	62.8	0.0	8	-8.0
Alamitos 17	27	1	0.0	58.1	66	58.1	10	—	58.1	0.0	8	-8.0
Alamitos 18	28	1	0.0	55.9	66	55.9	10	—	55.9	0.0	8	-8.0
Alamitos 19	29	1	0.0	54.5	66	54.5	10	—	54.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0

All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project
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 Ldn	No Barrier Ldn Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated Ldn	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Ocean 1	11	1	0.0	63.1	66	63.1	10	—	63.1	0.0	8	-8.0
Ocean 2	12	1	0.0	62.8	66	62.8	10	—	62.8	0.0	8	-8.0
Ocean 3	13	1	0.0	62.5	66	62.5	10	—	62.5	0.0	8	-8.0
Ocean 4	14	1	0.0	61.7	66	61.7	10	—	61.7	0.0	8	-8.0
Alley 5	15	1	0.0	51.6	66	51.6	10	—	51.6	0.0	8	-8.0
Alley 6	16	1	0.0	51.6	66	51.6	10	—	51.6	0.0	8	-8.0
Alley 7	17	1	0.0	50.8	66	50.8	10	—	50.8	0.0	8	-8.0
Alley 8	18	1	0.0	51.1	66	51.1	10	—	51.1	0.0	8	-8.0
OceanB 9	19	1	0.0	53.6	66	53.6	10	—	53.6	0.0	8	-8.0
OceanB 10	20	1	0.0	53.4	66	53.4	10	—	53.4	0.0	8	-8.0
OceanB 11	21	1	0.0	53.3	66	53.3	10	—	53.3	0.0	8	-8.0
Rec 12	22	1	0.0	54.8	66	54.8	10	—	54.8	0.0	8	-8.0
Rec 13	23	1	0.0	56.5	66	56.5	10	—	56.5	0.0	8	-8.0
Medio 14	24	1	0.0	54.3	66	54.3	10	—	54.3	0.0	8	-8.0
Ocean 15	25	1	0.0	57.6	66	57.6	10	—	57.6	0.0	8	-8.0
Ocean 16	26	1	0.0	62.9	66	62.9	10	—	62.9	0.0	8	-8.0
Alamitos 17	27	1	0.0	58.2	66	58.2	10	—	58.2	0.0	8	-8.0
Alamitos 18	28	1	0.0	56.0	66	56.0	10	—	56.0	0.0	8	-8.0
Alamitos 19	29	1	0.0	54.6	66	54.6	10	—	54.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0

All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project
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 Ldn	No Barrier Ldn Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated Ldn	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Ocean 1	11	1	0.0	63.0	66	63.0	10	---	63.0	0.0	8	-8.0
Ocean 2	12	1	0.0	62.7	66	62.7	10	---	62.7	0.0	8	-8.0
Ocean 3	13	1	0.0	62.3	66	62.3	10	---	62.3	0.0	8	-8.0
Ocean 4	14	1	0.0	61.6	66	61.6	10	---	61.6	0.0	8	-8.0
Alley 5	15	1	0.0	51.5	66	51.5	10	---	51.5	0.0	8	-8.0
Alley 6	16	1	0.0	51.6	66	51.6	10	---	51.6	0.0	8	-8.0
Alley 7	17	1	0.0	50.8	66	50.8	10	---	50.8	0.0	8	-8.0
Alley 8	18	1	0.0	51.1	66	51.1	10	---	51.1	0.0	8	-8.0
OceanB 9	19	1	0.0	53.6	66	53.6	10	---	53.6	0.0	8	-8.0
OceanB 10	20	1	0.0	53.4	66	53.4	10	---	53.4	0.0	8	-8.0
OceanB 11	21	1	0.0	53.3	66	53.3	10	---	53.3	0.0	8	-8.0
Rec 12	22	1	0.0	54.7	66	54.7	10	---	54.7	0.0	8	-8.0
Rec 13	23	1	0.0	56.4	66	56.4	10	---	56.4	0.0	8	-8.0
Medio 14	24	1	0.0	54.3	66	54.3	10	---	54.3	0.0	8	-8.0
Ocean 15	25	1	0.0	57.6	66	57.6	10	---	57.6	0.0	8	-8.0
Ocean 16	26	1	0.0	62.9	66	62.9	10	---	62.9	0.0	8	-8.0
Alamitos 17	27	1	0.0	58.2	66	58.2	10	---	58.2	0.0	8	-8.0
Alamitos 18	28	1	0.0	55.9	66	55.9	10	---	55.9	0.0	8	-8.0
Alamitos 19	29	1	0.0	54.6	66	54.6	10	---	54.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0

All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project
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 Ldn	No Barrier Ldn Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated Ldn	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Ocean 1	11	1	0.0	63.1	66	63.1	10	—	63.1	0.0	8	-8.0
Ocean 2	12	1	0.0	62.8	66	62.8	10	—	62.8	0.0	8	-8.0
Ocean 3	13	1	0.0	62.5	66	62.5	10	—	62.5	0.0	8	-8.0
Ocean 4	14	1	0.0	61.7	66	61.7	10	—	61.7	0.0	8	-8.0
Alley 5	15	1	0.0	51.6	66	51.6	10	—	51.6	0.0	8	-8.0
Alley 6	16	1	0.0	51.6	66	51.6	10	—	51.6	0.0	8	-8.0
Alley 7	17	1	0.0	50.8	66	50.8	10	—	50.8	0.0	8	-8.0
Alley 8	18	1	0.0	51.1	66	51.1	10	—	51.1	0.0	8	-8.0
OceanB 9	19	1	0.0	53.6	66	53.6	10	—	53.6	0.0	8	-8.0
OceanB 10	20	1	0.0	53.4	66	53.4	10	—	53.4	0.0	8	-8.0
OceanB 11	21	1	0.0	53.3	66	53.3	10	—	53.3	0.0	8	-8.0
Rec 12	22	1	0.0	54.8	66	54.8	10	—	54.8	0.0	8	-8.0
Rec 13	23	1	0.0	56.5	66	56.5	10	—	56.5	0.0	8	-8.0
Medio 14	24	1	0.0	54.3	66	54.3	10	—	54.3	0.0	8	-8.0
Ocean 15	25	1	0.0	57.6	66	57.6	10	—	57.6	0.0	8	-8.0
Ocean 16	26	1	0.0	62.9	66	62.9	10	—	62.9	0.0	8	-8.0
Alamitos 17	27	1	0.0	58.2	66	58.2	10	—	58.2	0.0	8	-8.0
Alamitos 18	28	1	0.0	56.0	66	56.0	10	—	56.0	0.0	8	-8.0
Alamitos 19	29	1	0.0	54.6	66	54.6	10	—	54.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0

All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing Ldn	Impact Criteria Ldn	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Ocean 1	11	1	1,423.2	391.4	0.00	4.92	0.00	66	10.0	8.0	Y
Ocean 2	12	1	2,094.4	339.8	0.00	4.92	0.00	66	10.0	8.0	Y
Ocean 3	13	1	2,765.7	288.1	0.00	4.92	0.00	66	10.0	8.0	Y
Ocean 4	14	1	3,708.1	236.5	0.00	4.92	0.00	66	10.0	8.0	Y
Alley 5	15	1	4,043.7	2,702.2	0.00	4.92	0.00	66	10.0	8.0	Y
Alley 6	16	1	3,359.5	2,689.3	0.00	4.92	0.00	66	10.0	8.0	Y
Alley 7	17	1	2,455.9	3,024.9	0.00	4.92	0.00	66	10.0	8.0	Y
Alley 8	18	1	1,771.7	3,037.8	0.00	4.92	0.00	66	10.0	8.0	Y
OceanB 9	19	1	1,474.8	2,134.2	0.00	4.92	0.00	66	10.0	8.0	Y
OceanB 10	20	1	2,017.0	2,134.2	0.00	4.92	0.00	66	10.0	8.0	Y
OceanB 11	21	1	2,623.7	2,134.2	0.00	4.92	0.00	66	10.0	8.0	Y
Rec 12	22	1	1,771.7	1,746.9	0.00	4.92	0.00	66	10.0	8.0	Y
Rec 13	23	1	2,804.4	1,269.2	0.00	4.92	0.00	66	10.0	8.0	Y
Medio 14	24	1	5,489.6	1,785.6	0.00	4.92	0.00	66	10.0	8.0	Y
Ocean 15	25	1	5,412.1	894.9	0.00	4.92	0.00	66	10.0	8.0	Y
Ocean 16	26	1	6,057.6	184.9	0.00	4.92	0.00	66	10.0	8.0	Y
Alamitos 17	27	1	6,664.3	882.0	0.00	4.92	0.00	66	10.0	8.0	Y
Alamitos 18	28	1	6,651.4	1,785.6	0.00	4.92	0.00	66	10.0	8.0	Y
Alamitos 19	29	1	6,044.7	1,837.2	0.00	4.92	0.00	66	10.0	8.0	Y

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5

INPUT: TRAFFIC FOR Ldn
PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project

Roadway	Points		Segment																	
Name	Name	No.	ADT	Autos			MTrucks			HTrucks			Buses			Motorcycles			
				%D	%N	S	%D	%N	S	%D	%N	S	%D	%N	S	%D	%N	S	
			veh/24hrs	%	%	mph	%	%	mph	%	%	mph	%	%	mph	%	%	mph	
Alamitos SB	point1	1	7268	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point2	2																
Alamitos NB	point3	3	7268	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point4	4																
Ocean EB	point5	5	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point6	6	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point7	7	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point8	8	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point9	9																
Ocean WB	point10	10	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point11	11	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point12	12	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point13	13	18100	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point14	14																
Atlantic NB	point15	15	2580	97	98	40	2	1	40	1	1	40	0	0	0	0	0	0
	point16	16																
Atlantic SB	point17	17	2580	97	98	30	2	1	30	1	1	30	0	0	0	0	0	0
	point18	18																

Anderson Pacific LLC
Maria Cadiz

23 June 2006
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: RBF Consulting
RUN: Shoreline Gateway Project
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 Ldn	No Barrier Ldn Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated Ldn	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Ocean 1	11	1	0.0	62.8	66	62.8	10	—	62.8	0.0	8	-8.0
Ocean 2	12	1	0.0	62.6	66	62.6	10	—	62.6	0.0	8	-8.0
Ocean 3	13	1	0.0	62.2	66	62.2	10	—	62.2	0.0	8	-8.0
Ocean 4	14	1	0.0	61.5	66	61.5	10	—	61.5	0.0	8	-8.0
Alley 5	15	1	0.0	51.5	66	51.5	10	—	51.5	0.0	8	-8.0
Alley 6	16	1	0.0	51.5	66	51.5	10	—	51.5	0.0	8	-8.0
Alley 7	17	1	0.0	50.8	66	50.8	10	—	50.8	0.0	8	-8.0
Alley 8	18	1	0.0	51.1	66	51.1	10	—	51.1	0.0	8	-8.0
OceanB 9	19	1	0.0	53.5	66	53.5	10	—	53.5	0.0	8	-8.0
OceanB 10	20	1	0.0	53.3	66	53.3	10	—	53.3	0.0	8	-8.0
OceanB 11	21	1	0.0	53.2	66	53.2	10	—	53.2	0.0	8	-8.0
Rec 12	22	1	0.0	54.7	66	54.7	10	—	54.7	0.0	8	-8.0
Rec 13	23	1	0.0	56.3	66	56.3	10	—	56.3	0.0	8	-8.0
Medio 14	24	1	0.0	54.2	66	54.2	10	—	54.2	0.0	8	-8.0
Ocean 15	25	1	0.0	57.5	66	57.5	10	—	57.5	0.0	8	-8.0
Ocean 16	26	1	0.0	62.8	66	62.8	10	—	62.8	0.0	8	-8.0
Alamitos 17	27	1	0.0	58.1	66	58.1	10	—	58.1	0.0	8	-8.0
Alamitos 18	28	1	0.0	55.9	66	55.9	10	—	55.9	0.0	8	-8.0
Alamitos 19	29	1	0.0	54.5	66	54.5	10	—	54.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	19	0.0	0.0	0.0

All Impacted	0.	0.0	0.0	0.0.
All that meet NR Goal	0.	0.0	0.0	0.0

SCENARIO: EXISTING

Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Bewteen Atlantic Avenue and Lime Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2835
Peak Hour Traffic:	**283.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

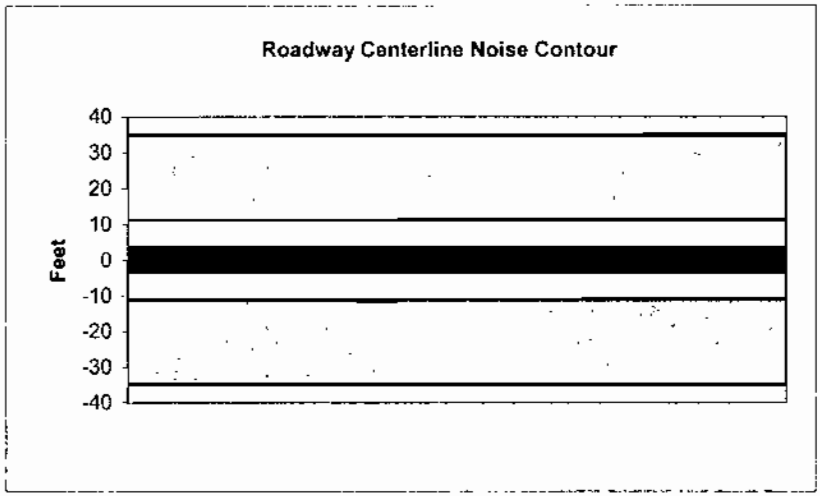
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.6	51.4	49.6	43.5	52.2	52.8
Medium Trucks:	53.2	45.1	38.8	37.2	45.7	45.9
Heavy Trucks:	58.9	46.9	37.9	39.1	49.2	49.3
Vehicle Noise:	**61.4**	**53.9**	**50.3**	**46.0**	**54.6**	**55.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	35
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street East of Elm		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3940
Receiver Barrier Dist:	0	Peak Hour Traffic:	**394**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

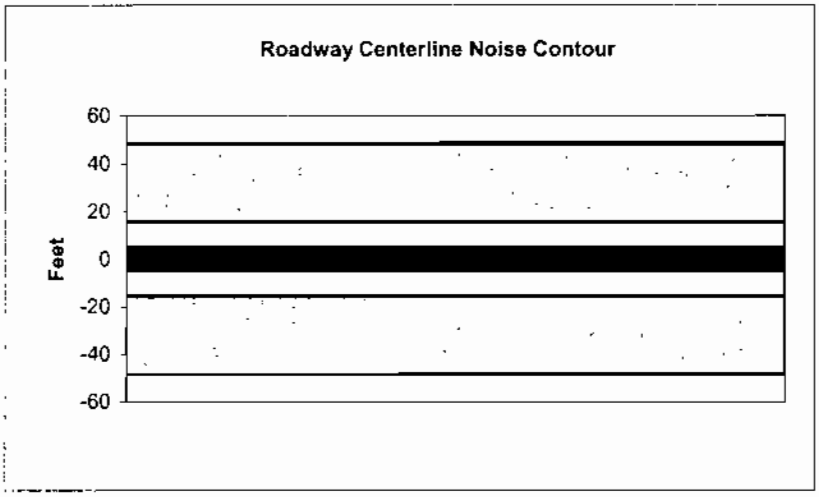
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.0	52.8	51.0	45.0	53.6	54.2
Medium Trucks:	54.6	46.6	40.2	38.6	47.1	47.3
Heavy Trucks:	60.3	48.4	39.3	40.5	50.6	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.8**	**47.4**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	49
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3510
Peak Hour Traffic:	351
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

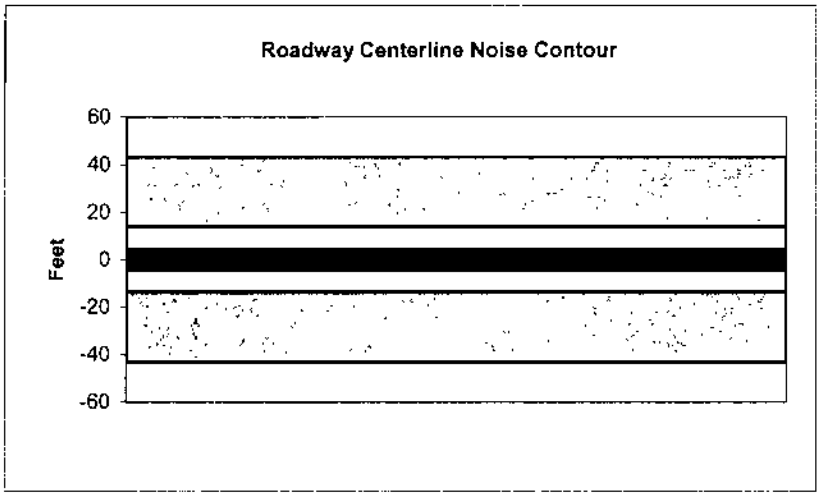
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.5	52.3	50.5	44.5	53.1	53.7
Medium Trucks:	54.1	46.1	39.7	38.1	46.6	46.8
Heavy Trucks:	59.8	47.9	38.8	40.0	50.1	50.3
Vehicle Noise:	**62.3**	**54.8**	**51.3**	**46.9**	**55.5**	**55.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	43
65 dBA	14
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Bewteen Lime Street and Alamitos		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2675
Peak Hour Traffic:	267.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

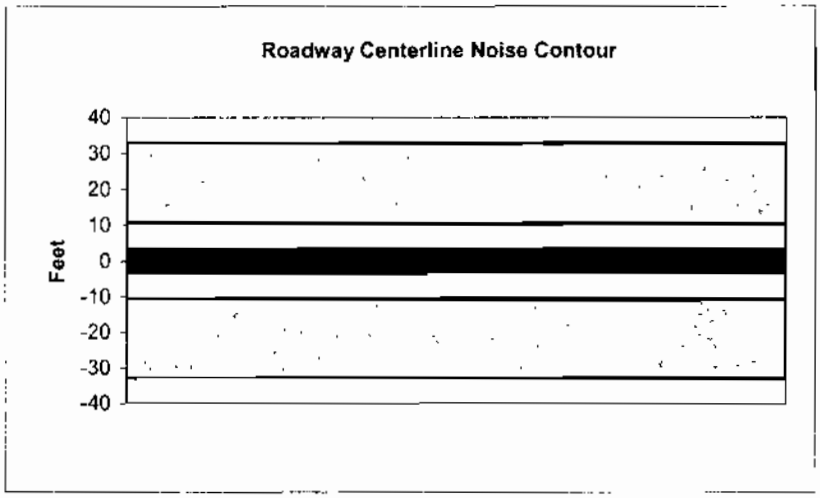
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.1	49.4	43.3	51.9	52.5
Medium Trucks:	53.0	44.9	38.5	36.9	45.4	45.7
Heavy Trucks:	58.6	46.7	37.6	38.8	49.0	49.1
Vehicle Noise:	**61.1**	**53.6**	**50.1**	**45.8**	**54.3**	**54.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	33
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street West of Atlantic Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3380
Peak Hour Traffic:	338
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

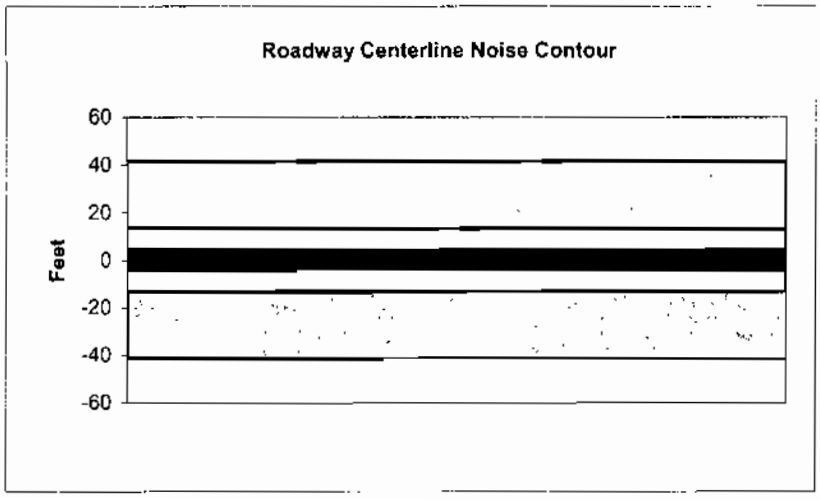
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.4	52.2	50.4	44.3	52.9	53.5
Medium Trucks:	54.0	45.9	39.5	38.0	46.4	46.7
Heavy Trucks:	59.6	47.7	38.6	39.9	50.0	50.1
Vehicle Noise:	**62.2**	**54.6**	**51.1**	**46.8**	**55.3**	**55.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	42
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street West of Long Beach Blvd		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	980
Receiver Barrier Dist:	0	Peak Hour Traffic:	98
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

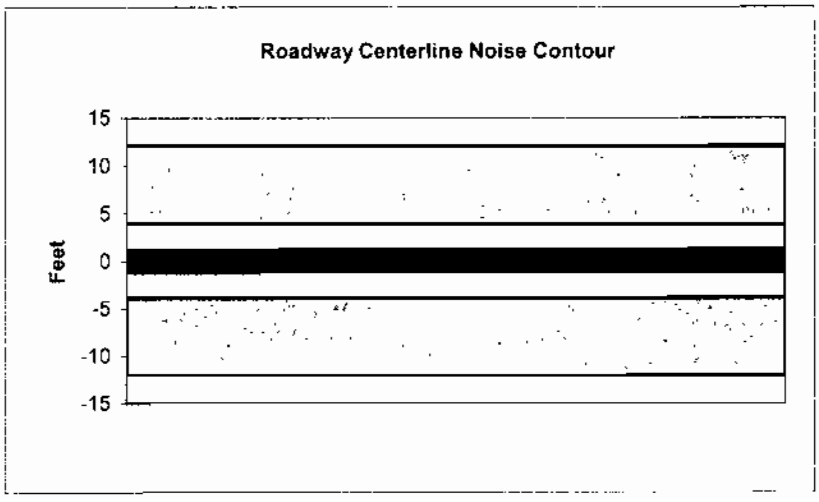
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.0	46.8	45.0	38.9	47.6	48.2
Medium Trucks:	48.6	40.5	34.2	32.6	41.1	41.3
Heavy Trucks:	54.2	42.3	33.3	34.5	44.6	44.7
Vehicle Noise:	**56.8**	**49.3**	**45.7**	**41.4**	**49.9**	**50.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	12
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gatewayn	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Atlantic Ave and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10345
Peak Hour Traffic:	**1034.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

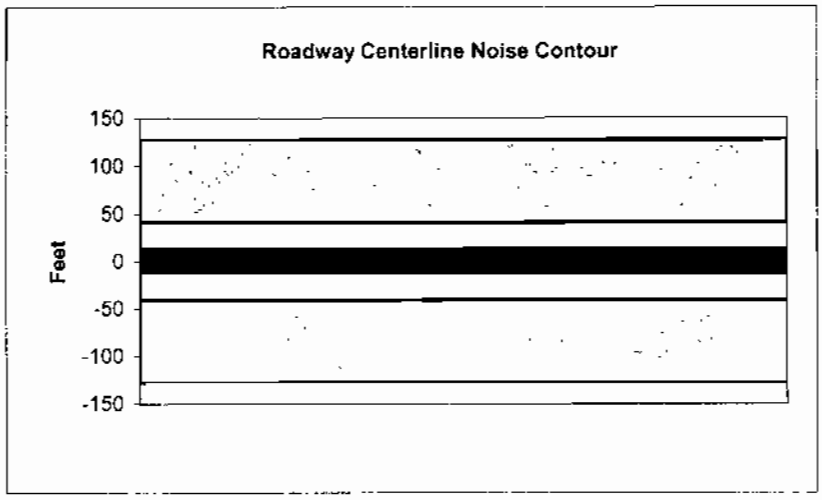
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	58.8	50.8	44.4	42.8	51.3	51.5
Heavy Trucks:	64.5	52.5	43.5	44.7	54.8	55.0
Vehicle Noise:	**67.0**	**59.5**	**56.0**	**51.6**	**60.2**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	128
65 dBA	40
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Alamitos		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7300
Peak Hour Traffic:	730
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

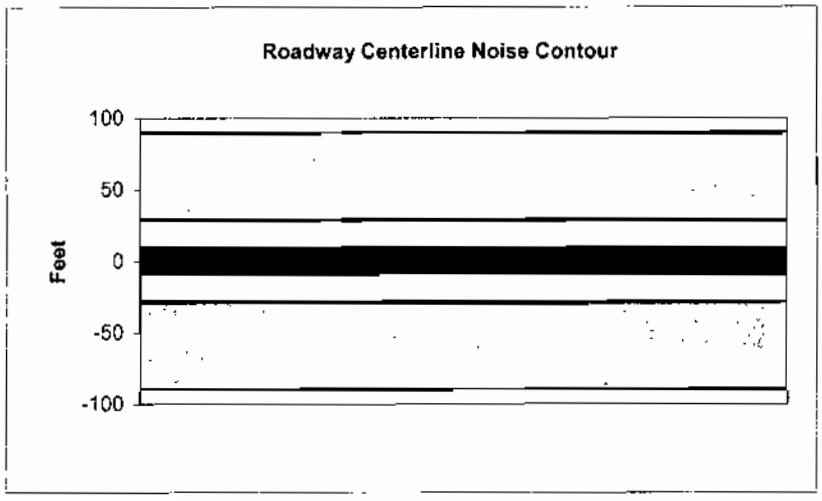
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.7	55.5	53.7	47.6	56.3	56.9
Medium Trucks:	57.3	49.3	42.9	41.3	49.8	50.0
Heavy Trucks:	63.0	51.0	42.0	43.2	53.3	53.5
Vehicle Noise:	**65.5**	**58.0**	**54.4**	**50.1**	**58.7**	**59.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	90
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Elm Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10380
Peak Hour Traffic:	1038
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

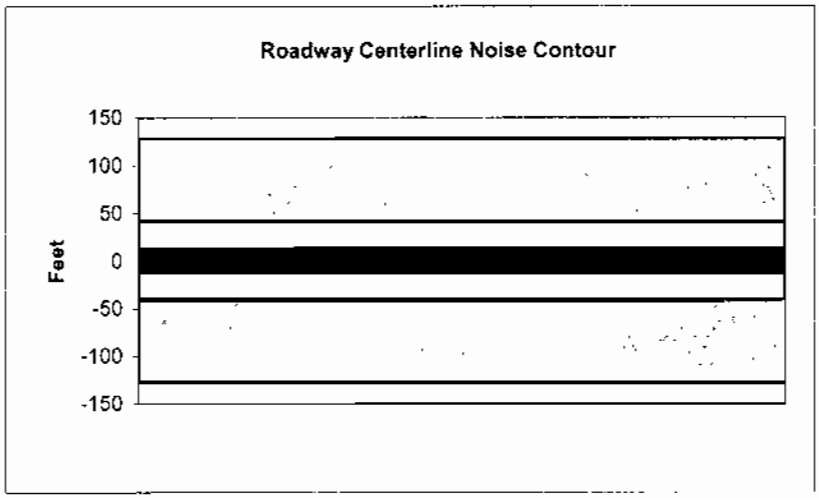
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.0	55.2	49.2	57.8	58.4
Medium Trucks:	58.9	50.8	44.4	42.8	51.3	51.6
Heavy Trucks:	64.5	52.6	43.5	44.7	54.9	55.0
Vehicle Noise:	**67.0**	**59.5**	**56.0**	**51.6**	**60.2**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	128
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7320
Peak Hour Traffic:	732
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

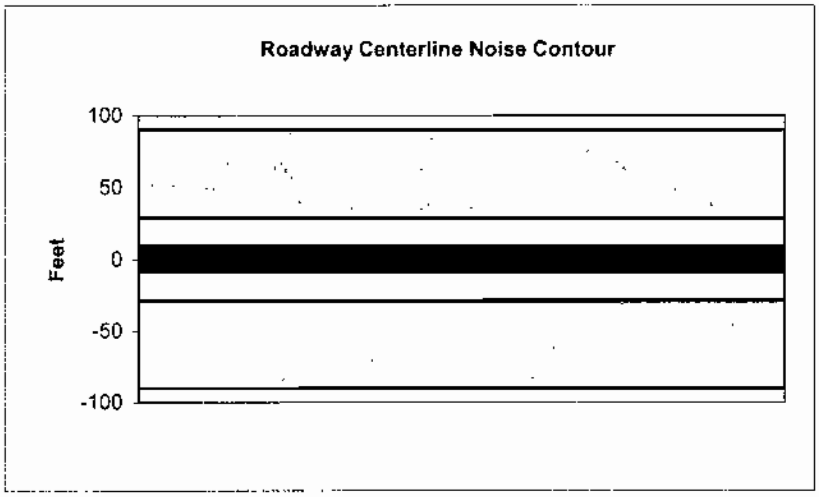
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.7	55.5	53.7	47.6	56.3	56.9
Medium Trucks:	57.3	49.3	42.9	41.3	49.8	50.0
Heavy Trucks:	63.0	51.0	42.0	43.2	53.3	53.5
Vehicle Noise:	**65.5**	**58.0**	**54.5**	**50.1**	**58.7**	**59.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	90
65 dBA	29
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10450
Peak Hour Traffic:	**1045**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

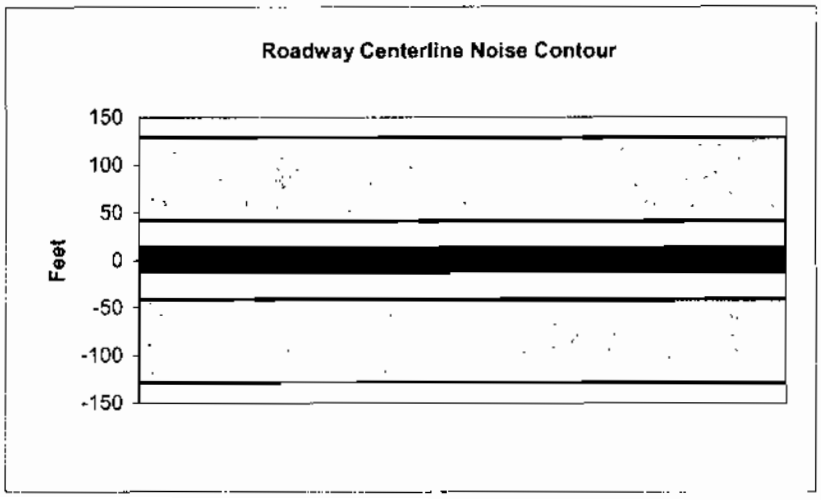
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.1	55.3	49.2	57.8	58.4
Medium Trucks:	58.9	50.8	44.4	42.9	51.3	51.6
Heavy Trucks:	64.5	52.6	43.5	44.8	54.9	55.0
Vehicle Noise:	**67.1**	**59.5**	**56.0**	**51.7**	**60.2**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	129
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Long Beach Blvd and Elm		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11325
Peak Hour Traffic:	**1132.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

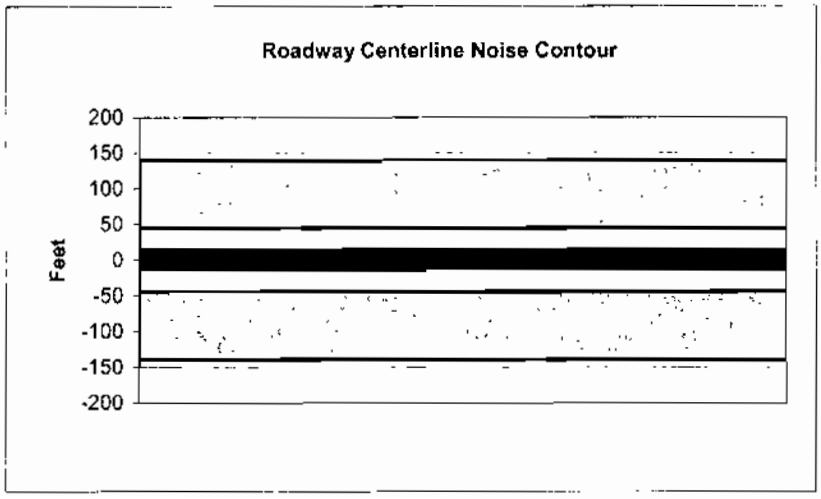
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.4	55.6	49.5	58.2	58.8
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	64.9	52.9	43.9	45.1	55.2	55.4
Vehicle Noise:	**67.4**	**59.9**	**56.4**	**52.0**	**60.6**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	140
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Lime Street and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	9720
Receiver Barrier Dist:	0	Peak Hour Traffic:	**972**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

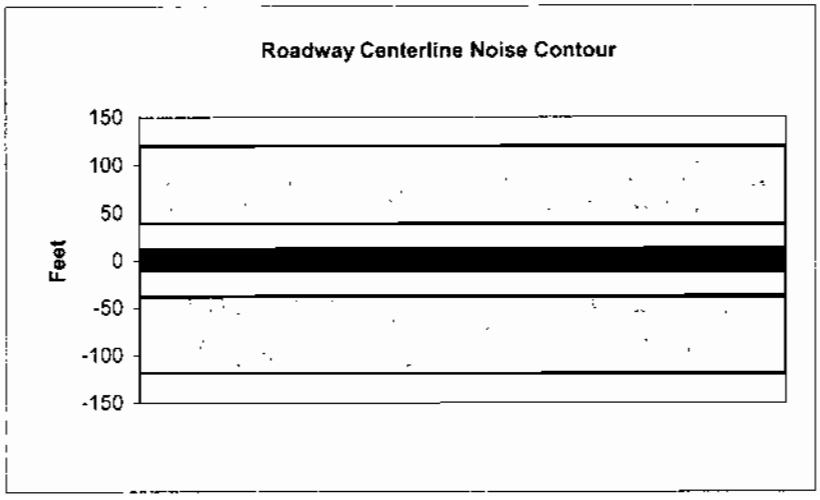
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	58.6	50.5	44.1	42.5	51.0	51.3
Heavy Trucks:	64.2	52.3	43.2	44.4	54.6	54.7
Vehicle Noise:	**66.7**	**59.2**	**55.7**	**51.4**	**59.9**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	120
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10955
Peak Hour Traffic:	1095.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

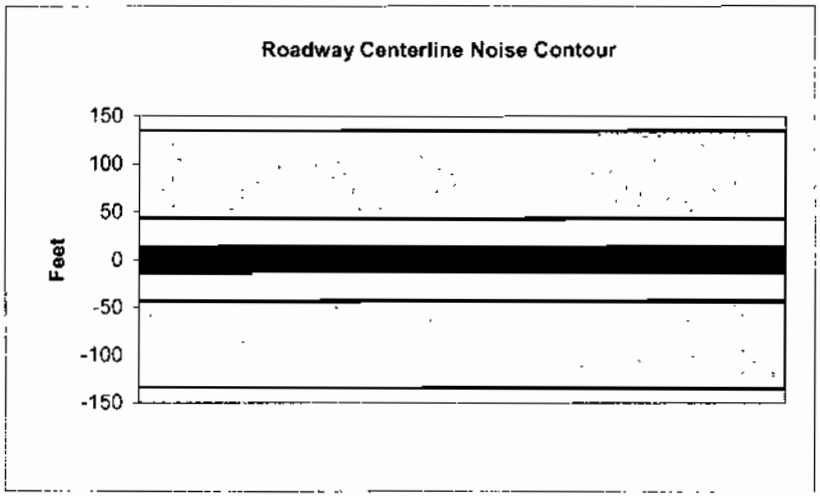
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.4	58.0	58.7
Medium Trucks:	59.1	51.0	44.6	43.1	51.6	51.8
Heavy Trucks:	64.7	52.8	43.7	45.0	55.1	55.2
Vehicle Noise:	**67.3**	**59.7**	**56.2**	**51.9**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	135
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11415
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1141.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

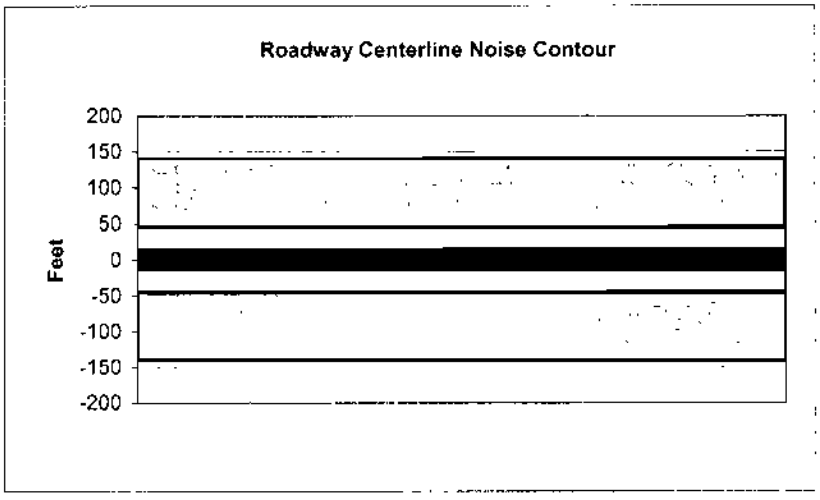
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.7	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	59.3	51.2	44.8	43.2	51.7	52.0
Heavy Trucks:	64.9	53.0	43.9	45.1	55.3	55.4
Vehicle Noise:	**67.4**	**59.9**	**56.4**	**52.1**	**60.6**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	141
65 dBA	45
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Magnolia Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9620
Peak Hour Traffic:	962
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

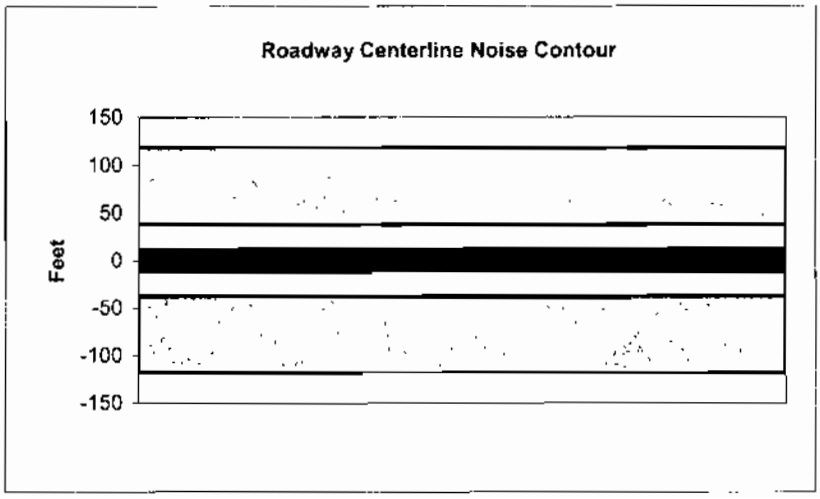
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	58.5	50.5	44.1	42.5	51.0	51.2
Heavy Trucks:	64.2	52.2	43.2	44.4	54.5	54.6
Vehicle Noise:	**66.7**	**59.2**	**55.6**	**51.3**	**59.9**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	119
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10100
Peak Hour Traffic:	1010
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

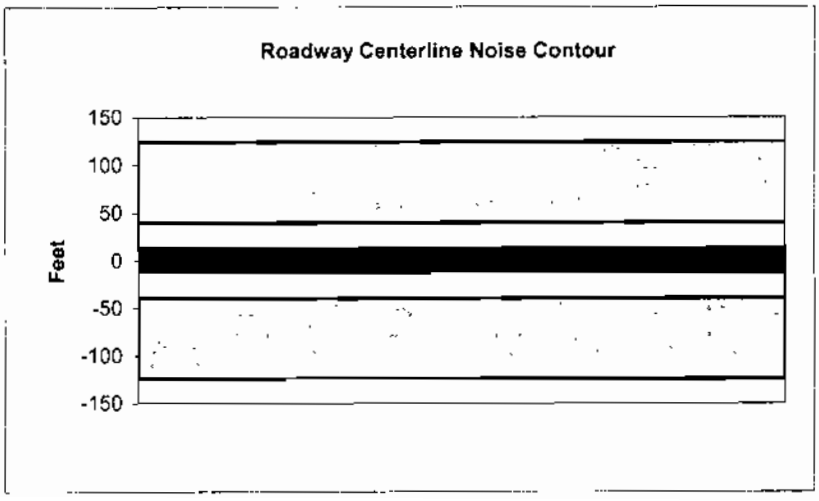
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.1	56.9	55.1	49.0	57.7	58.3
Medium Trucks:	58.7	50.7	44.3	42.7	51.2	51.4
Heavy Trucks:	64.4	52.4	43.4	44.6	54.7	54.9
Vehicle Noise:	**66.9**	**59.4**	**55.9**	**51.5**	**60.1**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	125
65 dBA	39
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7440
Peak Hour Traffic:	**744**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

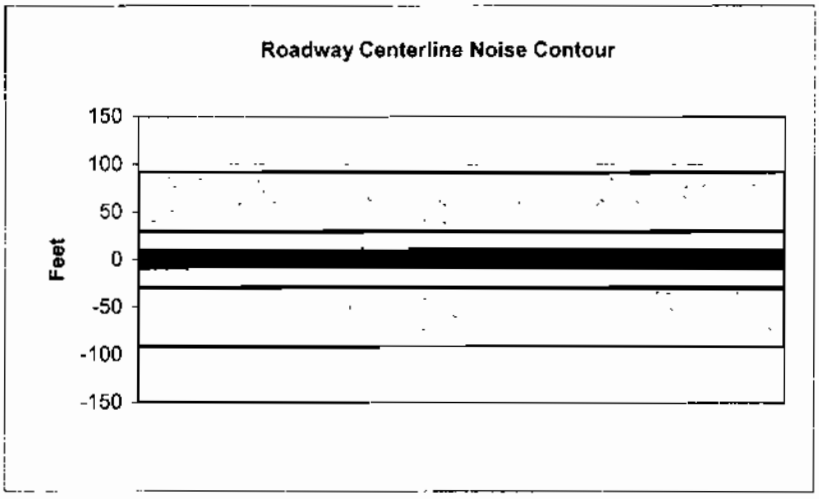
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.8	55.6	53.8	47.7	56.4	57.0
Medium Trucks:	57.4	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	63.1	51.1	42.1	43.3	53.4	53.5
Vehicle Noise:	**65.6**	**58.1**	**54.5**	**50.2**	**58.7**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	92
65 dBA	29
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11530
Peak Hour Traffic:	**1153**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

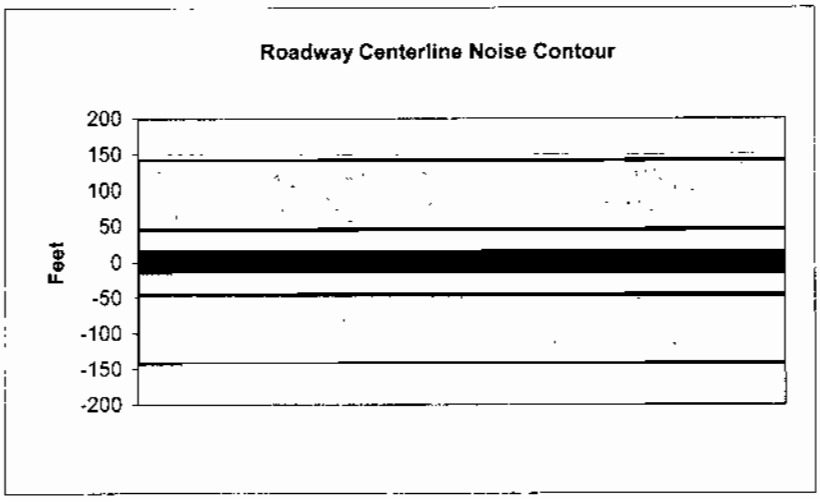
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.7	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	59.3	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	65.0	53.0	44.0	45.2	55.3	55.4
Vehicle Noise:	**67.5**	**60.0**	**56.4**	**52.1**	**60.6**	**61.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	142
65 dBA	45
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7070
Peak Hour Traffic:	707
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

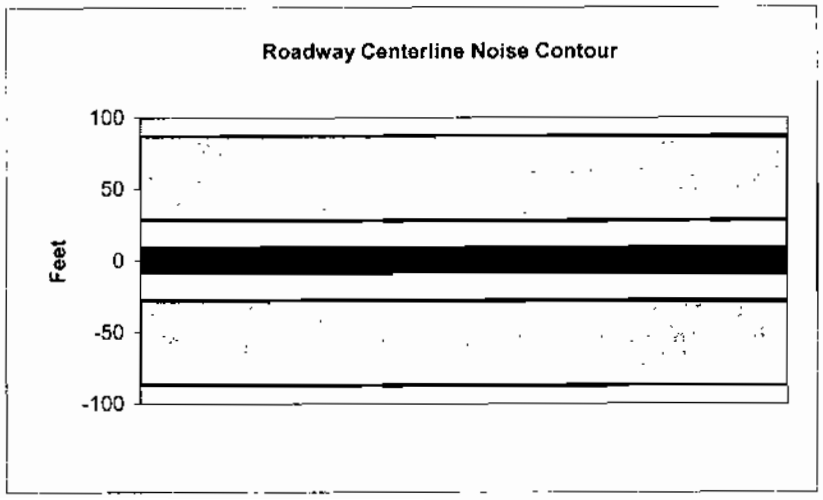
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.8	55.6	53.8	47.7	56.4	57.0
Medium Trucks:	57.4	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	63.1	51.1	42.1	43.3	53.4	53.5
Vehicle Noise:	**65.6**	**58.1**	**54.5**	**50.2**	**58.7**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	87
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Cedar Avenue and Pacific Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2280
Peak Hour Traffic:	228
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

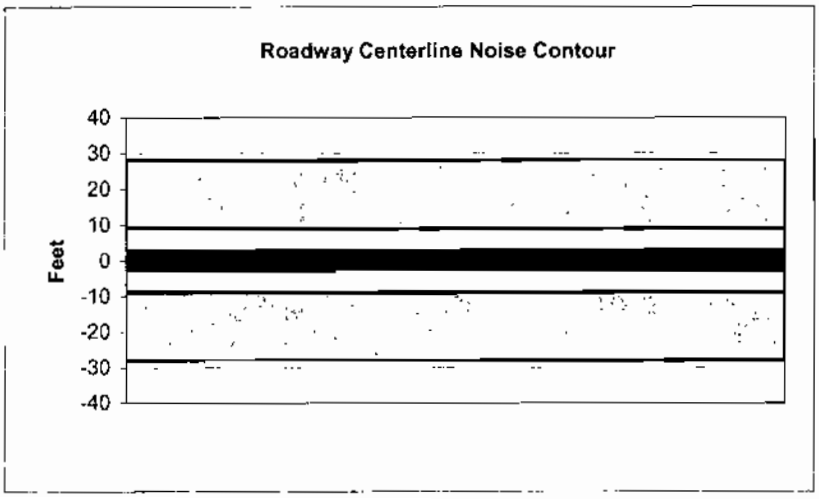
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.9	50.7	48.9	42.8	51.4	52.1
Medium Trucks:	52.5	44.4	38.0	36.5	45.0	45.2
Heavy Trucks:	58.1	46.2	37.1	38.4	48.5	48.6
Vehicle Noise:	**60.7**	**53.2**	**49.6**	**45.3**	**53.8**	**54.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	28
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10770
Peak Hour Traffic:	1077
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

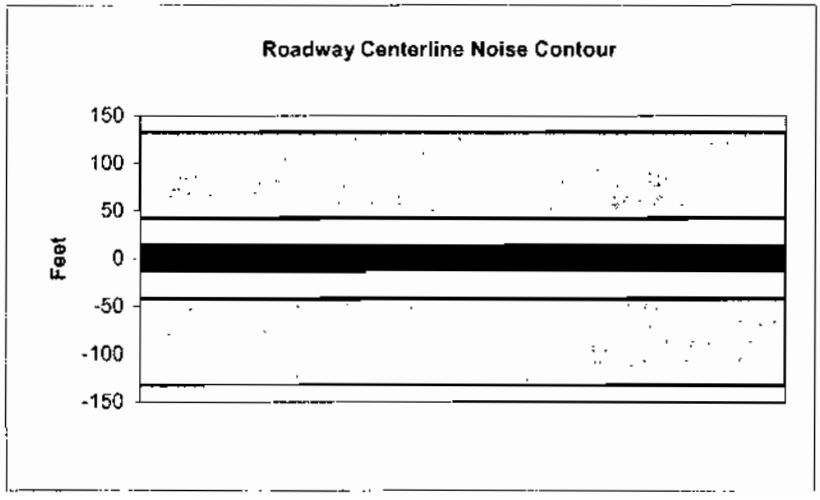
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.4	55.6	49.5	58.2	58.8
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	64.9	52.9	43.9	45.1	55.2	55.4
Vehicle Noise:	**67.4**	**59.9**	**56.4**	**52.0**	**60.6**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	133
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Long Beach Blvd.		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5080
Peak Hour Traffic:	508
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

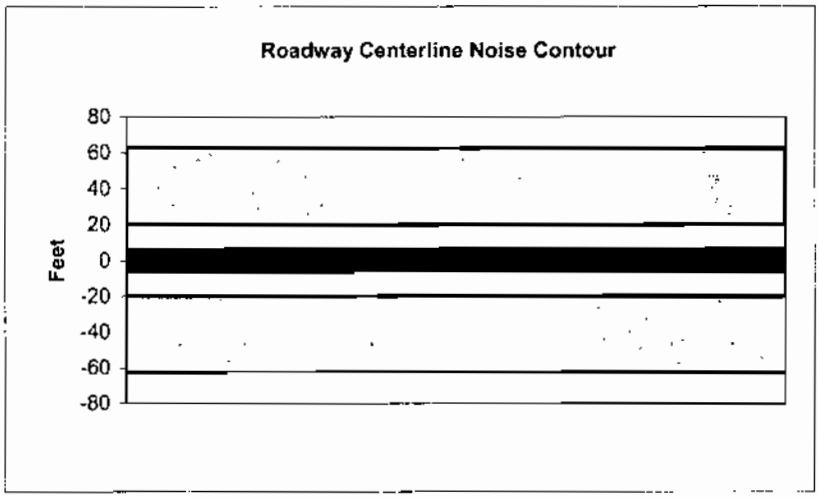
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.4	54.1	52.4	46.3	54.9	55.5
Medium Trucks:	56.0	47.9	41.5	39.9	48.4	48.7
Heavy Trucks:	61.6	49.7	40.6	41.8	52.0	52.1
Vehicle Noise:	**64.1**	**56.6**	**53.1**	**48.8**	**57.3**	**57.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	63
65 dBA	20
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Lime Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	7460
Peak Hour Traffic:	746
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

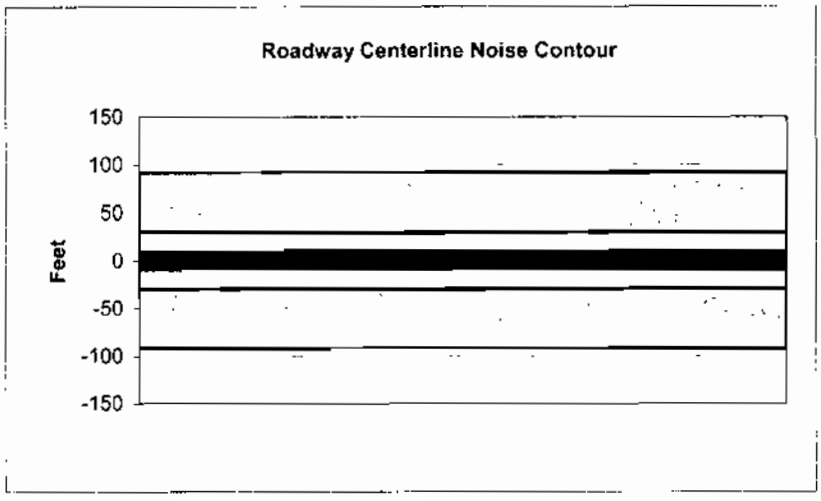
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.0	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	57.6	49.6	43.2	41.6	50.1	50.3
Heavy Trucks:	63.3	51.3	42.3	43.5	53.6	53.8
Vehicle Noise:	**65.8**	**58.3**	**54.8**	**50.4**	**59.0**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	92
65 dBA	29
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Pacific Avenue and Pine St.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	2065
Receiver Barrier Dist:	0	Peak Hour Traffic:	**206.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

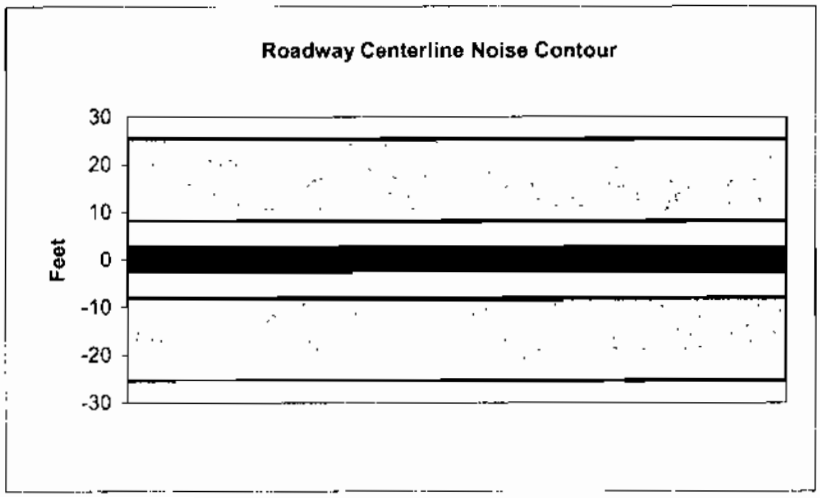
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.5	50.2	48.5	42.4	51.0	51.6
Medium Trucks:	52.1	44.0	37.6	36.0	44.5	44.8
Heavy Trucks:	57.7	45.8	36.7	37.9	48.1	48.2
Vehicle Noise:	**60.2**	**52.7**	**49.2**	**44.9**	**53.4**	**53.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	25
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Pine St and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3110
Peak Hour Traffic:	311
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

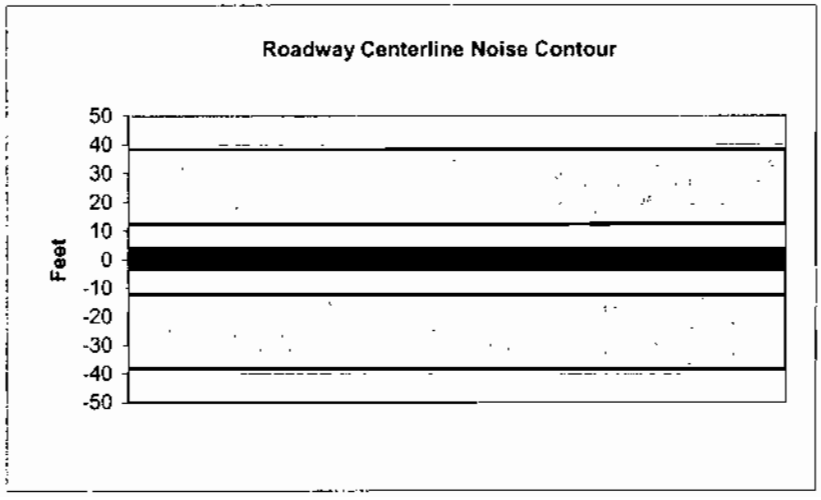
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.2	52.0	50.2	44.1	52.8	53.4
Medium Trucks:	53.8	45.8	39.4	37.8	46.3	46.5
Heavy Trucks:	59.5	47.5	38.5	39.7	49.8	50.0
Vehicle Noise:	**62.0**	**54.5**	**51.0**	**46.6**	**55.2**	**55.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	38
65 dBA	12
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10620
Peak Hour Traffic:	**1062**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

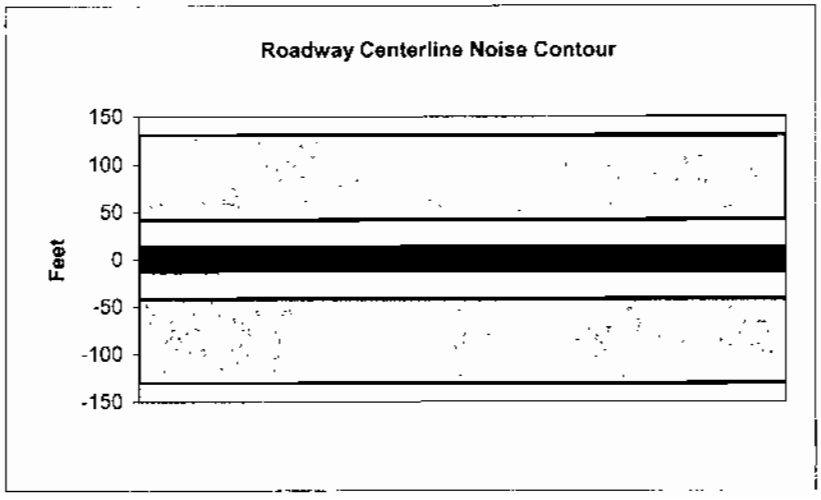
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.4	55.6	49.5	58.1	58.7
Medium Trucks:	59.2	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	64.8	52.9	43.8	45.0	55.2	55.3
Vehicle Noise:	**67.3**	**59.8**	**56.3**	**52.0**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	131
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Atlantic Avenue.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6280
Peak Hour Traffic:	628
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

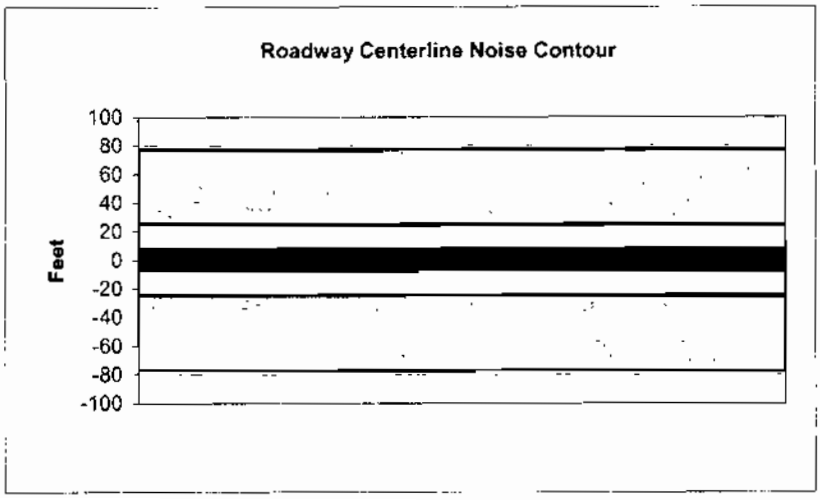
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.3	55.1	53.3	47.2	55.8	56.5
Medium Trucks:	56.9	48.8	42.4	40.9	49.4	49.6
Heavy Trucks:	62.5	50.6	41.5	42.8	52.9	53.0
Vehicle Noise:	**65.1**	**57.6**	**54.0**	**49.7**	**58.2**	**58.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	78
65 dBA	25
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Cedar Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2100
Peak Hour Traffic:	210
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

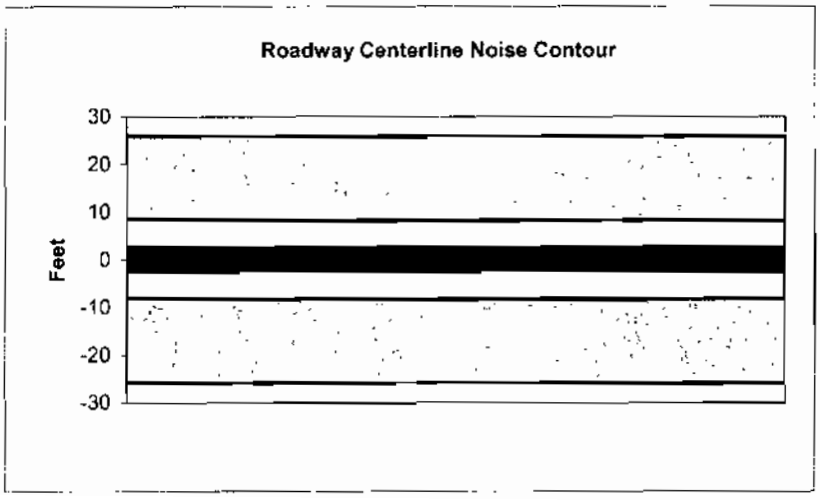
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.5	50.3	48.5	42.4	51.1	51.7
Medium Trucks:	52.1	44.1	37.7	36.1	44.6	44.8
Heavy Trucks:	57.8	45.8	36.8	38.0	48.1	48.3
Vehicle Noise:	**60.3**	**52.8**	**49.3**	**44.9**	**53.5**	**53.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	26
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1870
Peak Hour Traffic:	187
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

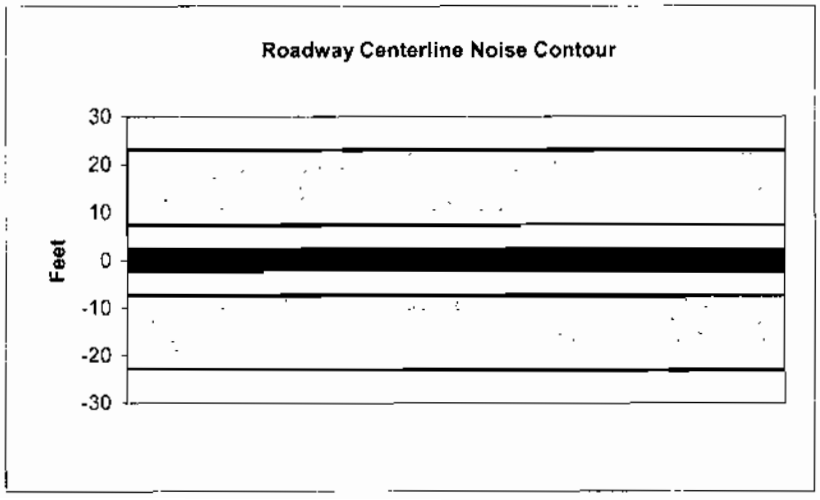
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.0	49.8	48.0	41.9	50.6	51.2
Medium Trucks:	51.6	43.6	37.2	35.6	44.1	44.3
Heavy Trucks:	57.3	45.3	36.3	37.5	47.6	47.8
Vehicle Noise:	**59.8**	**52.3**	**48.7**	**44.4**	**53.0**	**53.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	23
65 dBA	7
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Cedar Avenue and Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	5110
Peak Hour Traffic:	511
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

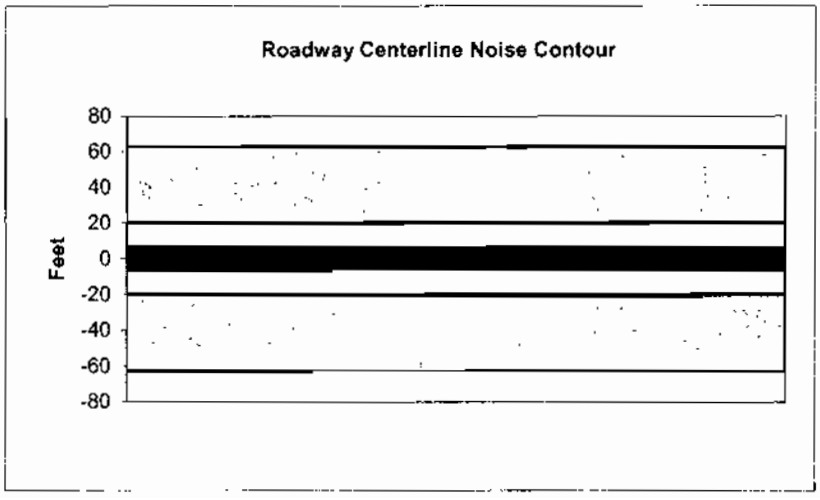
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.4	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	56.0	47.9	41.5	40.0	48.5	48.7
Heavy Trucks:	61.6	49.7	40.6	41.9	52.0	52.1
Vehicle Noise:	**64.2**	**56.7**	**53.1**	**48.8**	**57.3**	**57.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	63
65 dBA	20
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Chestnut Avenue and Cedar Avenue		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1415
Peak Hour Traffic:	**141.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

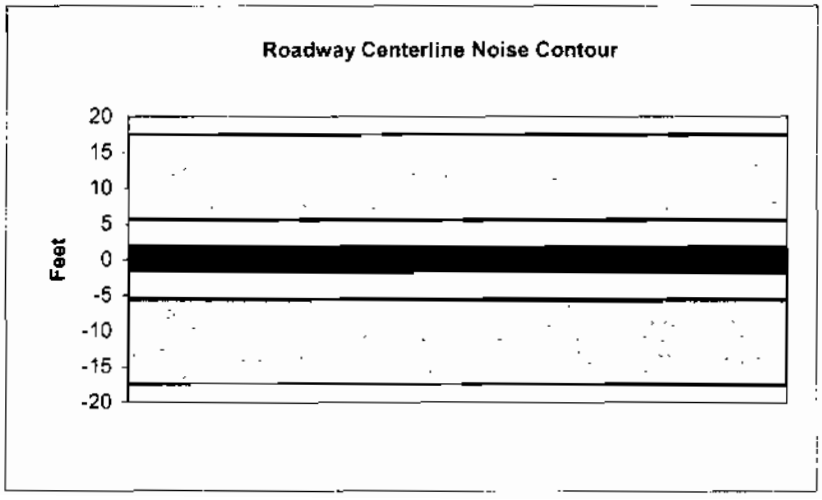
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.8	48.6	46.8	40.7	49.4	50.0
Medium Trucks:	50.4	42.4	36.0	34.4	42.9	43.1
Heavy Trucks:	56.1	44.1	35.1	36.3	46.4	46.5
Vehicle Noise:	**58.6**	**51.1**	**47.5**	**43.2**	**51.8**	**52.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	17
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street East of Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1200
Peak Hour Traffic:	120
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

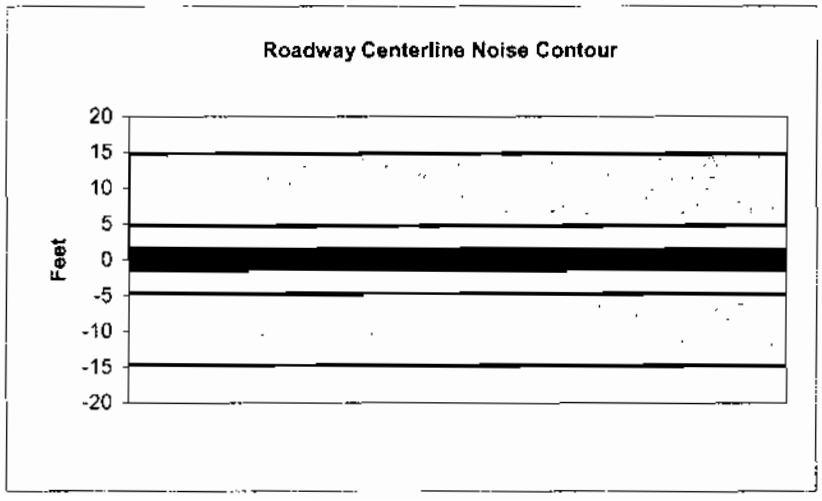
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.1	47.9	46.1	40.0	48.7	49.3
Medium Trucks:	49.7	41.6	35.3	33.7	42.2	42.4
Heavy Trucks:	55.4	43.4	34.4	35.6	45.7	45.8
Vehicle Noise:	**57.9**	**50.4**	**46.8**	**42.5**	**51.0**	**51.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	15
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street East of Lime Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1840
Receiver Barrier Dist:	0	Peak Hour Traffic:	**184**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

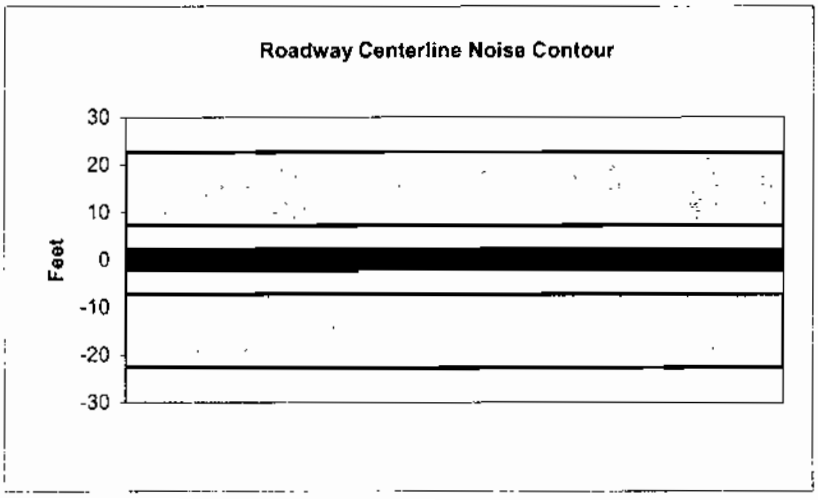
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.0	49.7	48.0	41.9	50.5	51.1
Medium Trucks:	51.6	43.5	37.1	35.5	44.0	44.3
Heavy Trucks:	57.2	45.3	36.2	37.4	47.6	47.7
Vehicle Noise:	**59.7**	**52.2**	**48.7**	**44.3**	**52.9**	**53.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	23
65 dBA	7
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Pacific Avenue & Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4350
Peak Hour Traffic:	**435**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

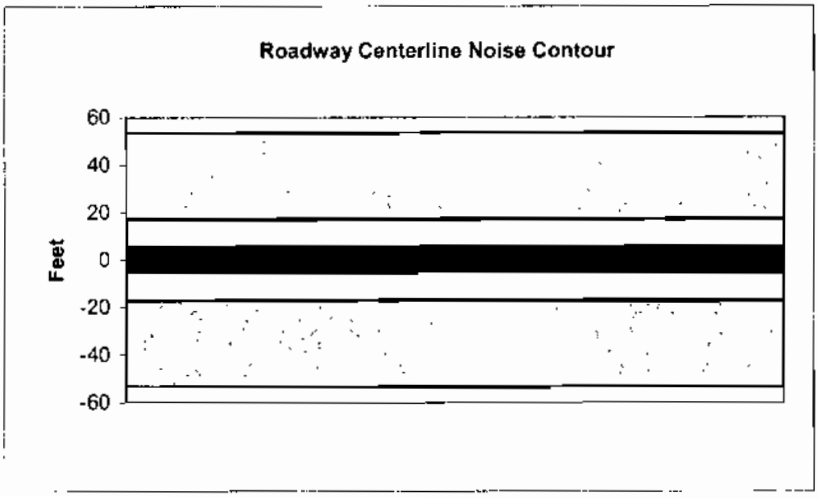
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.5	51.7	45.6	54.3	54.9
Medium Trucks:	55.3	47.2	40.8	39.3	47.8	48.0
Heavy Trucks:	60.9	49.0	39.9	41.2	51.3	51.4
Vehicle Noise:	**63.5**	**56.0**	**52.4**	**48.1**	**56.6**	**57.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	54
65 dBA	17
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Pine Street & Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1525
Peak Hour Traffic:	152.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

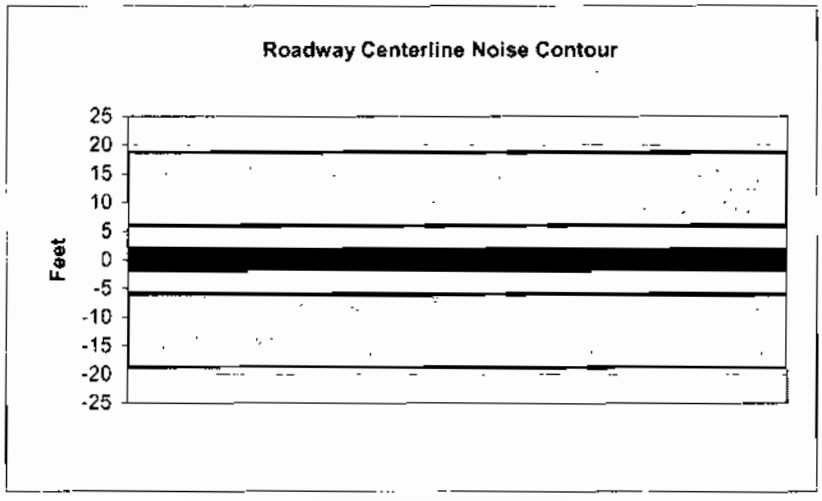
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.1	48.9	47.1	41.1	49.7	50.3
Medium Trucks:	50.7	42.7	36.3	34.7	43.2	43.4
Heavy Trucks:	56.4	44.5	35.4	36.6	46.7	46.9
Vehicle Noise:	**58.9**	**51.4**	**47.9**	**43.5**	**52.1**	**52.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	19
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street West of Chestnut Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1100
Peak Hour Traffic:	110
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

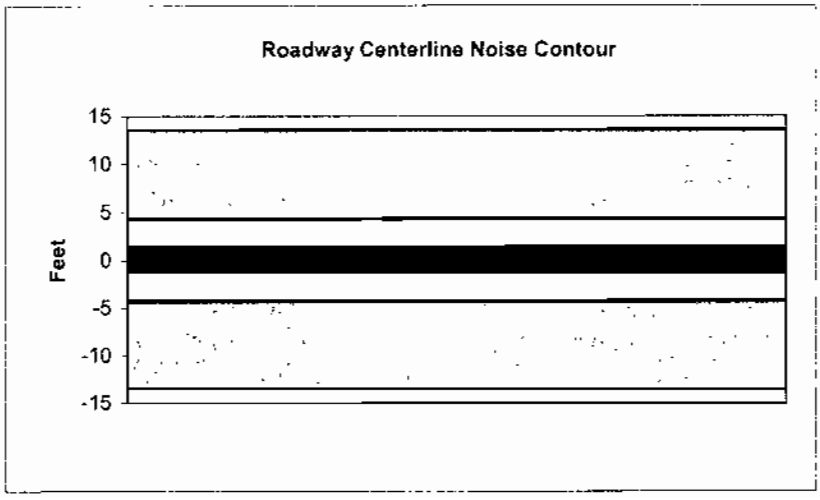
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.7	47.5	45.7	39.6	48.3	48.9
Medium Trucks:	49.3	41.3	34.9	33.3	41.8	42.0
Heavy Trucks:	55.0	43.0	34.0	35.2	45.3	45.5
Vehicle Noise:	**57.5**	**50.0**	**46.4**	**42.1**	**50.7**	**51.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	14
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1870
Peak Hour Traffic:	187
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

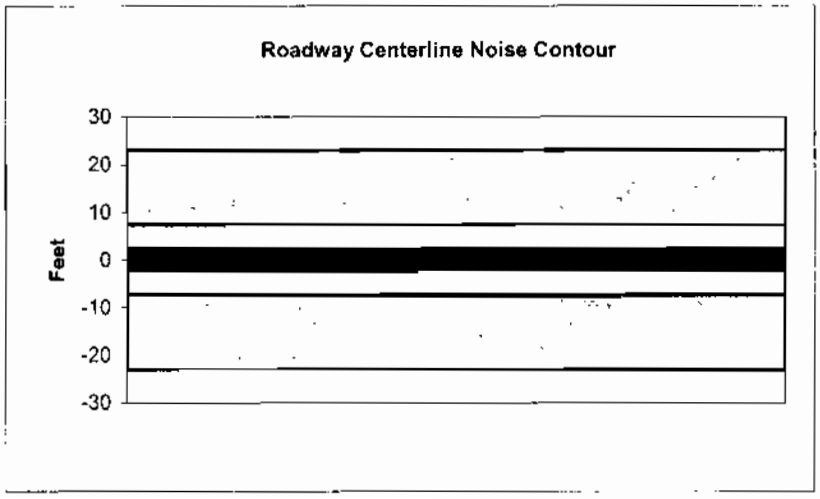
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.0	49.8	48.0	41.9	50.6	51.2
Medium Trucks:	51.6	43.6	37.2	35.6	44.1	44.3
Heavy Trucks:	57.3	45.3	36.3	37.5	47.6	47.8
Vehicle Noise:	**59.8**	**52.3**	**48.7**	**44.4**	**53.0**	**53.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	23
65 dBA	7
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9150
Peak Hour Traffic:	915
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

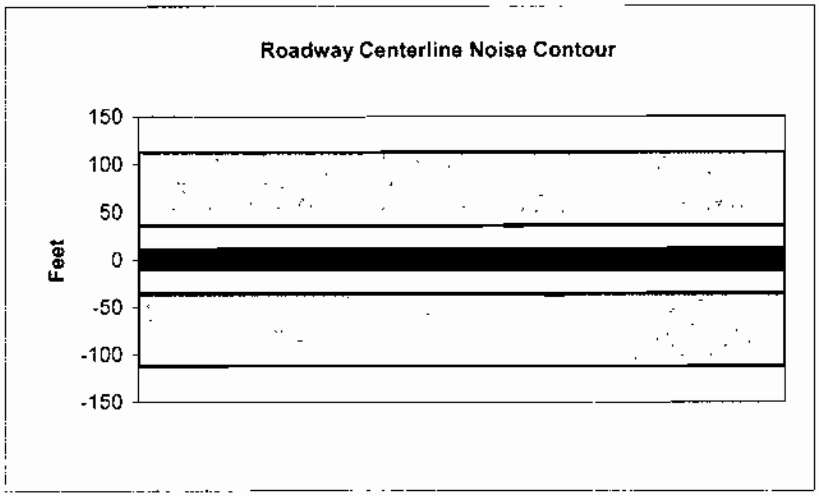
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	58.3	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	64.0	52.0	43.0	44.2	54.3	54.4
Vehicle Noise:	**66.5**	**59.0**	**55.4**	**51.1**	**59.6**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	113
65 dBA	36
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street East of Elm Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8940
Peak Hour Traffic:	**894**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

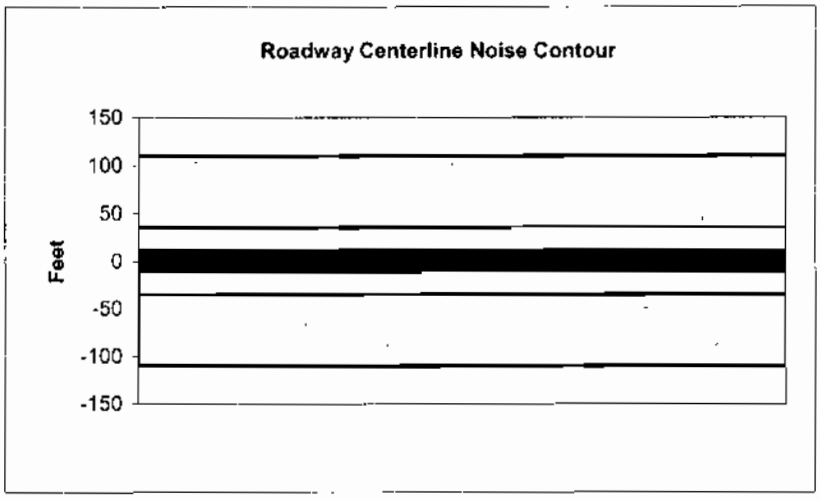
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.6	56.4	54.6	48.5	57.2	57.8
Medium Trucks:	58.2	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	63.9	51.9	42.9	44.1	54.2	54.3
Vehicle Noise:	**66.4**	**58.9**	**55.3**	**51.0**	**59.5**	**60.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	110
65 dBA	35
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between East of Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1150
Peak Hour Traffic:	115
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

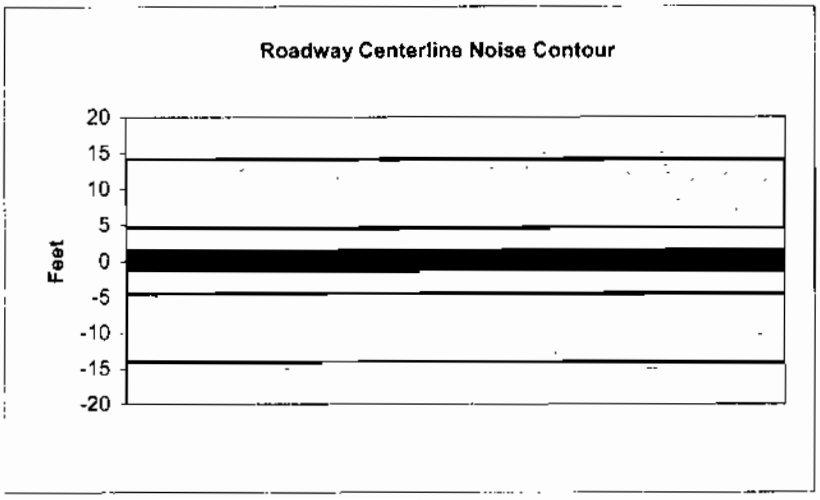
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.7	47.5	45.7	39.6	48.3	48.9
Medium Trucks:	49.3	41.2	34.8	33.3	41.8	42.0
Heavy Trucks:	54.9	43.0	34.0	35.2	45.3	45.4
Vehicle Noise:	**57.5**	**50.0**	**46.4**	**42.1**	**50.6**	**51.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	14
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street East of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10530
Peak Hour Traffic:	1053
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

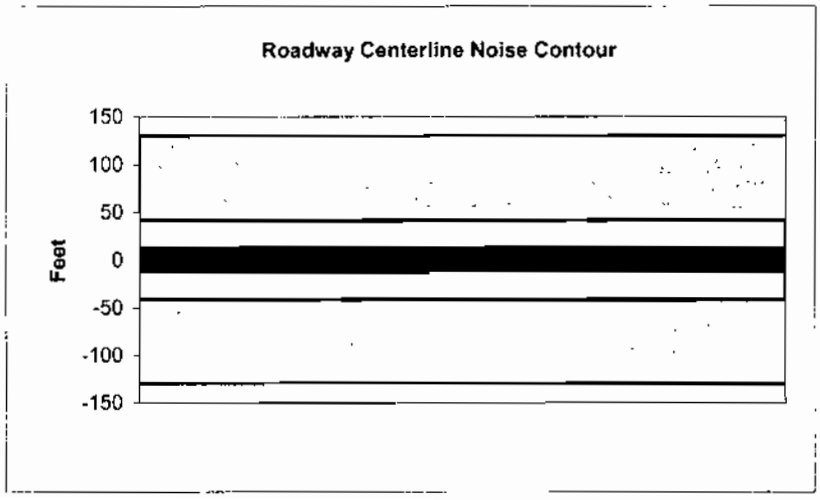
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.1	55.3	49.2	57.9	58.5
Medium Trucks:	58.9	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	64.6	52.6	43.6	44.8	54.9	55.0
Vehicle Noise:	**67.1**	**59.6**	**56.0**	**51.7**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	130
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	10275
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1027.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

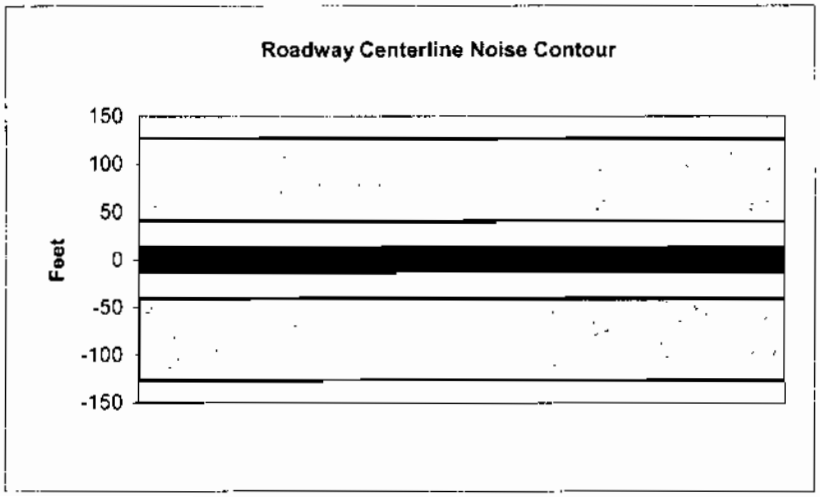
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	58.8	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	64.5	52.5	43.5	44.7	54.8	54.9
Vehicle Noise:	**67.0**	**59.5**	**55.9**	**51.6**	**60.1**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	127
65 dBA	40
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Lime Street and Martin Luther King Jr/Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9650
Peak Hour Traffic:	**965**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

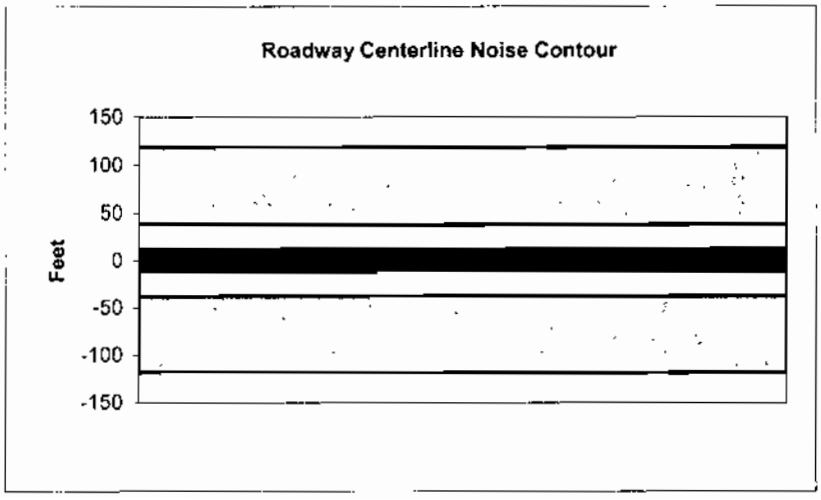
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	58.5	50.5	44.1	42.5	51.0	51.2
Heavy Trucks:	64.2	52.2	43.2	44.4	54.5	54.7
Vehicle Noise:	**66.7**	**59.2**	**55.7**	**51.3**	**59.9**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	119
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10810
Peak Hour Traffic:	1081
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

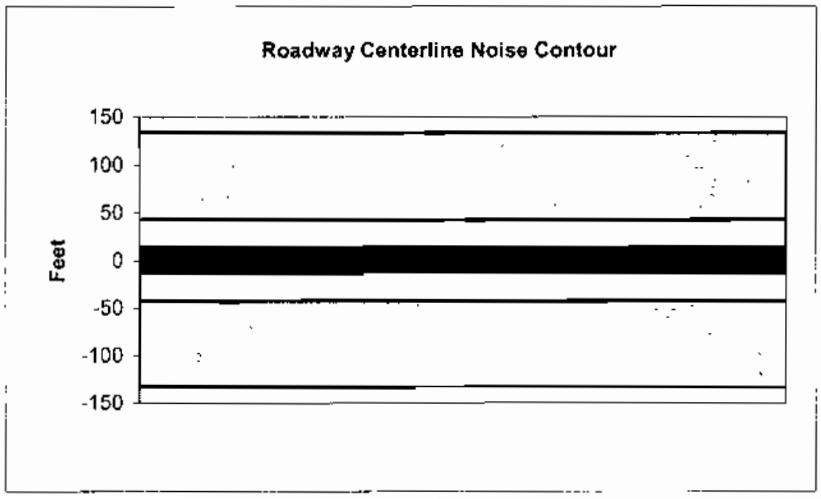
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	59.0	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	64.7	52.7	43.7	44.9	55.0	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.1**	**51.8**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	134
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11660
Peak Hour Traffic:	1166
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

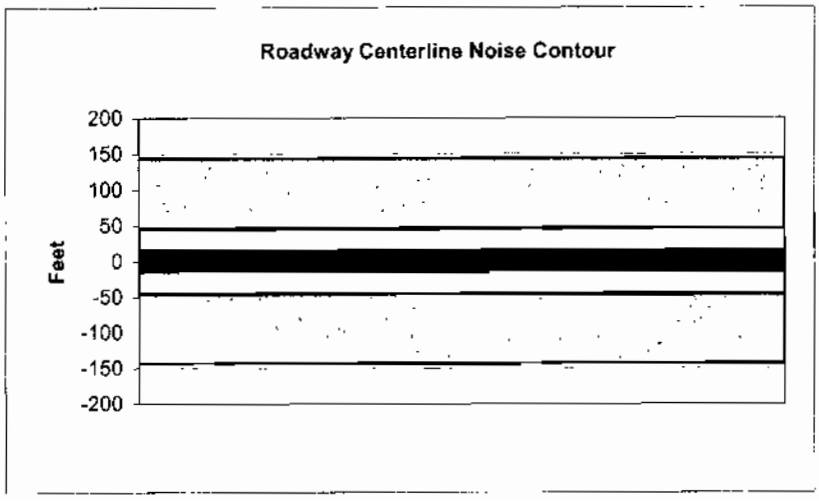
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.8	57.5	55.7	49.7	58.3	58.9
Medium Trucks:	59.4	51.3	44.9	43.3	51.8	52.1
Heavy Trucks:	65.0	53.1	44.0	45.2	55.4	55.5
Vehicle Noise:	**67.5**	**60.0**	**56.5**	**52.1**	**60.7**	**61.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	144
65 dBA	45
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Atlantic Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	9360
Receiver Barrier Dist:	0	Peak Hour Traffic:	**936**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

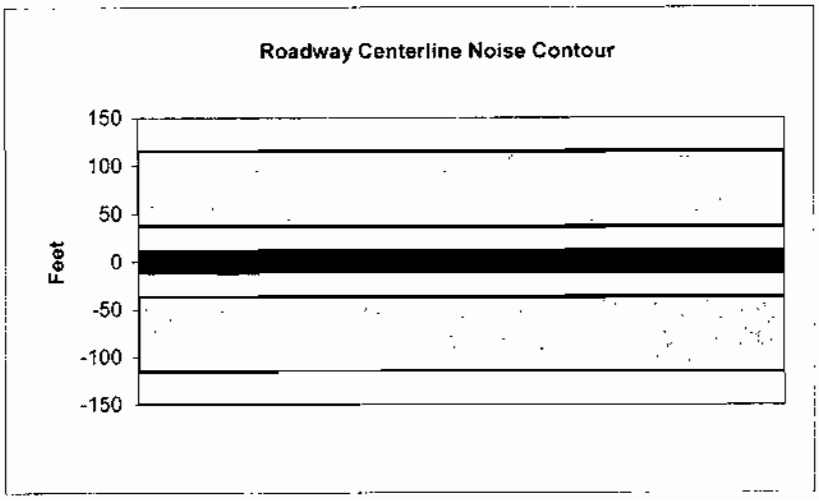
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.6	54.8	48.7	57.4	58.0
Medium Trucks:	58.4	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	64.1	52.1	43.1	44.3	54.4	54.5
Vehicle Noise:	**66.6**	**59.1**	**55.5**	**51.2**	**59.7**	**60.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	116
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10420
Peak Hour Traffic:	**1042**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

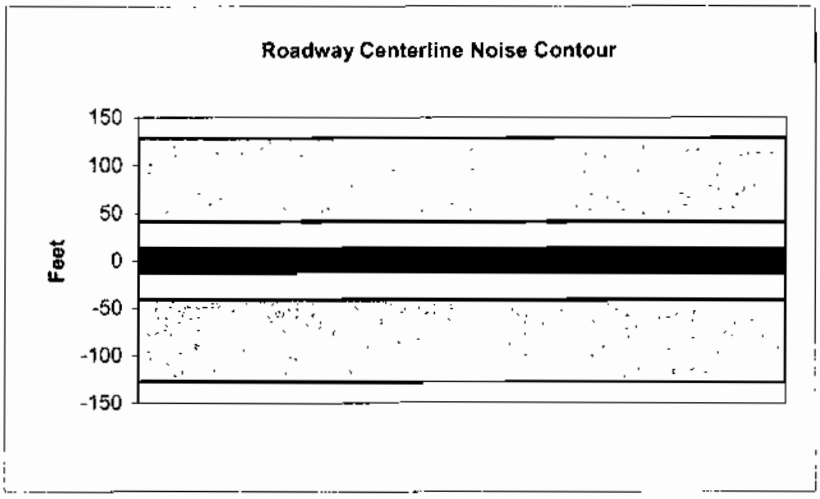
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	58.9	50.8	44.4	42.8	51.3	51.6
Heavy Trucks:	64.5	52.6	43.5	44.7	54.9	55.0
Vehicle Noise:	**67.0**	**59.5**	**56.0**	**51.7**	**60.2**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	129
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9210
Peak Hour Traffic:	921
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

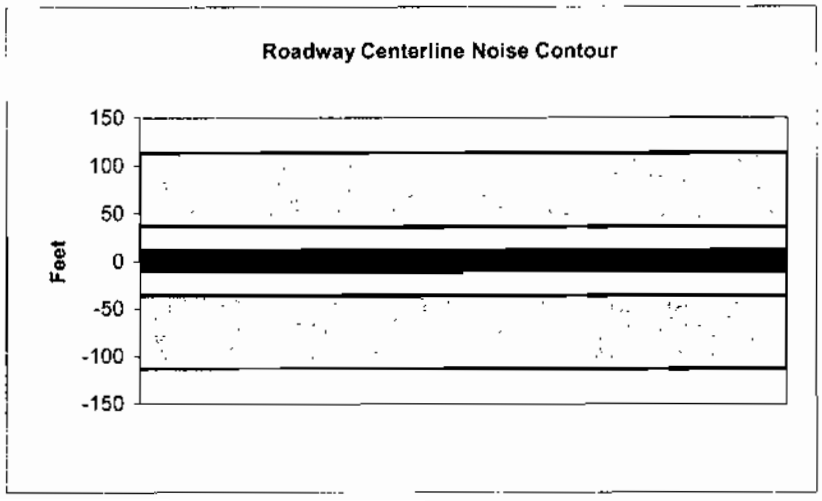
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	58.3	50.3	43.9	42.3	50.8	51.0
Heavy Trucks:	64.0	52.0	43.0	44.2	54.3	54.5
Vehicle Noise:	**66.5**	**59.0**	**55.5**	**51.1**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	114
65 dBA	36
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Atlantic Avenue and Lime St.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16170
Peak Hour Traffic:	**1617**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

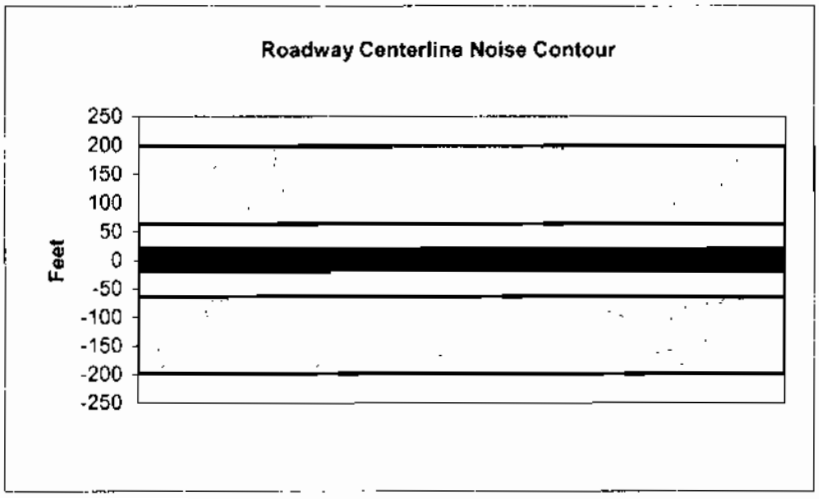
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Elm Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13200
Peak Hour Traffic:	1320
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

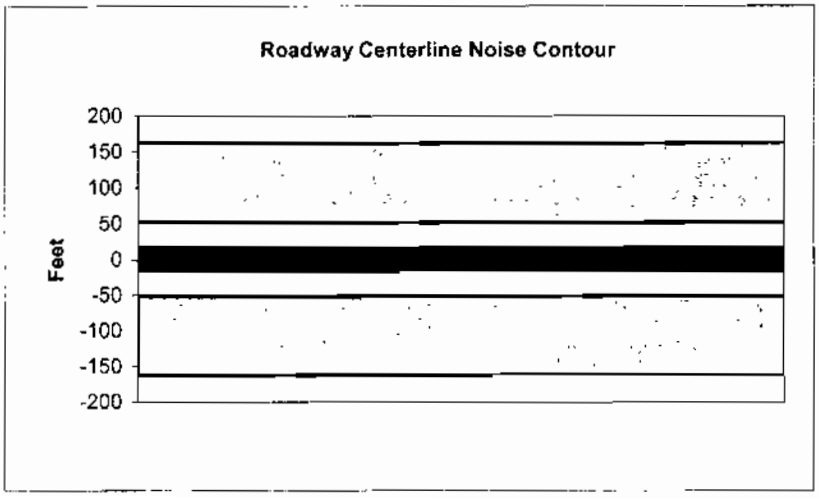
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	59.9	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	65.5	53.6	44.5	45.8	55.9	56.0
Vehicle Noise:	**68.1**	**60.6**	**57.0**	**52.7**	**61.2**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	163
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Magnolia		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11720
Peak Hour Traffic:	1172
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

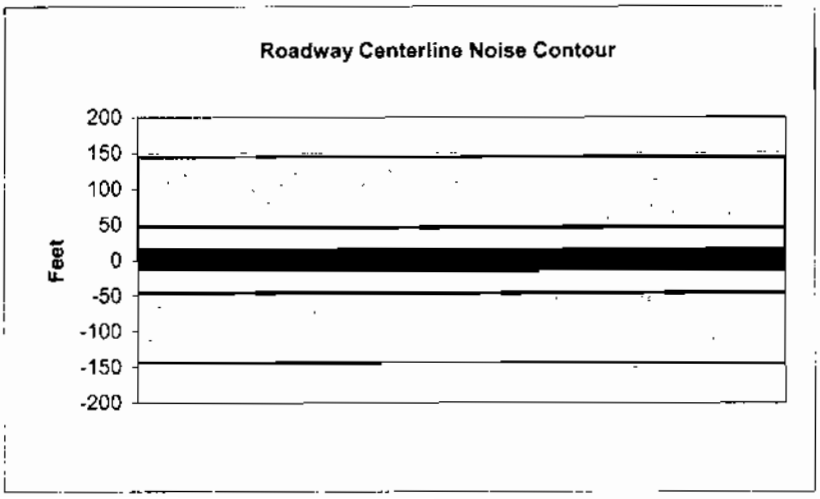
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.8	57.6	55.8	49.7	58.3	58.9
Medium Trucks:	59.4	51.3	44.9	43.4	51.8	52.1
Heavy Trucks:	65.0	53.1	44.0	45.3	55.4	55.5
Vehicle Noise:	**67.6**	**60.0**	**56.5**	**52.2**	**60.7**	**61.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	145
65 dBA	46
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	23860
Peak Hour Traffic:	**2386**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

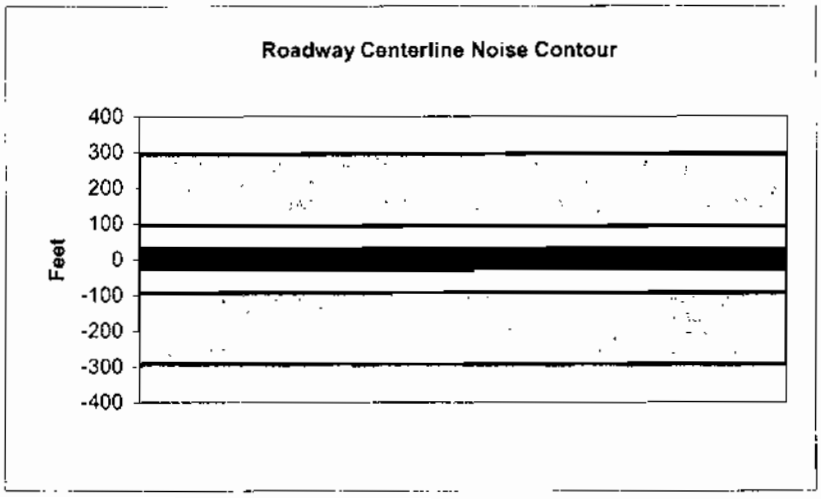
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	62.5	54.4	48.0	46.4	54.9	55.2
Heavy Trucks:	68.1	56.2	47.1	48.3	58.5	58.6
Vehicle Noise:	**70.6**	**63.1**	**59.6**	**55.3**	**63.8**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	294
65 dBA	93
	29
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	13120
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1312**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

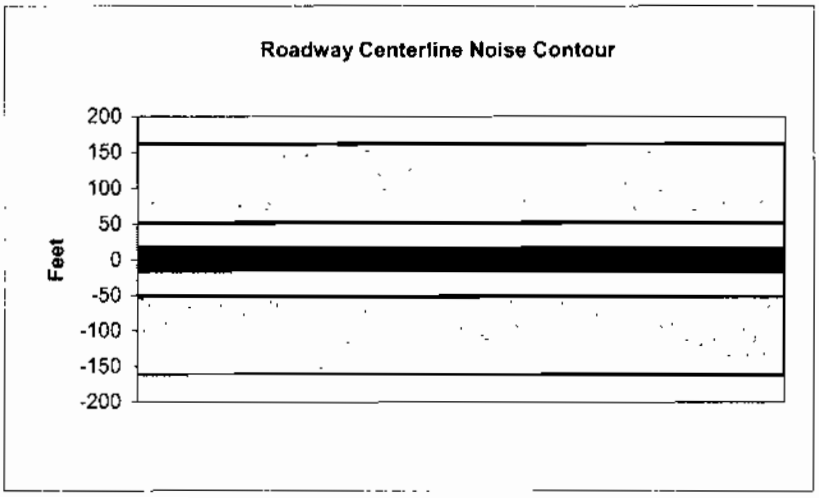
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.0	56.3	50.2	58.8	59.4
Medium Trucks:	59.9	51.8	45.4	43.8	52.3	52.6
Heavy Trucks:	65.5	53.6	44.5	45.7	55.9	56.0
Vehicle Noise:	**68.0**	**60.5**	**57.0**	**52.7**	**61.2**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	162
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Lime St. and Martin Luther King Jr. Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	14525
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1452.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

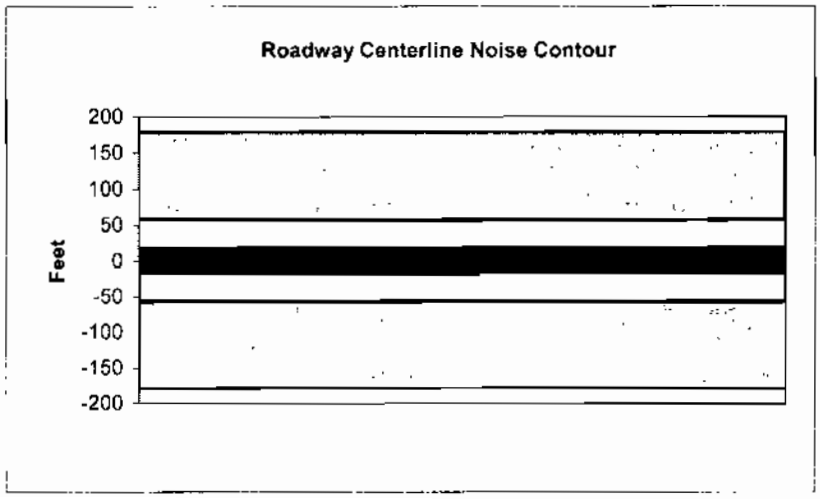
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.3	59.9
Medium Trucks:	60.3	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	66.0	54.0	45.0	46.2	56.3	56.4
Vehicle Noise:	**68.5**	**61.0**	**57.4**	**53.1**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	179
65 dBA	57
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Martin Luther King Jr. Avenue and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	17355
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1735.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

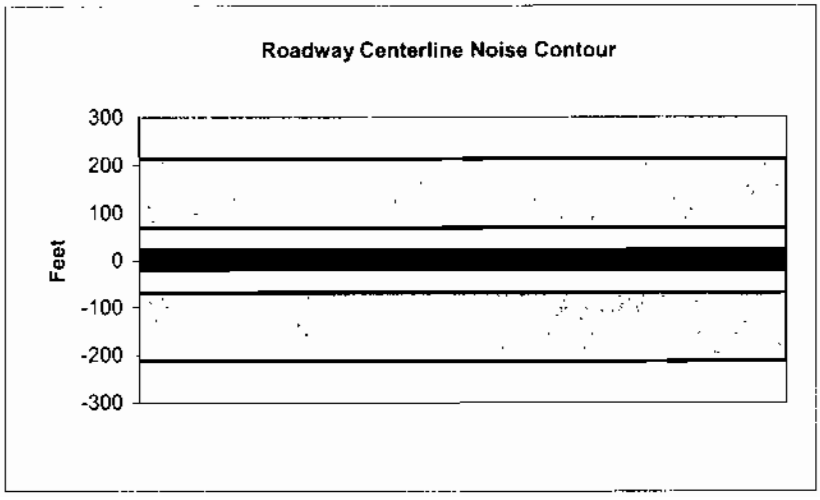
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.0	60.6
Medium Trucks:	61.1	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	66.7	54.8	45.7	47.0	57.1	57.2
Vehicle Noise:	**69.3**	**61.7**	**58.2**	**53.9**	**62.4**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	214
65 dBA	68
	21
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Pacific and Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12895
Peak Hour Traffic:	**1289.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

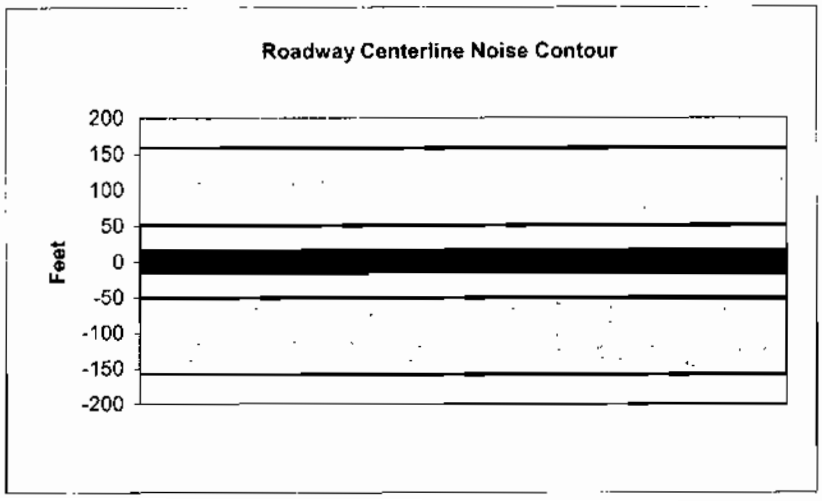
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.2	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	59.8	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	65.4	53.5	44.4	45.7	55.8	55.9
Vehicle Noise:	**68.0**	**60.5**	**56.9**	**52.6**	**61.1**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	159
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13105
Peak Hour Traffic:	1310.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

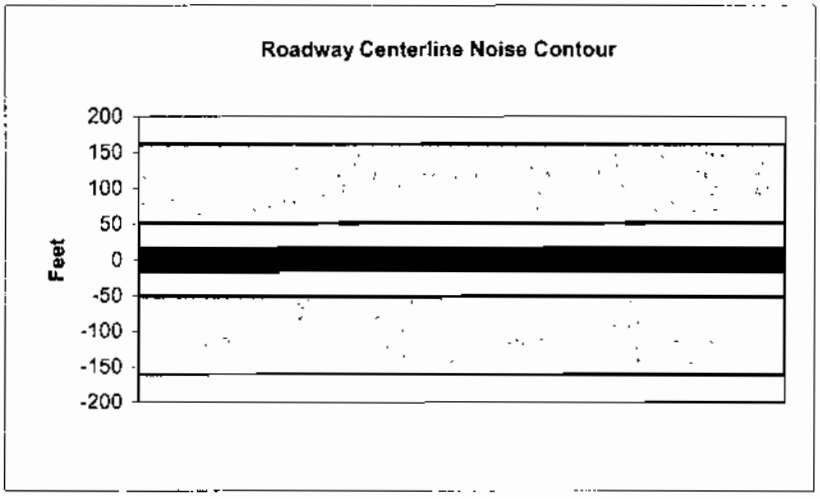
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.0	56.3	50.2	58.8	59.4
Medium Trucks:	59.9	51.8	45.4	43.8	52.3	52.6
Heavy Trucks:	65.5	53.6	44.5	45.7	55.9	56.0
Vehicle Noise:	**68.0**	**60.5**	**57.0**	**52.7**	**61.2**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	162
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Atlantic		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14230
Peak Hour Traffic:	1423
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

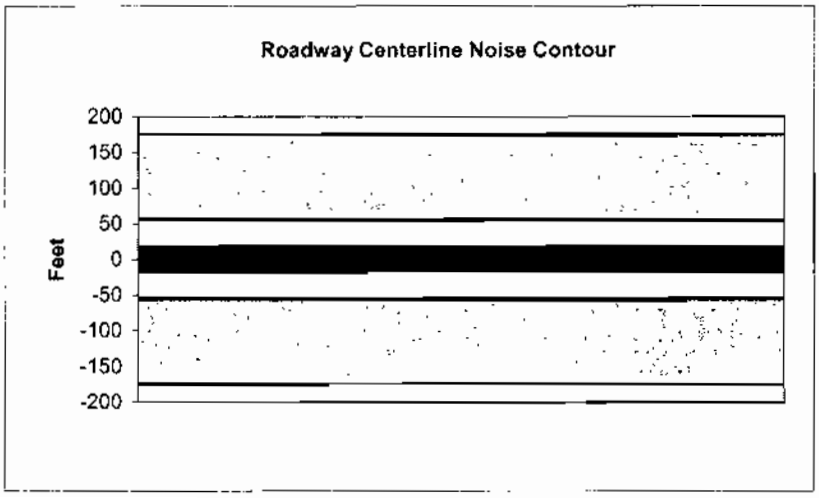
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.4	56.6	50.5	59.2	59.8
Medium Trucks:	60.2	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	65.9	53.9	44.9	46.1	56.2	56.3
Vehicle Noise:	**68.4**	**60.9**	**57.3**	**53.0**	**61.6**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	176
65 dBA	56
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Pacific		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11830
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1183**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

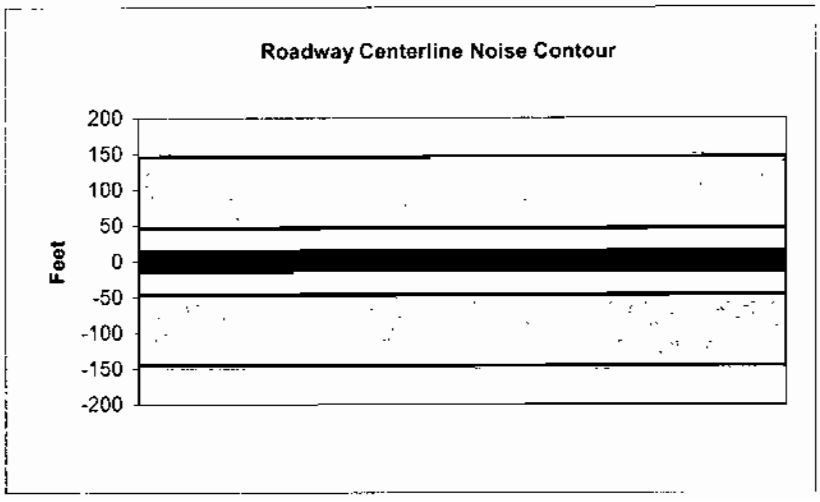
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.8	57.6	55.8	49.7	58.4	59.0
Medium Trucks:	59.4	51.4	45.0	43.4	51.9	52.1
Heavy Trucks:	65.1	53.1	44.1	45.3	55.4	55.5
Vehicle Noise:	**67.6**	**60.1**	**56.5**	**52.2**	**60.8**	**61.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	146
65 dBA	46
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 1st Street and East 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	10460
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1046**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	**0**		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

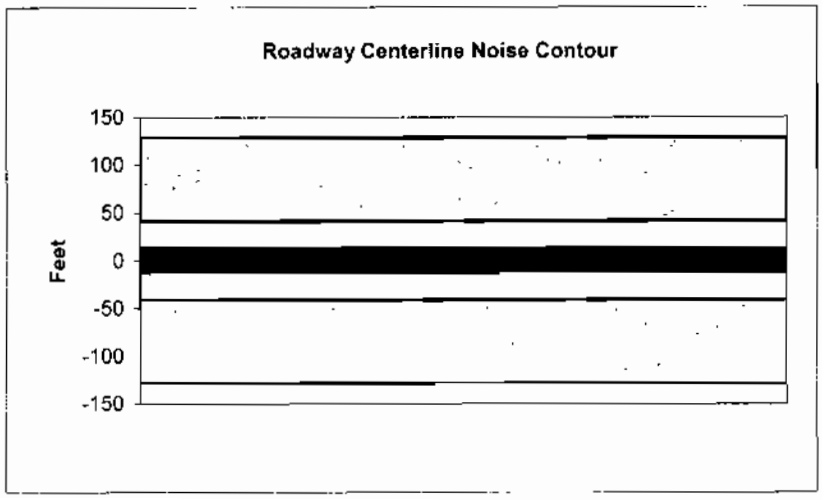
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.1	55.3	49.2	57.8	58.4
Medium Trucks:	58.9	50.8	44.4	42.9	51.4	51.6
Heavy Trucks:	64.5	52.6	43.5	44.8	54.9	55.0
Vehicle Noise:	**67.1**	**59.5**	**56.0**	**51.7**	**60.2**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	129
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15310
Peak Hour Traffic:	**1531**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

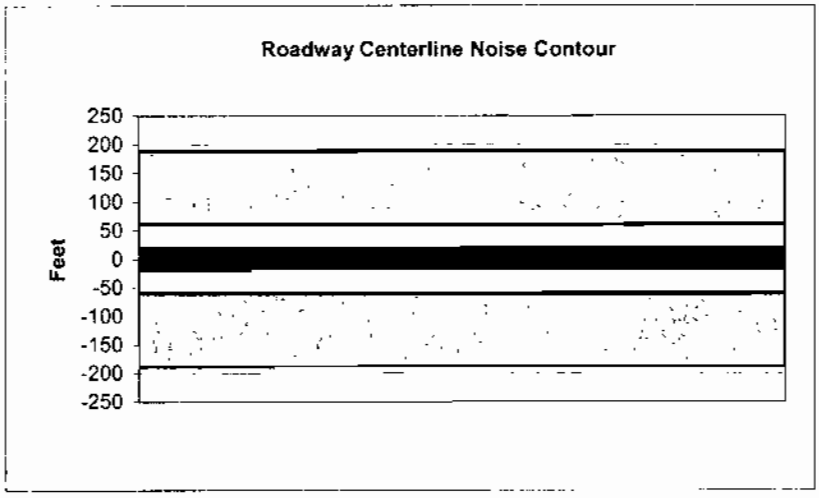
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	60.5	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.2	45.2	46.4	56.5	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.3**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	189
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	12735
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1273.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

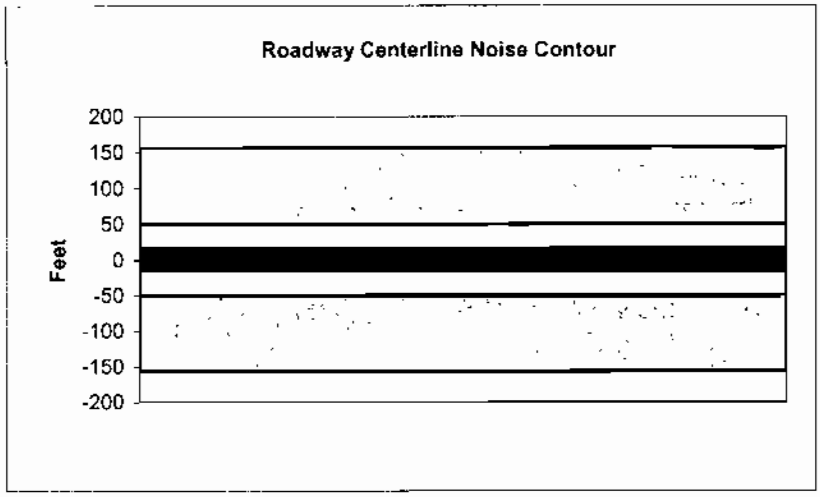
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.1	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	59.7	51.7	45.3	43.7	52.2	52.4
Heavy Trucks:	65.4	53.5	44.4	45.6	55.7	55.9
Vehicle Noise:	**67.9**	**60.4**	**56.9**	**52.5**	**61.1**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	157
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	12170
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1217**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

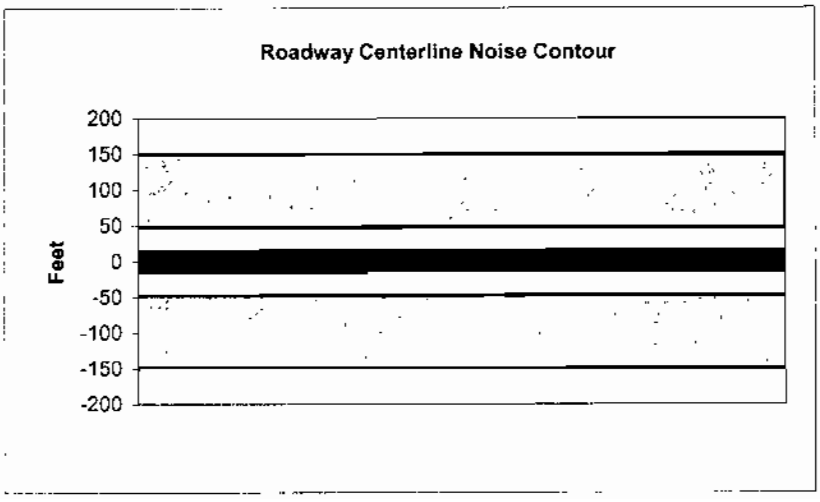
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.9	57.7	55.9	49.9	58.5	59.1
Medium Trucks:	59.5	51.5	45.1	43.5	52.0	52.2
Heavy Trucks:	65.2	53.3	44.2	45.4	55.5	55.7
Vehicle Noise:	**67.7**	**60.2**	**56.7**	**52.3**	**60.9**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	150
65 dBA	48
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between East 1st Street and Medio Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	10220
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1022**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

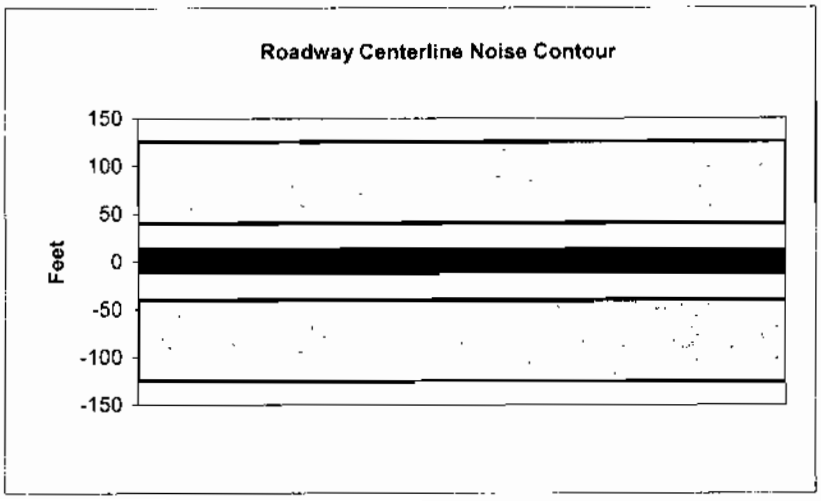
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	57.0	55.2	49.1	57.7	58.3
Medium Trucks:	58.8	50.7	44.3	42.8	51.3	51.5
Heavy Trucks:	64.4	52.5	43.4	44.7	54.8	54.9
Vehicle Noise:	**67.0**	**59.4**	**55.9**	**51.6**	**60.1**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	126
65 dBA	40
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between Medio Street and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9885
Peak Hour Traffic:	988.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

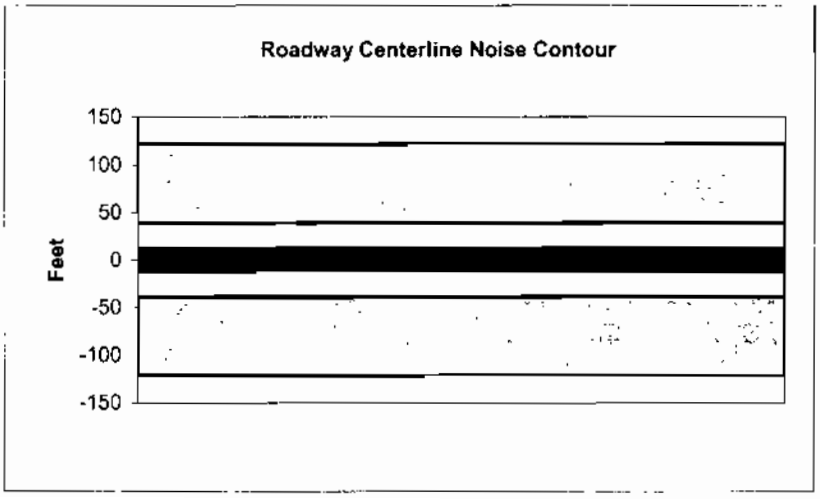
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	58.6	50.6	44.2	42.6	51.1	51.3
Heavy Trucks:	64.3	52.3	43.3	44.5	54.6	54.8
Vehicle Noise:	**66.8**	**59.3**	**55.8**	**51.4**	**60.0**	**60.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	122
65 dBA	39
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue North of 3rd Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12860
Peak Hour Traffic:	1286
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

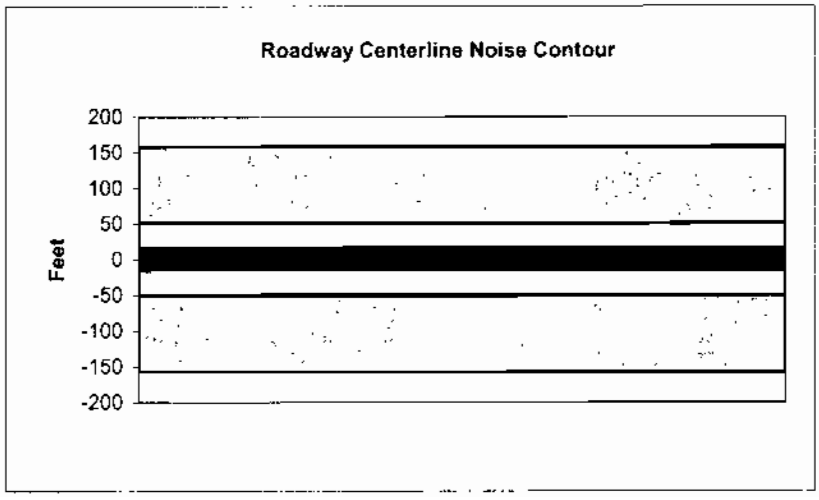
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.2	58.0	56.2	50.1	58.7	59.3
Medium Trucks:	59.8	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	65.4	53.5	44.4	45.7	55.8	55.9
Vehicle Noise:	**68.0**	**60.4**	**56.9**	**52.6**	**61.1**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	159
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue North of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9690
Peak Hour Traffic:	969
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

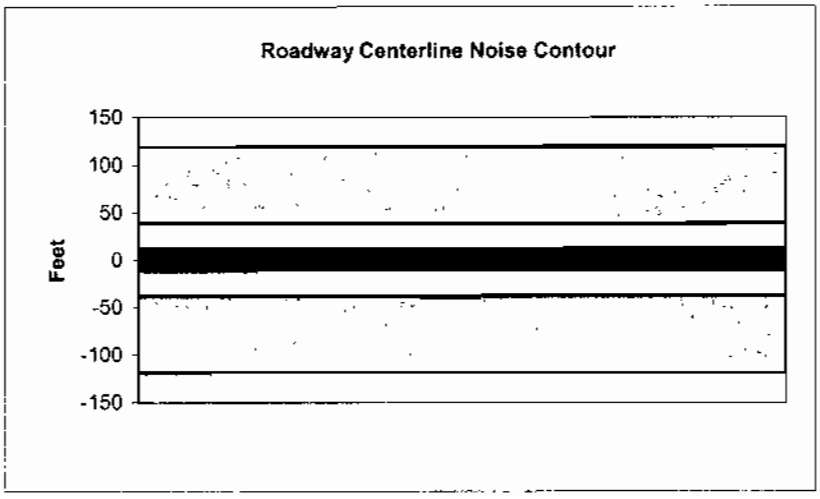
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.7	54.9	48.9	57.5	58.1
Medium Trucks:	58.6	50.5	44.1	42.5	51.0	51.3
Heavy Trucks:	64.2	52.3	43.2	44.4	54.6	54.7
Vehicle Noise:	**66.7**	**59.2**	**55.7**	**51.3**	**59.9**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	120
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue South of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13440
Peak Hour Traffic:	1344
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

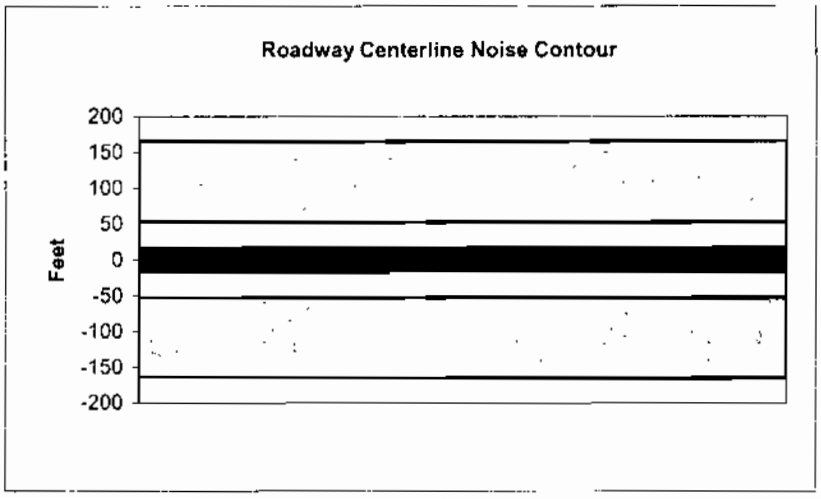
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	58.9	59.5
Medium Trucks:	60.0	51.9	45.5	44.0	52.4	52.7
Heavy Trucks:	65.6	53.7	44.6	45.8	56.0	56.1
Vehicle Noise:	**68.2**	**60.6**	**57.1**	**52.8**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	166
65 dBA	52
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3900
Peak Hour Traffic:	390
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

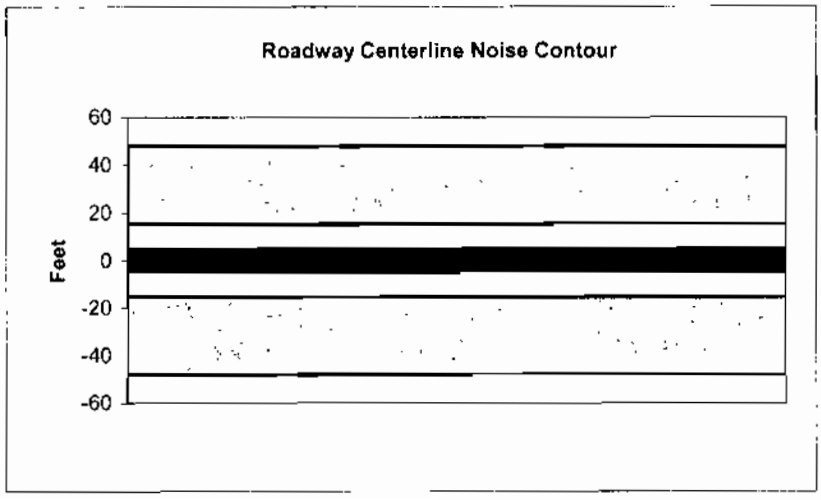
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.0	52.8	51.0	44.9	53.6	54.2
Medium Trucks:	54.6	46.5	40.2	38.6	47.1	47.3
Heavy Trucks:	60.2	48.3	39.3	40.5	50.6	50.7
Vehicle Noise:	**62.8**	**55.3**	**51.7**	**47.4**	**55.9**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	48
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	5585
Peak Hour Traffic:	558.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

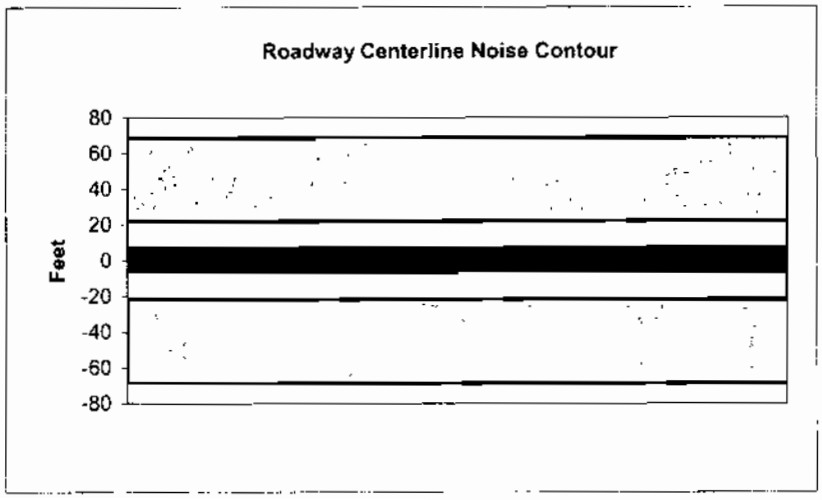
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.6	54.3	52.6	46.5	55.1	55.7
Medium Trucks:	56.2	48.1	41.7	40.1	48.6	48.9
Heavy Trucks:	61.8	49.9	40.8	42.0	52.2	52.3
Vehicle Noise:	**64.3**	**56.8**	**53.3**	**49.0**	**57.5**	**57.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	69
65 dBA	22
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6570
Peak Hour Traffic:	657
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

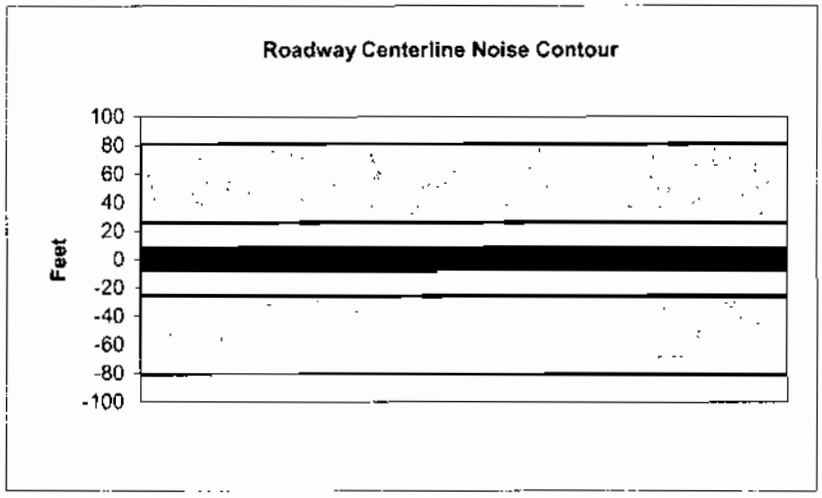
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.3	55.0	53.3	47.2	55.8	56.4
Medium Trucks:	56.9	48.8	42.4	40.8	49.3	49.6
Heavy Trucks:	62.5	50.6	41.5	42.7	52.9	53.0
Vehicle Noise:	**65.0**	**57.5**	**54.0**	**49.7**	**58.2**	**58.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	81
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8530
Peak Hour Traffic:	853
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

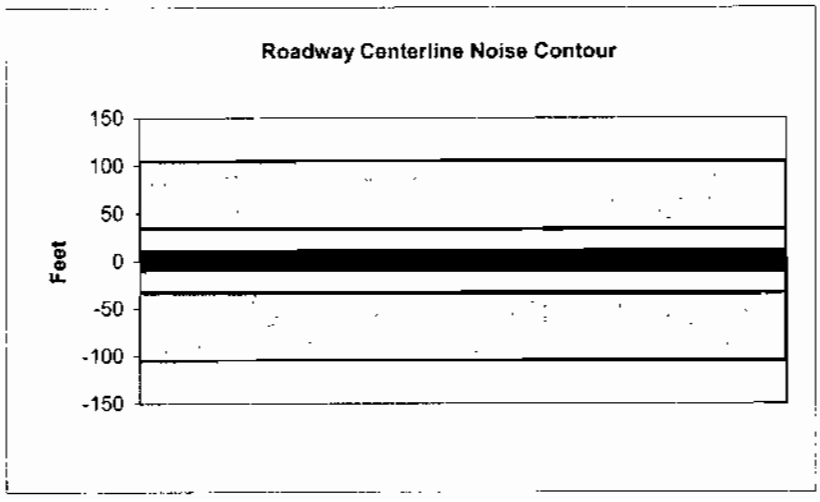
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	58.0	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	63.6	51.7	42.7	43.9	54.0	54.1
Vehicle Noise:	**66.2**	**58.7**	**55.1**	**50.8**	**59.3**	**59.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	105
65 dBA	33
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8870
Peak Hour Traffic:	887
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

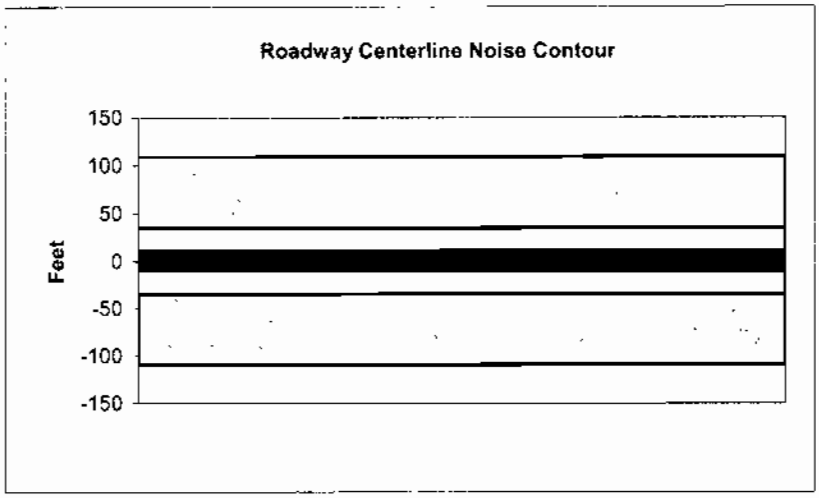
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.6	56.3	54.6	48.5	57.1	57.7
Medium Trucks:	58.2	50.1	43.7	42.1	50.6	50.9
Heavy Trucks:	63.8	51.9	42.8	44.0	54.2	54.3
Vehicle Noise:	**66.3**	**58.8**	**55.3**	**51.0**	**59.5**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	110
65 dBA	35
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9170
Peak Hour Traffic:	917
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

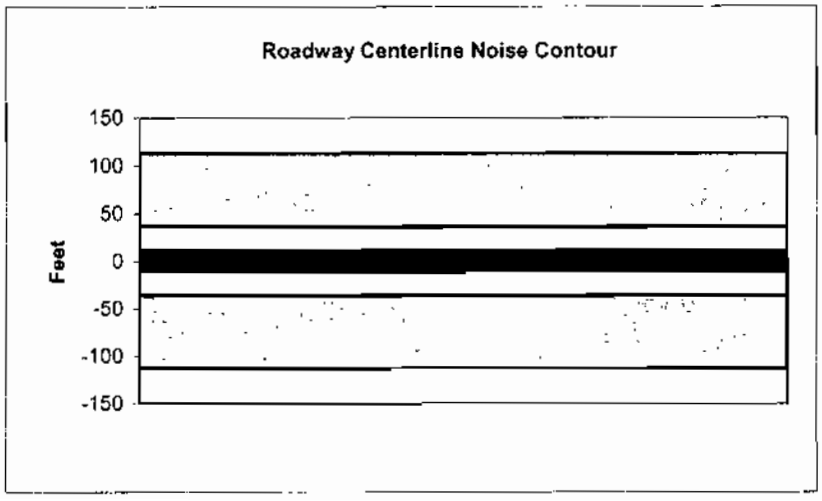
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	58.3	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	64.0	52.0	43.0	44.2	54.3	54.4
Vehicle Noise:	**66.5**	**59.0**	**55.4**	**51.1**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	113
65 dBA	36
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4900
Peak Hour Traffic:	490
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

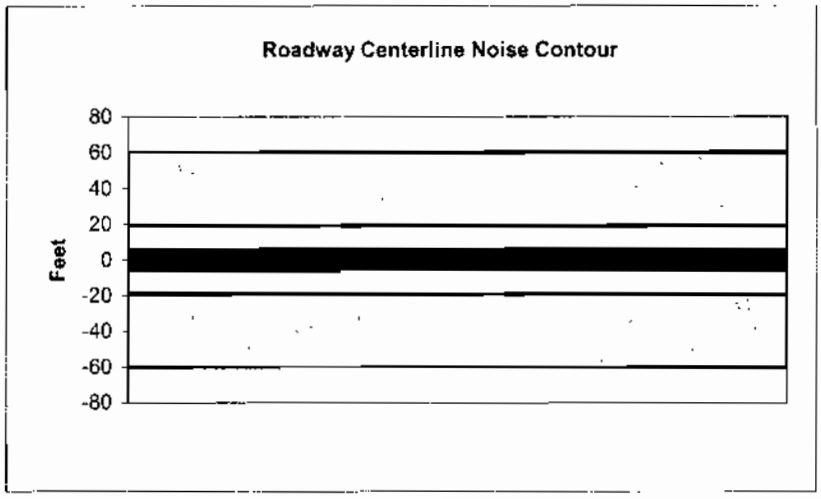
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.0	53.8	52.0	45.9	54.6	55.2
Medium Trucks:	55.6	47.5	41.1	39.6	48.1	48.3
Heavy Trucks:	61.2	49.3	40.2	41.5	51.6	51.7
Vehicle Noise:	**63.8**	**56.3**	**52.7**	**48.4**	**56.9**	**57.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	61
65 dBA	19
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Atlantic Avenue North of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10020
Peak Hour Traffic:	1002
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

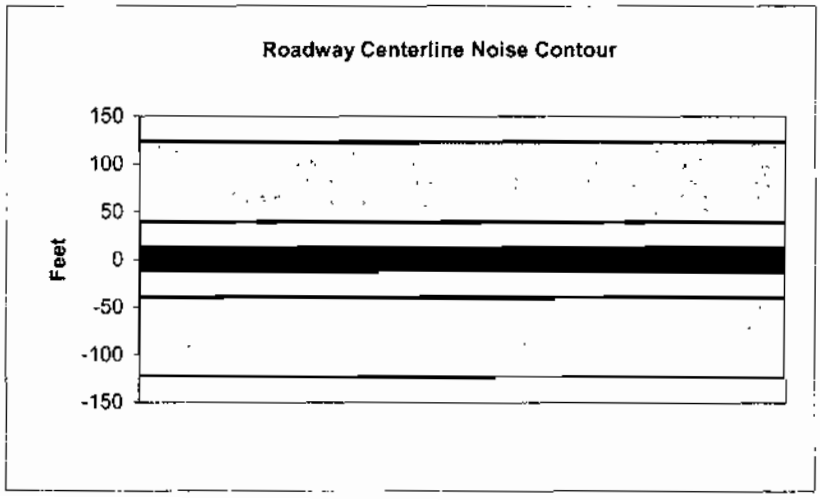
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.1	56.9	55.1	49.0	57.7	58.3
Medium Trucks:	58.7	50.6	44.3	42.7	51.2	51.4
Heavy Trucks:	64.3	52.4	43.4	44.6	54.7	54.8
Vehicle Noise:	**66.9**	**59.4**	**55.8**	**51.5**	**60.0**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	124
65 dBA	39
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue North of Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	410
Peak Hour Traffic:	41
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

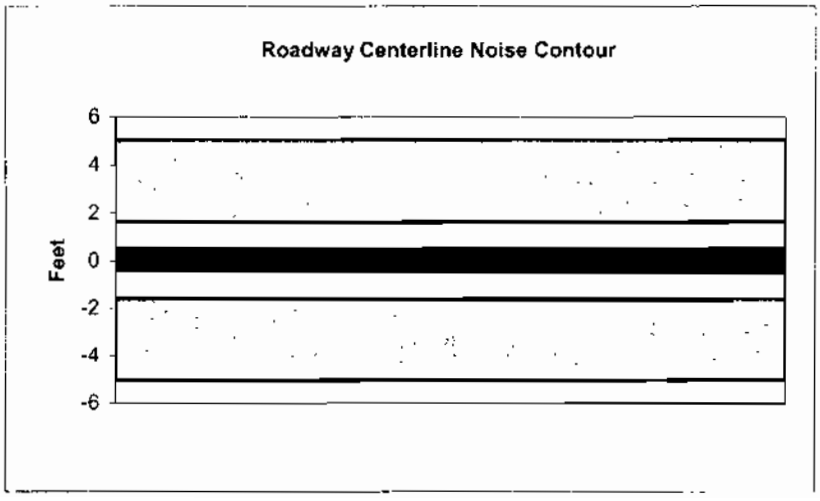
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	34.4	43.2	41.4	35.3	44.0	44.6
Medium Trucks:	45.0	37.0	30.6	29.0	37.5	37.7
Heavy Trucks:	50.7	38.7	29.7	30.9	41.0	41.2
Vehicle Noise:	**53.2**	**45.7**	**42.2**	**37.8**	**46.4**	**46.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	5
65 dBA	2
	0
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue North of Ocean		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	570
Peak Hour Traffic:	57
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

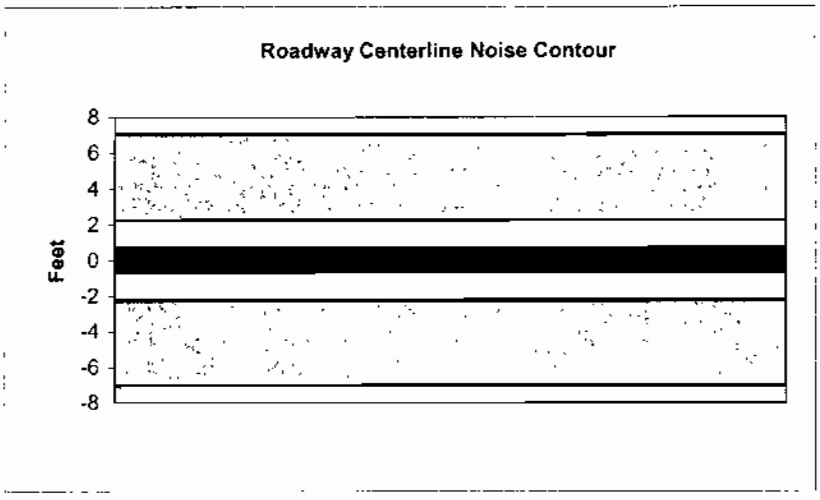
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	35.9	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	46.5	38.4	32.0	30.4	38.9	39.2
Heavy Trucks:	52.1	40.2	31.1	32.3	42.5	42.6
Vehicle Noise:	**54.6**	**47.1**	**43.6**	**39.3**	**47.8**	**48.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue South of Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	540
Peak Hour Traffic:	54
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

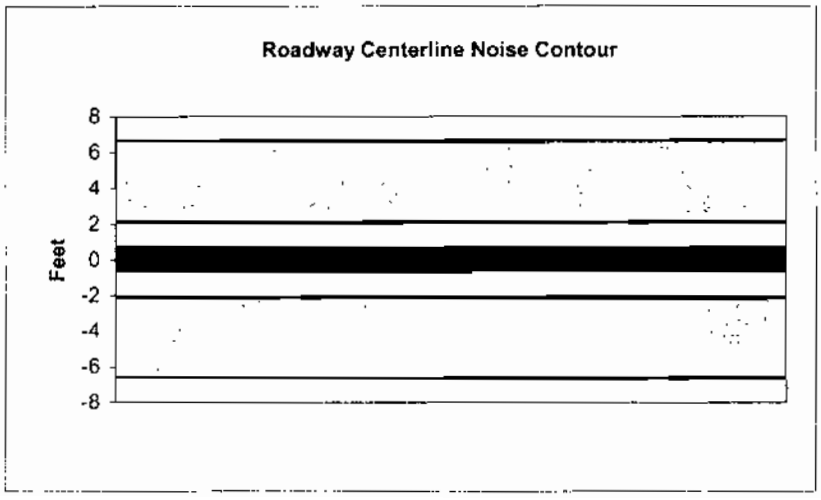
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	35.6	44.4	42.6	36.5	45.2	45.8
Medium Trucks:	46.2	38.2	31.8	30.2	38.7	38.9
Heavy Trucks:	51.9	39.9	30.9	32.1	42.2	42.4
Vehicle Noise:	**54.4**	**46.9**	**43.4**	**39.0**	**47.6**	**48.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Alamitos Avenue and Bonita Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	13540
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1354**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

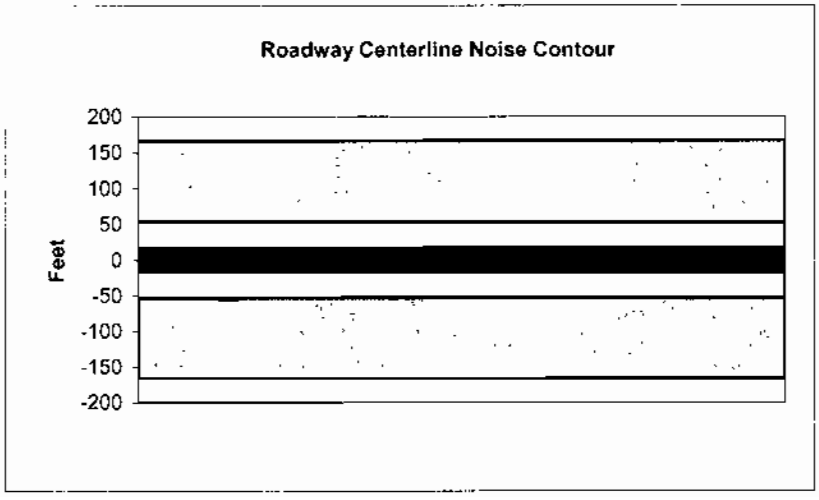
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	60.0	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	65.7	53.7	44.7	45.9	56.0	56.1
Vehicle Noise:	**68.2**	**60.7**	**57.1**	**52.8**	**61.3**	**61.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	167
65 dBA	53
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Atlantic Avenue and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11110
Peak Hour Traffic:	1111
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

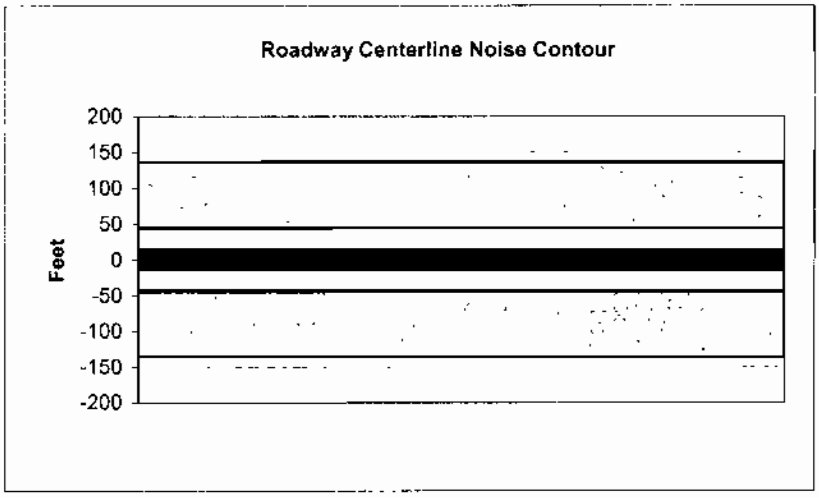
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.9	43.8	45.0	55.1	55.3
Vehicle Noise:	**67.3**	**59.8**	**56.3**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	137
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Bonita Avenue and Orange Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13610
Peak Hour Traffic:	1361
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

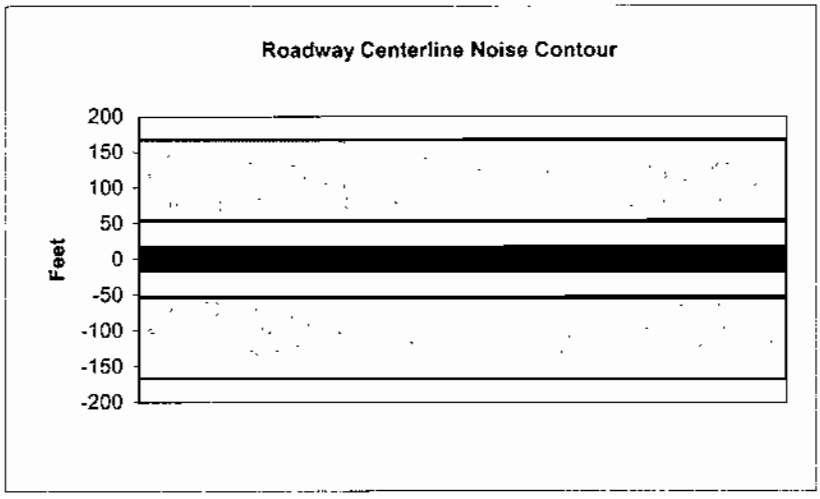
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	60.0	52.0	45.6	44.0	52.5	52.7
Heavy Trucks:	65.7	53.7	44.7	45.9	56.0	56.2
Vehicle Noise:	**68.2**	**60.7**	**57.1**	**52.8**	**61.4**	**61.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	168
65 dBA	53
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Orange Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14170
Peak Hour Traffic:	1417
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

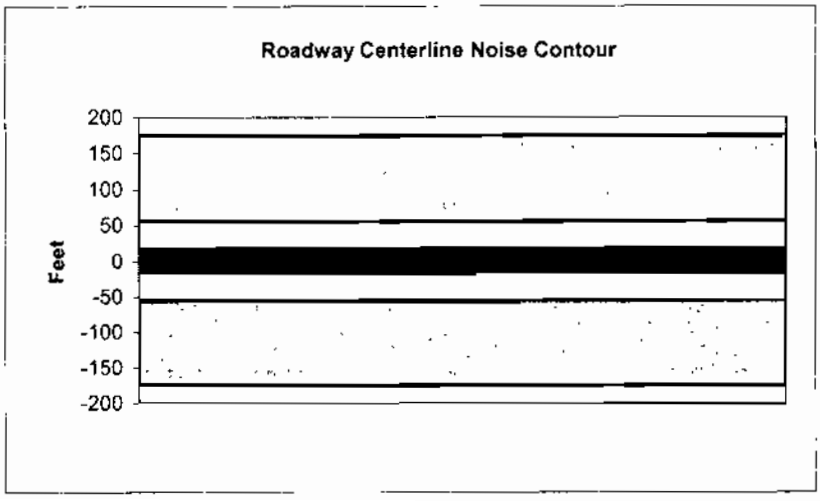
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.4	56.6	50.5	59.2	59.8
Medium Trucks:	60.2	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	65.9	53.9	44.9	46.1	56.2	56.3
Vehicle Noise:	**68.4**	**60.9**	**57.3**	**53.0**	**61.5**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	175
65 dBA	55
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11040
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1104**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

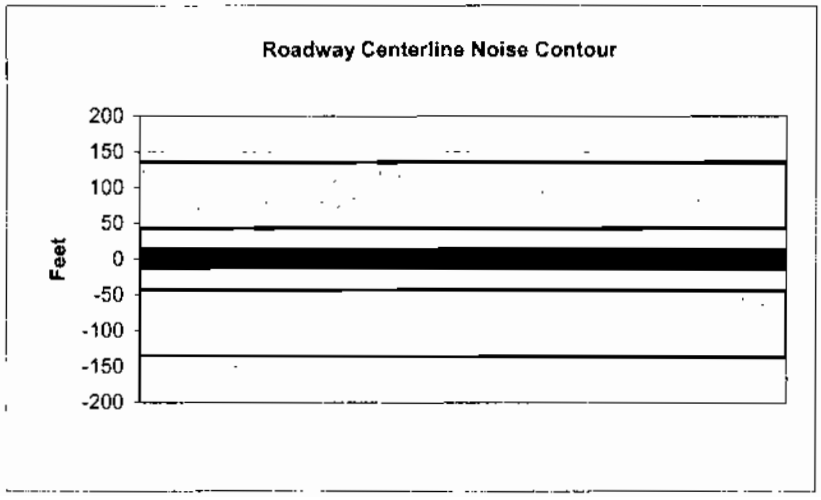
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.8	43.8	45.0	55.1	55.2
Vehicle Noise:	**67.3**	**59.8**	**56.2**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	136
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Magnolia		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11040
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1104**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

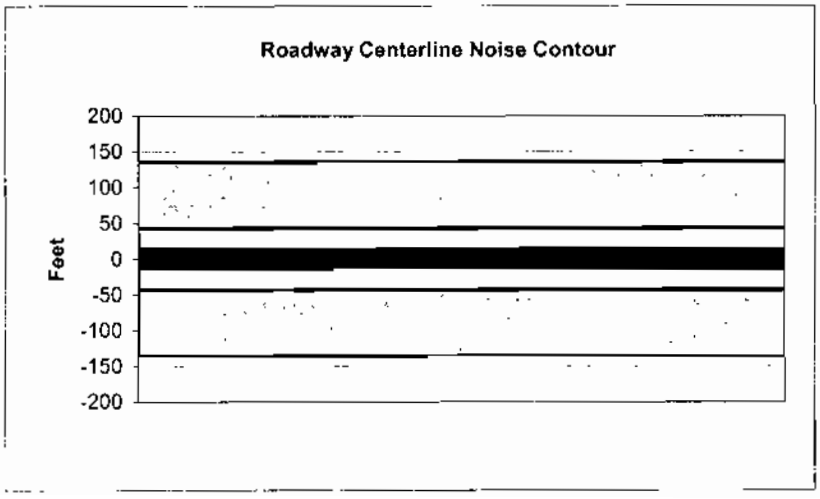
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.8	43.8	45.0	55.1	55.2
Vehicle Noise:	**67.3**	**59.8**	**56.2**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	136
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11330
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1133**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

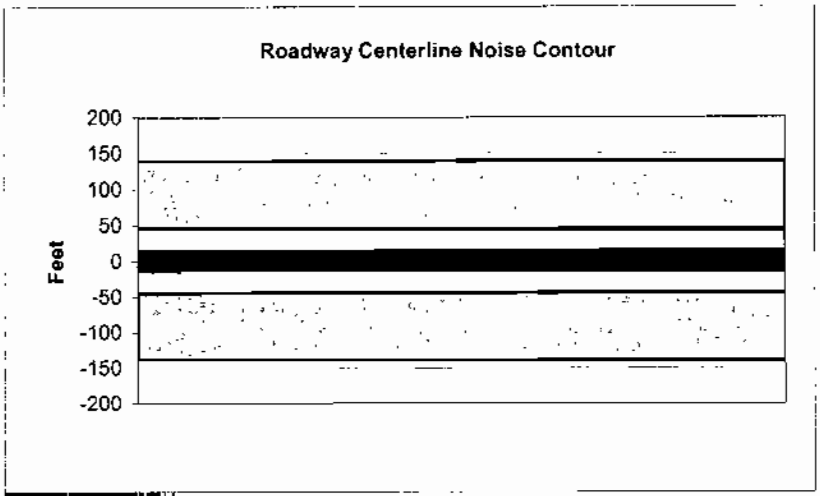
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.4	55.6	49.5	58.2	58.8
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	64.9	52.9	43.9	45.1	55.2	55.4
Vehicle Noise:	**67.4**	**59.9**	**56.4**	**52.0**	**60.6**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	140
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Lime Street and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	10750
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1075**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

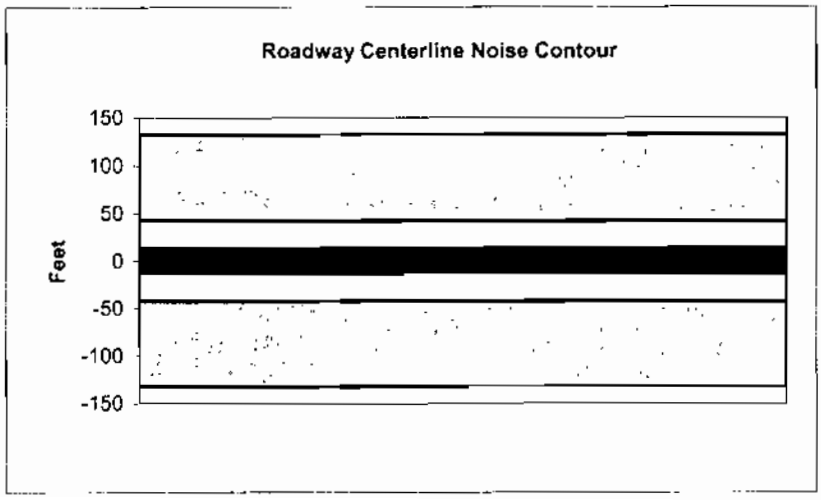
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	59.0	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	64.7	52.7	43.7	44.9	55.0	55.1
Vehicle Noise:	**67.2**	**59.7**	**56.1**	**51.8**	**60.3**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	133
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Pacific Avenue & Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	12410
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1241**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

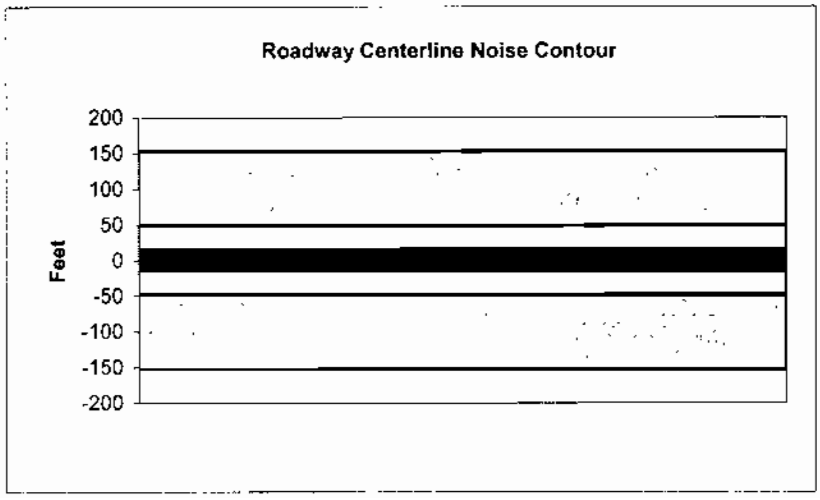
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	59.6	51.6	45.2	43.6	52.1	52.3
Heavy Trucks:	65.3	53.3	44.3	45.5	55.6	55.8
Vehicle Noise:	**67.8**	**60.3**	**56.7**	**52.4**	**61.0**	**61.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	153
65 dBA	48
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Pine Street & Long Beach Blvd		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	12195
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1219.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

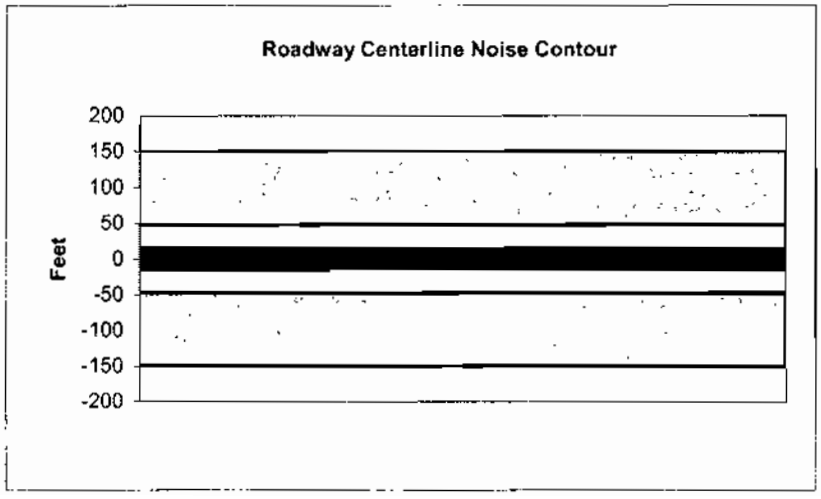
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.7	55.9	49.9	58.5	59.1
Medium Trucks:	59.6	51.5	45.1	43.5	52.0	52.3
Heavy Trucks:	65.2	53.3	44.2	45.4	55.6	55.7
Vehicle Noise:	**67.7**	**60.2**	**56.7**	**52.3**	**60.9**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	151
65 dBA	48
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Atlantic Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11100
Peak Hour Traffic:	1110
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

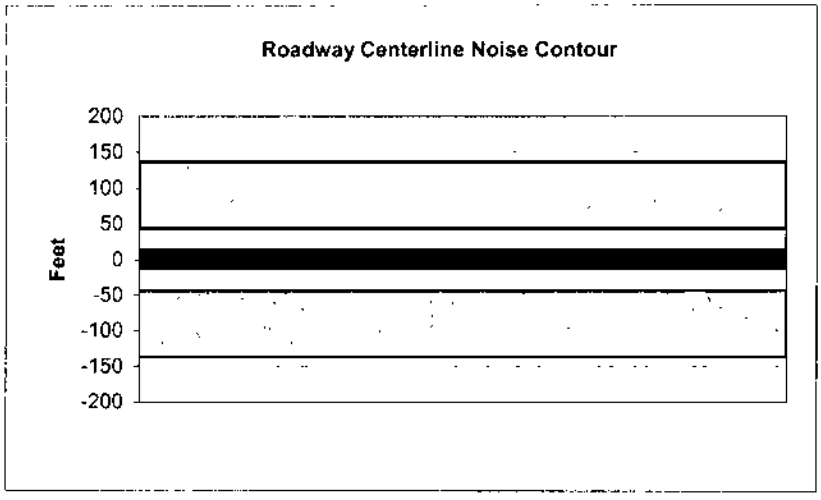
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.9	43.8	45.0	55.1	55.3
Vehicle Noise:	**67.3**	**59.8**	**56.3**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	137
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Magnolia		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12620
Peak Hour Traffic:	1262
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

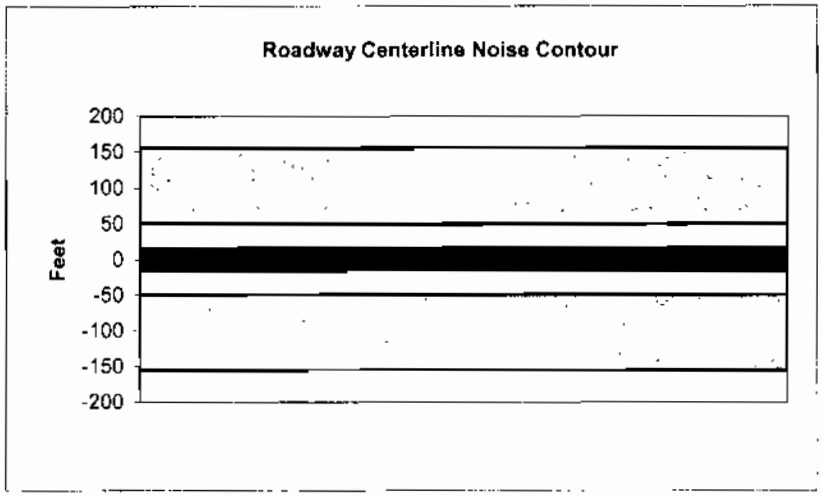
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.1	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	59.7	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	65.3	53.4	44.4	45.6	55.7	55.8
Vehicle Noise:	**67.9**	**60.4**	**56.8**	**52.5**	**61.0**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	156
65 dBA	49
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Pacific Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12020
Peak Hour Traffic:	**1202**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

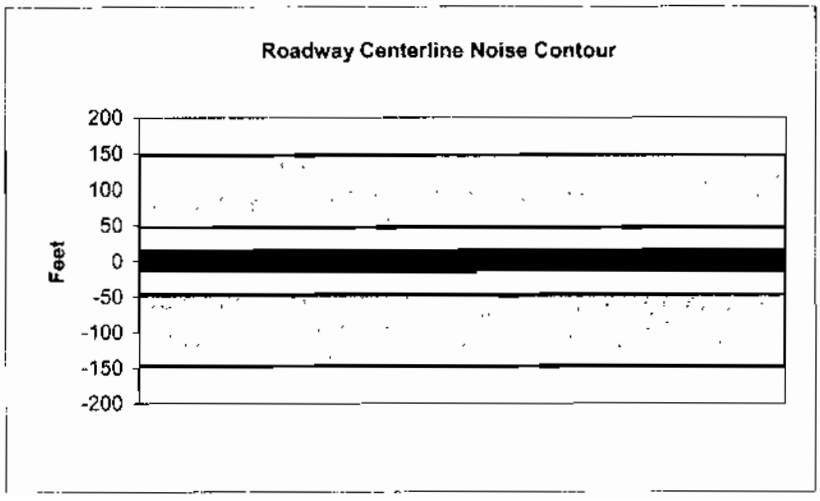
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.9	57.7	55.9	49.8	58.4	59.1
Medium Trucks:	59.5	51.4	45.0	43.5	52.0	52.2
Heavy Trucks:	65.1	53.2	44.1	45.4	55.5	55.6
Vehicle Noise:	**67.7**	**60.2**	**56.6**	**52.3**	**60.8**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	148
65 dBA	47
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1590
Peak Hour Traffic:	159
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

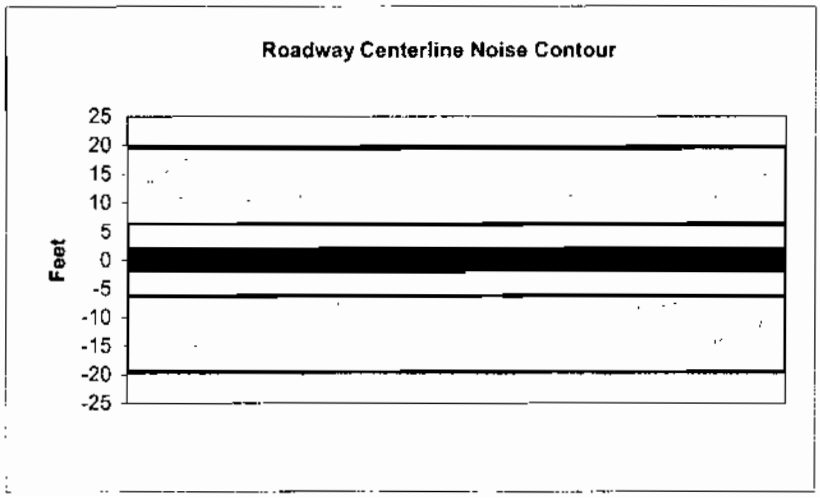
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.3	49.1	47.3	41.2	49.9	50.5
Medium Trucks:	50.9	42.9	36.5	34.9	43.4	43.6
Heavy Trucks:	56.6	44.6	35.6	36.8	46.9	47.1
Vehicle Noise:	**59.1**	**51.6**	**48.0**	**43.7**	**52.3**	**52.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	20
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Cedar Avenue north of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1940
Peak Hour Traffic:	194
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

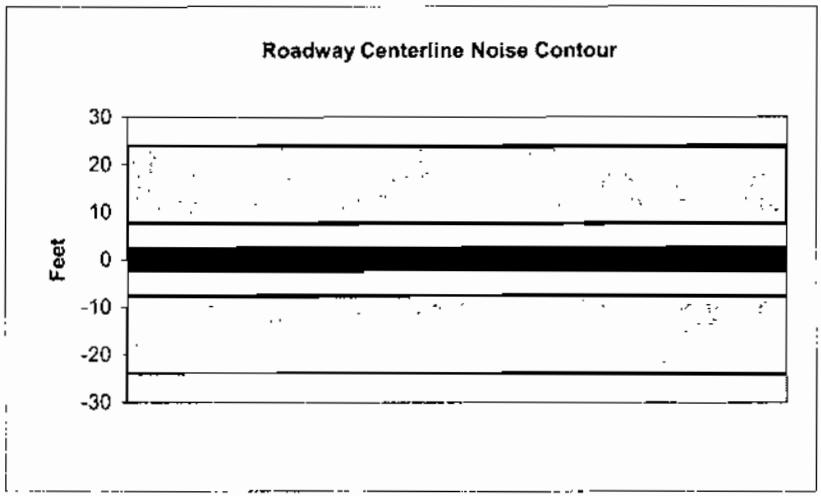
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.2	50.0	48.2	42.1	50.7	51.4
Medium Trucks:	51.8	43.7	37.3	35.8	44.3	44.5
Heavy Trucks:	57.4	45.5	36.4	37.7	47.8	47.9
Vehicle Noise:	**60.0**	**52.5**	**48.9**	**44.6**	**53.1**	**53.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	24
65 dBA	8
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Cedar Avenue south of 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1250
Peak Hour Traffic:	125
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

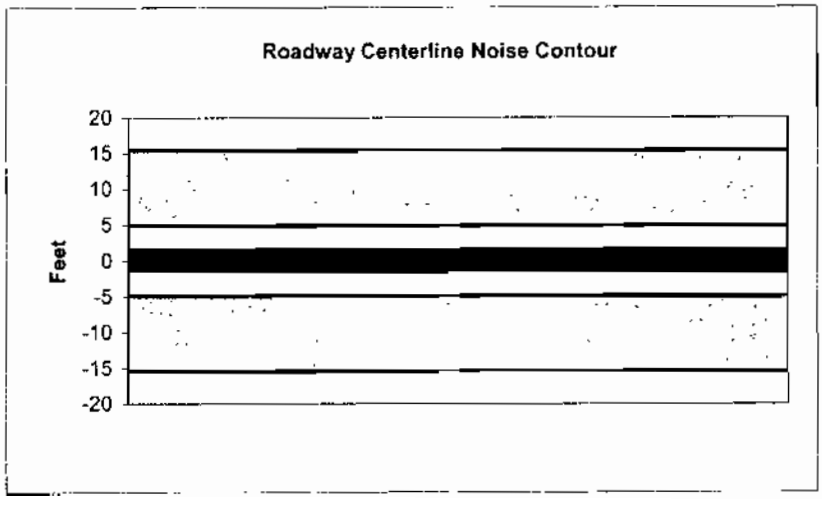
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.3	48.1	46.3	40.2	48.8	49.4
Medium Trucks:	49.9	41.8	35.4	33.9	42.3	42.6
Heavy Trucks:	55.5	43.6	34.5	35.8	45.9	46.0
Vehicle Noise:	**58.1**	**50.5**	**47.0**	**42.7**	**51.2**	**51.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	15
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Chestnut Avenue		
Road Segment:	Chestnut Avenue north of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1060
Peak Hour Traffic:	106
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

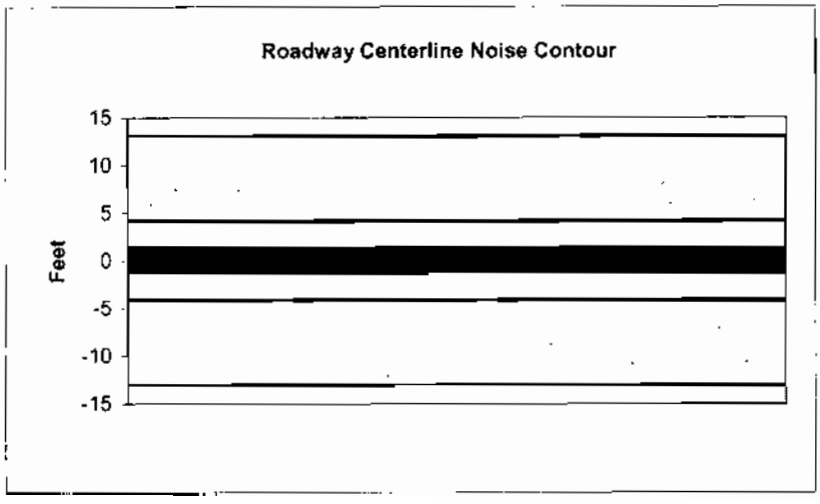
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.6	47.3	45.6	39.5	48.1	48.7
Medium Trucks:	49.2	41.1	34.7	33.1	41.6	41.9
Heavy Trucks:	54.8	42.9	33.8	35.0	45.2	45.3
Vehicle Noise:	**57.3**	**49.8**	**46.3**	**42.0**	**50.5**	**50.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	13
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Chestnut Avenue		
Road Segment:	Chestnut Avenue south of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	980
Peak Hour Traffic:	98
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

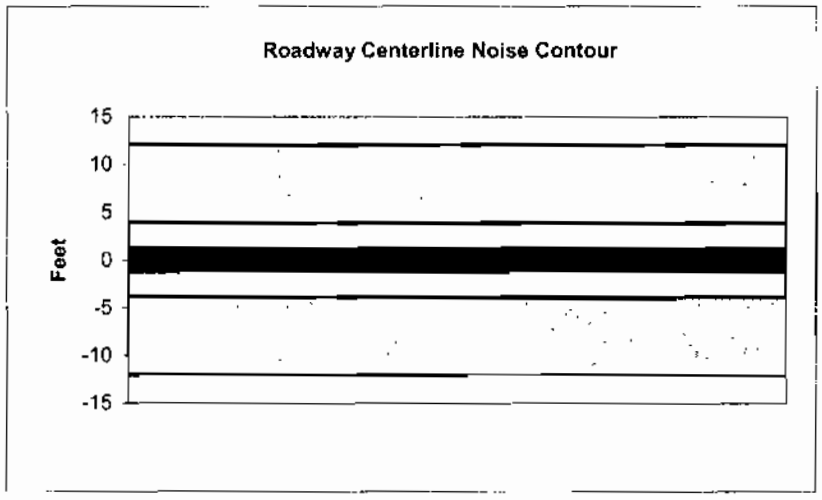
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.2	47.0	45.2	39.1	47.8	48.4
Medium Trucks:	48.8	40.8	34.4	32.8	41.3	41.5
Heavy Trucks:	54.5	42.5	33.5	34.7	44.8	45.0
Vehicle Noise:	**57.0**	**49.5**	**45.9**	**41.6**	**50.2**	**50.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	12
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	East 1st Street		
Road Segment:	East 1st Street East of Alamitas Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	640
Peak Hour Traffic:	64
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

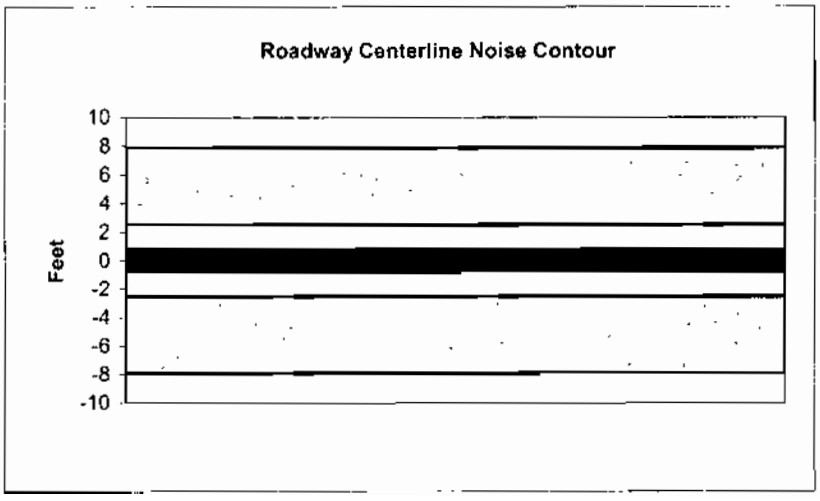
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.2	44.9	43.1	37.1	45.7	46.3
Medium Trucks:	46.8	38.7	32.3	30.7	39.2	39.5
Heavy Trucks:	52.4	40.5	31.4	32.6	42.8	42.9
Vehicle Noise:	**54.9**	**47.4**	**43.9**	**39.5**	**48.1**	**48.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	8
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2370
Peak Hour Traffic:	237
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

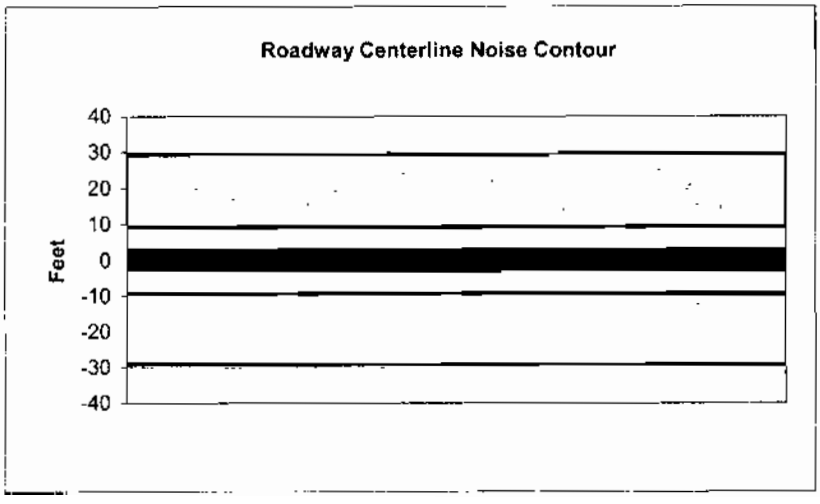
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.1	50.8	49.1	43.0	51.6	52.2
Medium Trucks:	52.7	44.6	38.2	36.6	45.1	45.4
Heavy Trucks:	58.3	46.4	37.3	38.5	48.7	48.8
Vehicle Noise:	**60.8**	**53.3**	**49.8**	**45.4**	**54.0**	**54.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	29
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1055
Peak Hour Traffic:	105.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

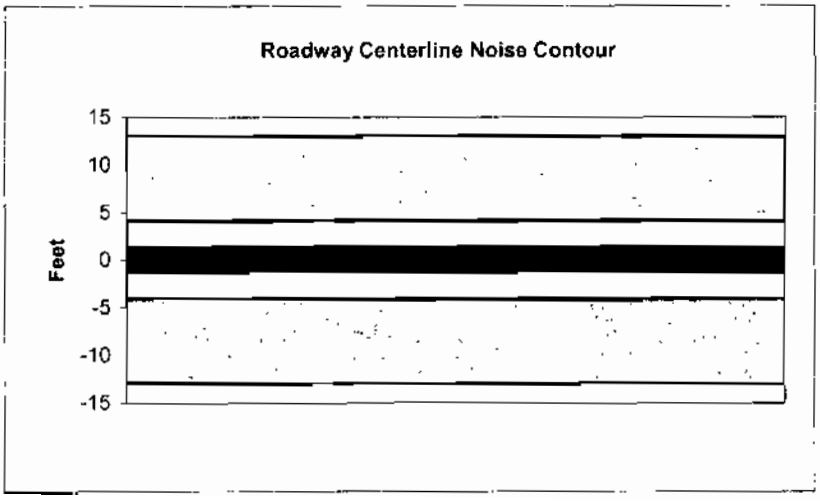
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.5	47.3	45.5	39.5	48.1	48.7
Medium Trucks:	49.1	41.1	34.7	33.1	41.6	41.8
Heavy Trucks:	54.8	42.9	33.8	35.0	45.1	45.3
Vehicle Noise:	**57.3**	**49.8**	**46.3**	**41.9**	**50.5**	**50.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	13
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3380
Peak Hour Traffic:	338
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

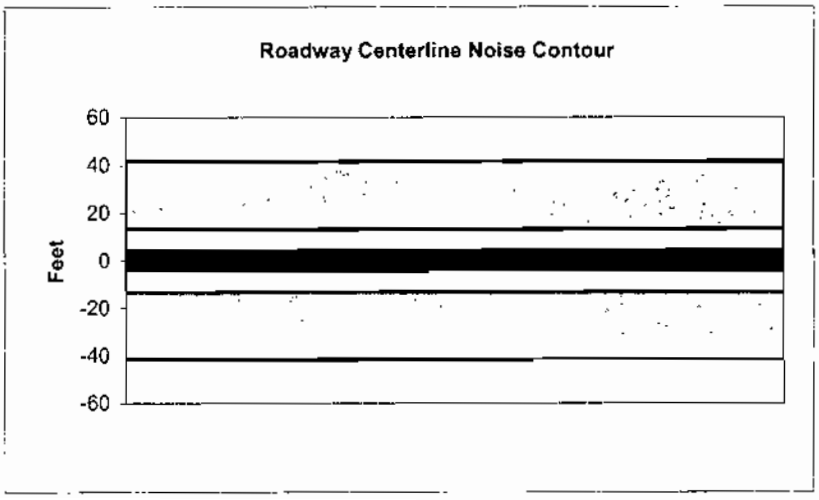
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.6	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	54.2	46.1	39.8	38.2	46.7	46.9
Heavy Trucks:	59.8	47.9	38.9	40.1	50.2	50.3
Vehicle Noise:	**62.4**	**54.9**	**51.3**	**47.0**	**55.5**	**56.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	42
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2240
Peak Hour Traffic:	224
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

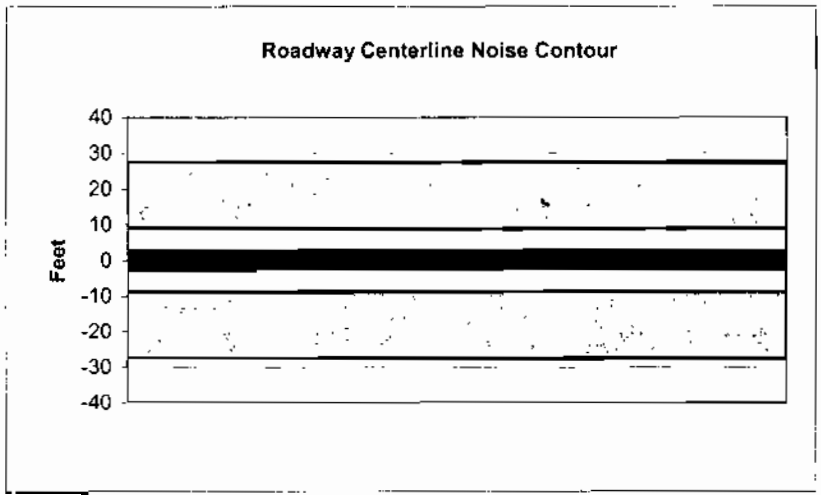
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.8	50.6	48.8	42.7	51.4	52.0
Medium Trucks:	52.4	44.3	38.0	36.4	44.9	45.1
Heavy Trucks:	58.1	46.1	37.1	38.3	48.4	48.5
Vehicle Noise:	**60.6**	**53.1**	**49.5**	**45.2**	**53.8**	**54.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	28
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue North of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1000
Receiver Barrier Dist:	0	Peak Hour Traffic:	100
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

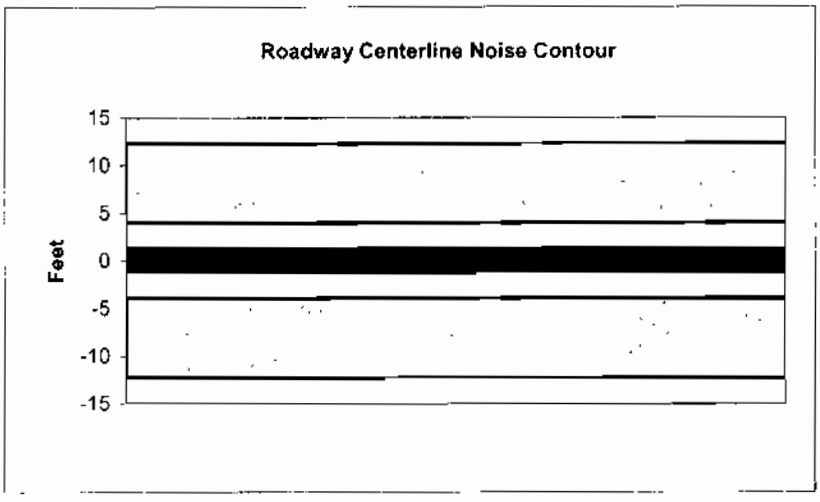
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.3	47.1	45.3	39.2	47.9	48.5
Medium Trucks:	48.9	40.8	34.5	32.9	41.4	41.6
Heavy Trucks:	54.6	42.6	33.6	34.8	44.9	45.0
Vehicle Noise:	**57.1**	**49.6**	**46.0**	**41.7**	**50.3**	**50.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	12
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue South of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1180
Peak Hour Traffic:	118
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

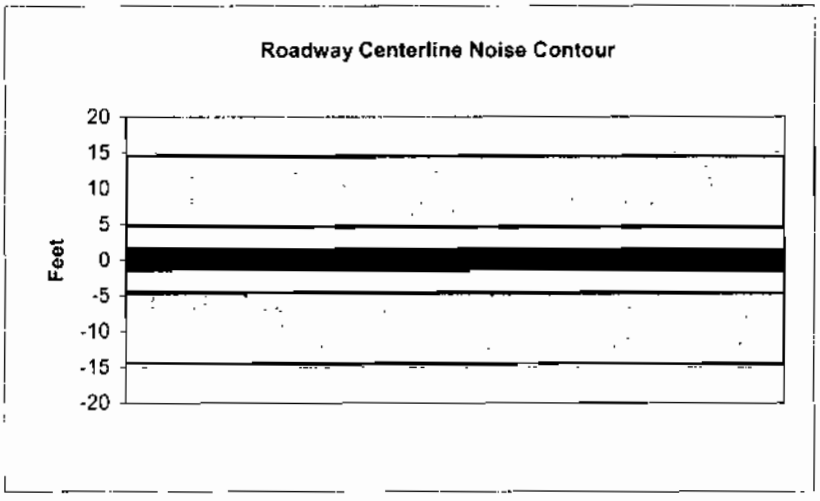
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.0	47.8	46.0	39.9	48.6	49.2
Medium Trucks:	49.6	41.6	35.2	33.6	42.1	42.3
Heavy Trucks:	55.3	43.3	34.3	35.5	45.6	45.8
Vehicle Noise:	**57.8**	**50.3**	**46.7**	**42.4**	**51.0**	**51.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	15
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue South of 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3540
Receiver Barrier Dist:	0	Peak Hour Traffic:	**354**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

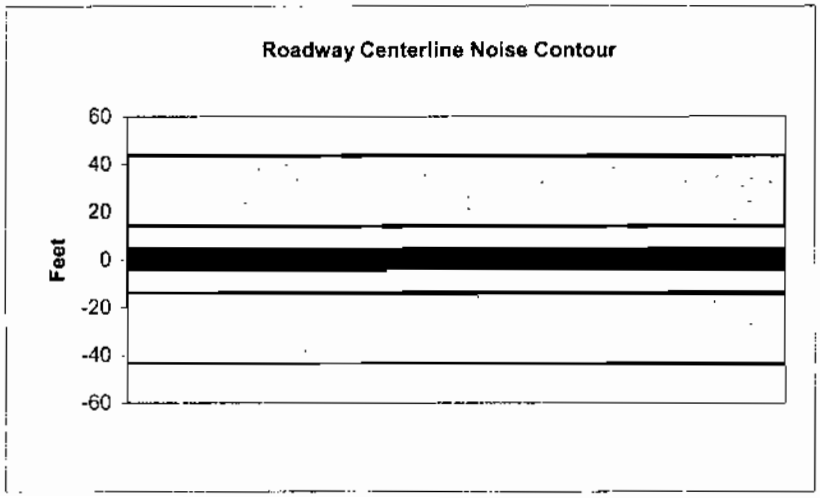
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.8	52.6	50.8	44.7	53.4	54.0
Medium Trucks:	54.4	46.3	40.0	38.4	46.9	47.1
Heavy Trucks:	60.0	48.1	39.1	40.3	50.4	50.5
Vehicle Noise:	**62.6**	**55.1**	**51.5**	**47.2**	**55.7**	**56.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	44
65 dBA	14
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6410
Peak Hour Traffic:	641
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

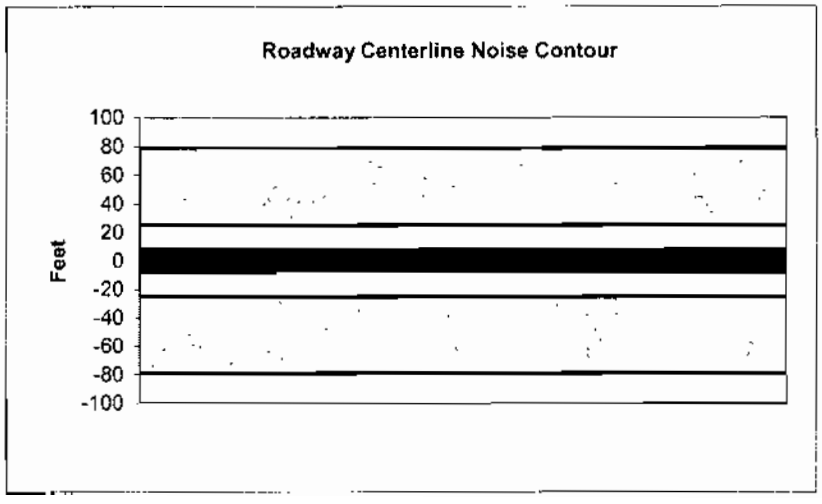
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.9	54.6	52.9	46.8	55.4	56.0
Medium Trucks:	56.5	48.4	42.0	40.4	48.9	49.2
Heavy Trucks:	62.1	50.2	41.1	42.3	52.5	52.6
Vehicle Noise:	**64.6**	**57.1**	**53.6**	**49.3**	**57.8**	**58.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	79
65 dBA	25
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade).	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	7610
Peak Hour Traffic:	761
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

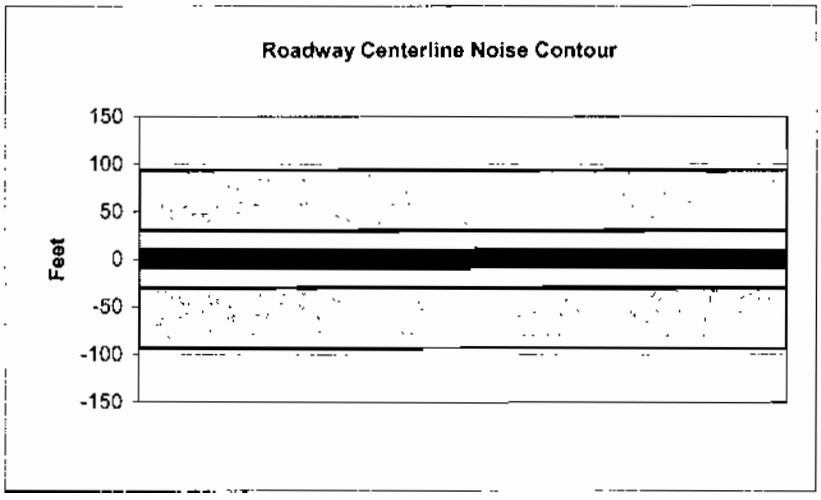
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.6	55.4	53.6	47.5	56.2	56.8
Medium Trucks:	57.2	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	62.9	50.9	41.9	43.1	53.2	53.3
Vehicle Noise:	**65.4**	**57.9**	**54.3**	**50.0**	**58.5**	**59.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	94
65 dBA	30
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8090
Peak Hour Traffic:	809
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

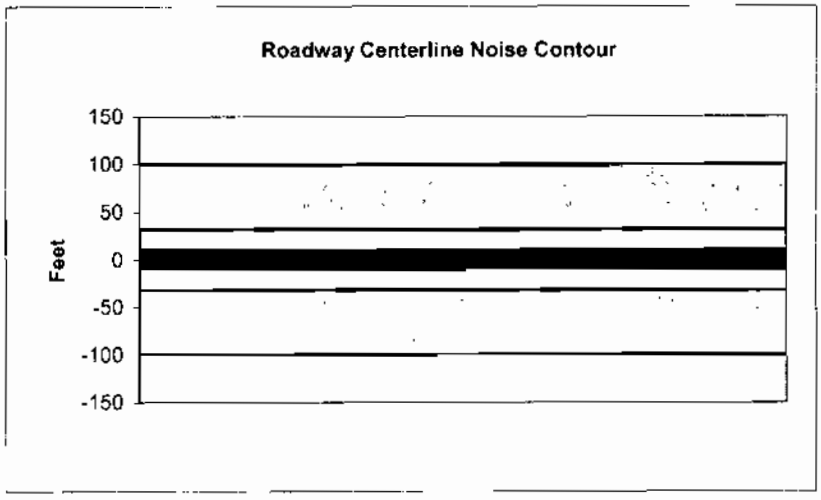
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.9	55.7	53.9	47.8	56.4	57.0
Medium Trucks:	57.5	49.4	43.0	41.5	49.9	50.2
Heavy Trucks:	63.1	51.2	42.1	43.3	53.5	53.6
Vehicle Noise:	**65.7**	**58.1**	**54.6**	**50.3**	**58.8**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	100
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9930
Peak Hour Traffic:	993
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

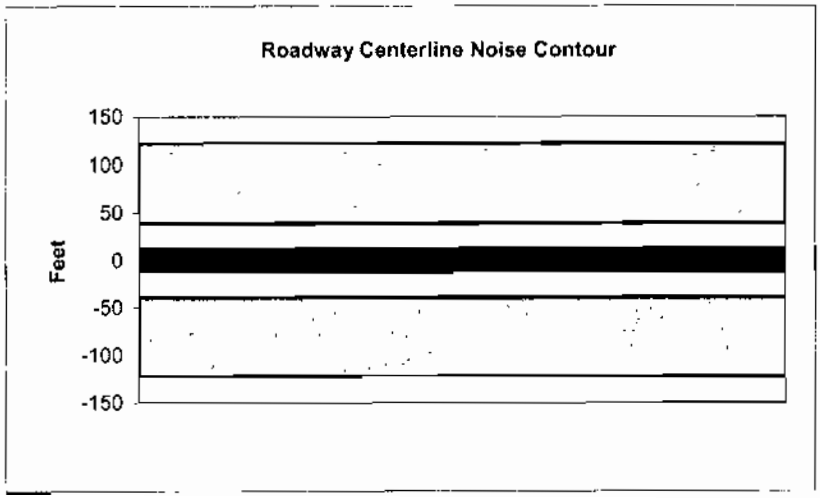
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	58.4	50.3	43.9	42.3	50.8	51.1
Heavy Trucks:	64.0	52.1	43.0	44.2	54.4	54.5
Vehicle Noise:	**66.5**	**59.0**	**55.5**	**51.2**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	123
65 dBA	39
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10190
Peak Hour Traffic:	1019
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

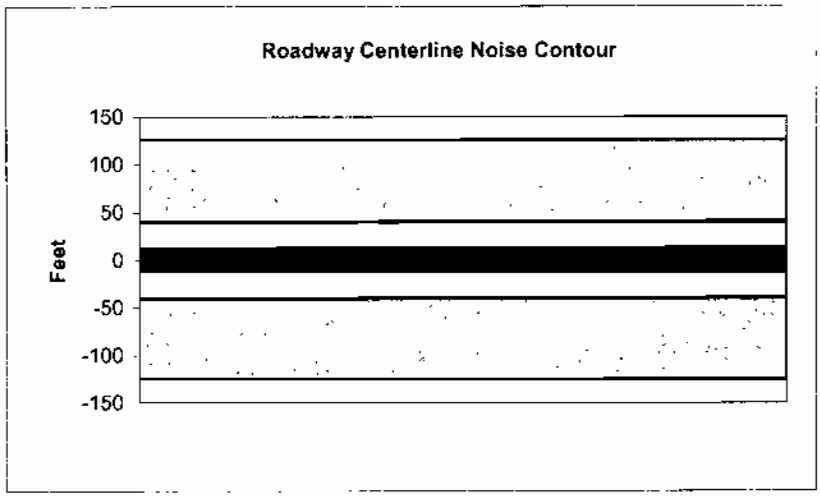
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.7	54.9	48.8	57.4	58.0
Medium Trucks:	58.5	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	64.1	52.2	43.1	44.4	54.5	54.6
Vehicle Noise:	**66.7**	**59.1**	**55.6**	**51.3**	**59.8**	**60.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	126
65 dBA	40
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11400
Peak Hour Traffic:	1140
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

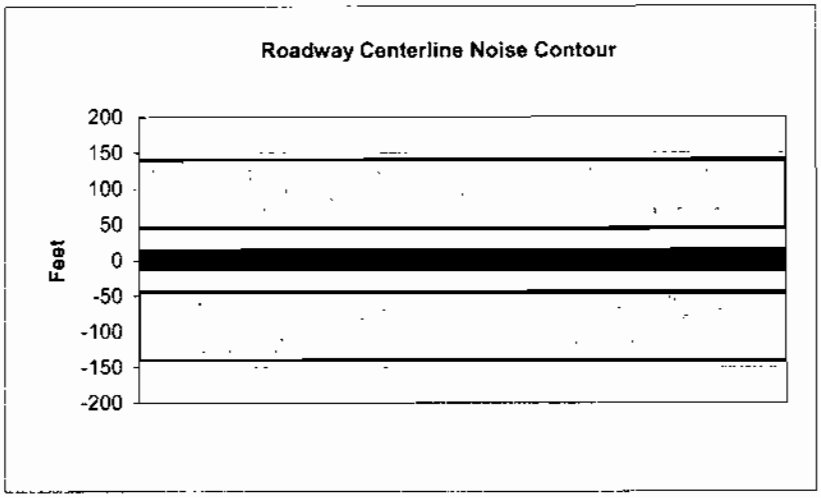
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.1	55.4	49.3	57.9	58.5
Medium Trucks:	59.0	50.9	44.5	42.9	51.4	51.7
Heavy Trucks:	64.6	52.7	43.6	44.8	55.0	55.1
Vehicle Noise:	**67.1**	**59.6**	**56.1**	**51.8**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	141
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Long Beach Boulevard North of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	10500
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1050**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	42
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

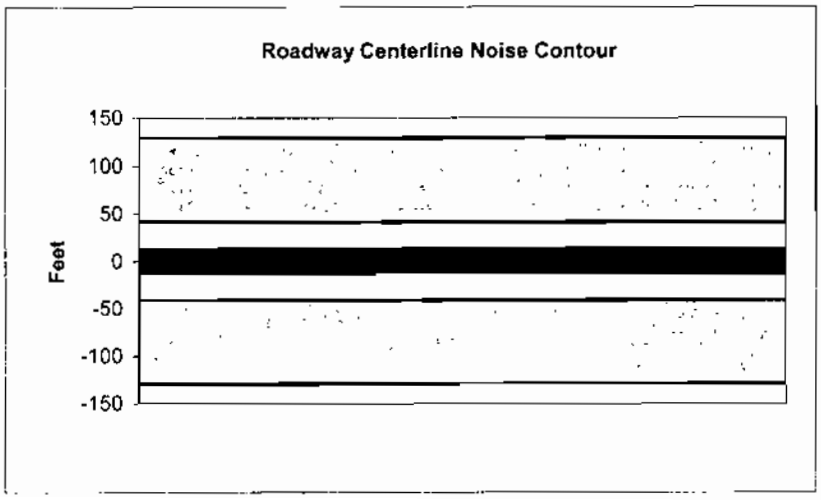
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	58.6	50.5	44.2	42.6	51.1	51.3
Heavy Trucks:	64.3	52.3	43.3	44.5	54.6	54.7
Vehicle Noise:	**66.8**	**59.3**	**55.7**	**51.4**	**59.9**	**60.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	130
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	515
Peak Hour Traffic:	**51.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0 049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

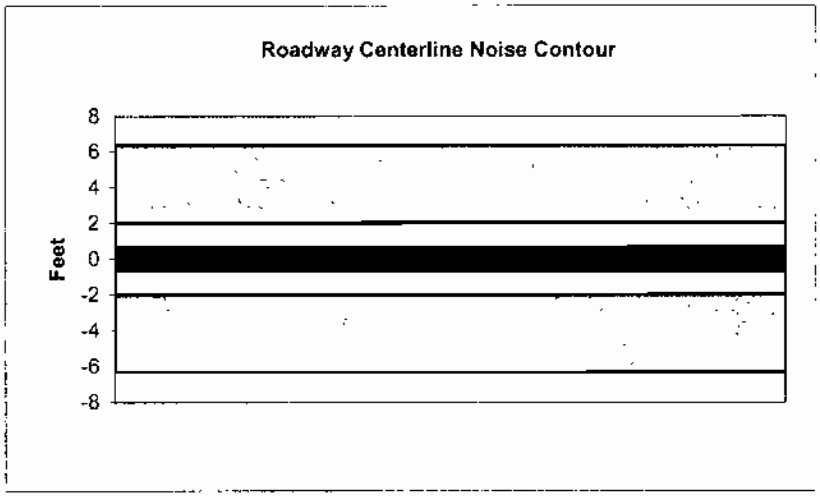
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	35.4	44.2	42.4	36.3	45.0	45.6
Medium Trucks:	46.0	38.0	31.6	30.0	38.5	38.7
Heavy Trucks:	51.7	39.7	30.7	31.9	42.0	42.2
Vehicle Noise:	**54.2**	**46.7**	**43.1**	**38.8**	**47.4**	**47.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	6
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	510
Peak Hour Traffic:	51
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

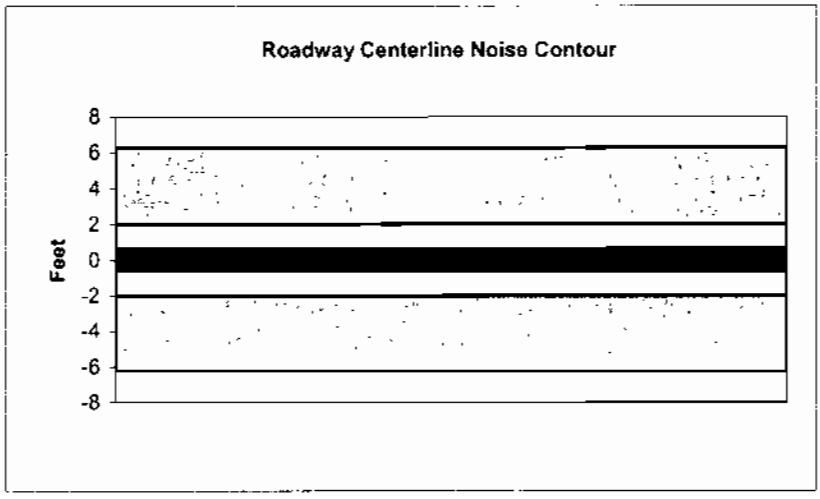
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	35.4	44.2	42.4	36.3	44.9	45.6
Medium Trucks:	46.0	37.9	31.5	30.0	38.5	38.7
Heavy Trucks:	51.6	39.7	30.6	31.9	42.0	42.1
Vehicle Noise:	**54.2**	**46.6**	**43.1**	**38.8**	**47.3**	**47.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	6
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	585
Receiver Barrier Dist:	0	Peak Hour Traffic:	**58.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

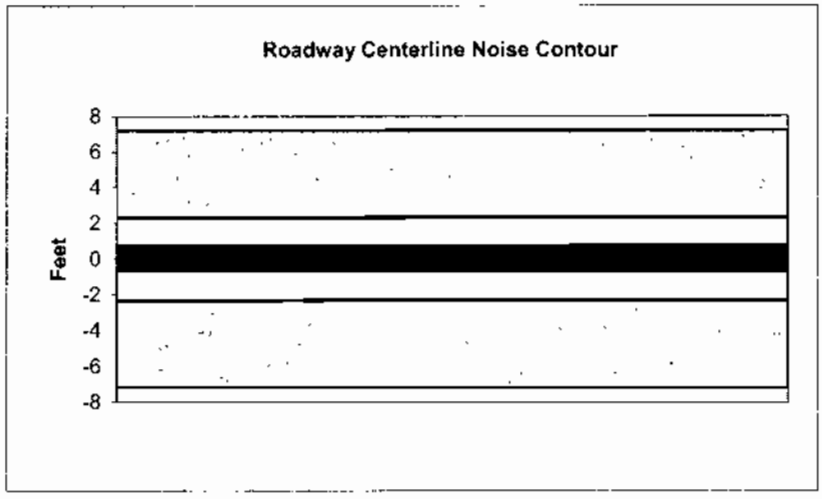
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.0	44.8	43.0	36.9	45.5	46.1
Medium Trucks:	46.6	38.5	32.1	30.6	39.0	39.3
Heavy Trucks:	52.2	40.3	31.2	32.5	42.6	42.7
Vehicle Noise:	**54.8**	**47.2**	**43.7**	**39.4**	**47.9**	**48.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	825
Peak Hour Traffic:	82.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

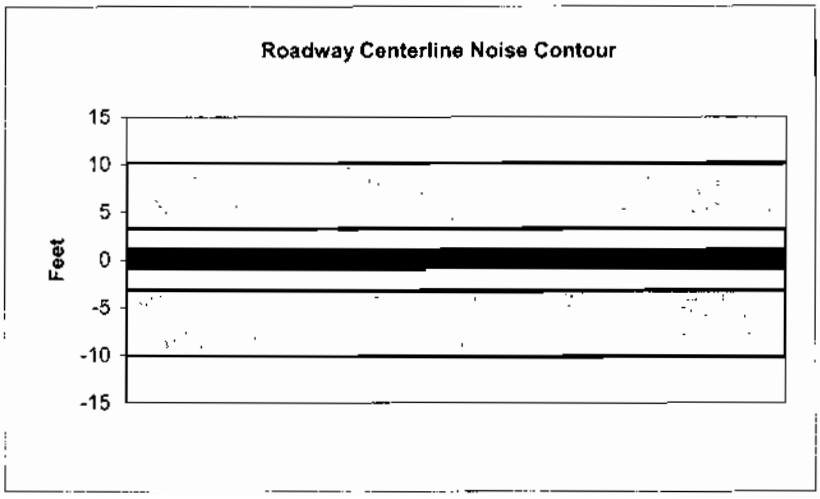
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.5	46.3	44.5	38.4	47.0	47.6
Medium Trucks:	48.1	40.0	33.6	32.1	40.5	40.8
Heavy Trucks:	53.7	41.8	32.7	33.9	44.1	44.2
Vehicle Noise:	**56.3**	**48.7**	**45.2**	**40.9**	**49.4**	**49.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	10
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1490
Peak Hour Traffic:	149
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

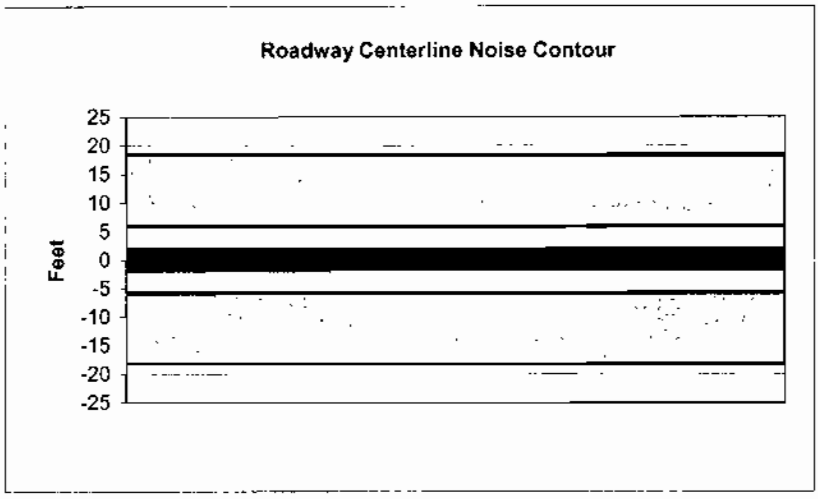
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.0	48.8	47.0	41.0	49.6	50.2
Medium Trucks:	50.6	42.6	36.2	34.6	43.1	43.3
Heavy Trucks:	56.3	44.4	35.3	36.5	46.6	46.8
Vehicle Noise:	**58.8**	**51.3**	**47.8**	**43.4**	**52.0**	**52.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	18
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1115
Peak Hour Traffic:	111.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

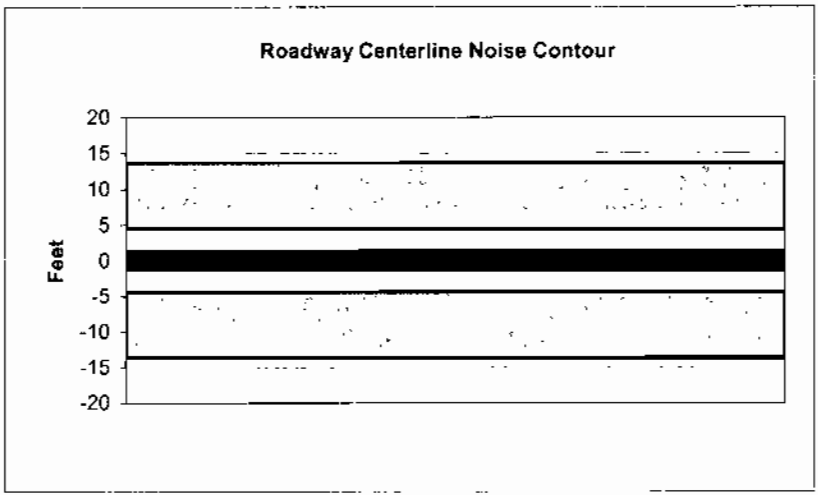
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.8	47.6	45.8	39.7	48.3	48.9
Medium Trucks:	49.4	41.3	34.9	33.4	41.8	42.1
Heavy Trucks:	55.0	43.1	34.0	35.3	45.4	45.5
Vehicle Noise:	**57.6**	**50.0**	**46.5**	**42.2**	**50.7**	**51.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	14
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	685
Receiver Barrier Dist:	0	Peak Hour Traffic:	68.5
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

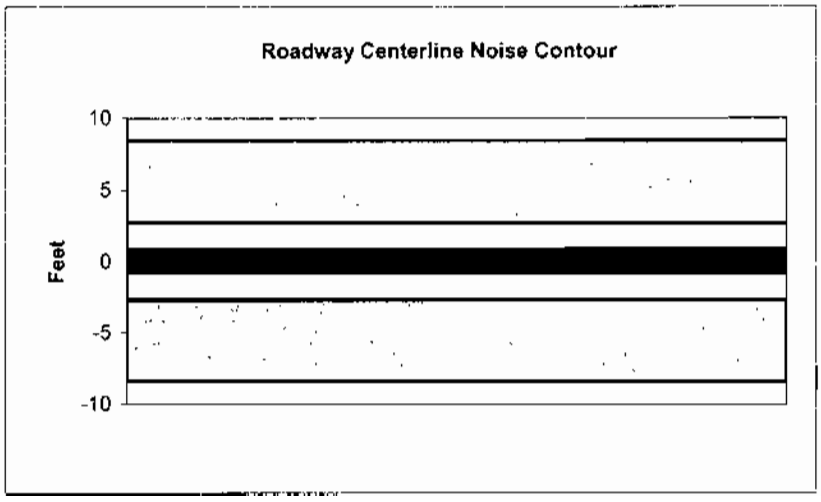
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.7	45.4	43.7	37.6	46.2	46.8
Medium Trucks:	47.3	39.2	32.8	31.2	39.7	40.0
Heavy Trucks:	52.9	41.0	31.9	33.1	43.3	43.4
Vehicle Noise:	**55.4**	**47.9**	**44.4**	**40.1**	**48.6**	**49.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	8
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Lime Avenue North of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	570
Receiver Barrier Dist:	0	Peak Hour Traffic:	57
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

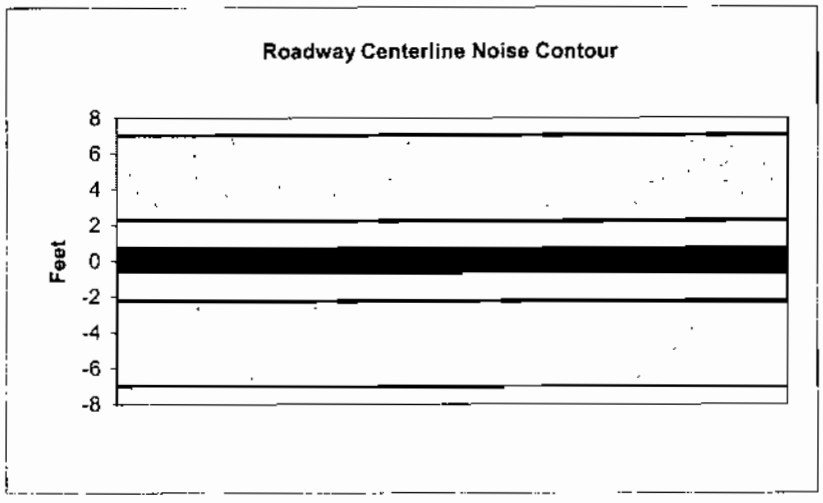
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	35.9	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	46.5	38.4	32.0	30.4	38.9	39.2
Heavy Trucks:	52.1	40.2	31.1	32.3	42.5	42.6
Vehicle Noise:	**54.6**	**47.1**	**43.6**	**39.3**	**47.8**	**48.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7010
Peak Hour Traffic:	701
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

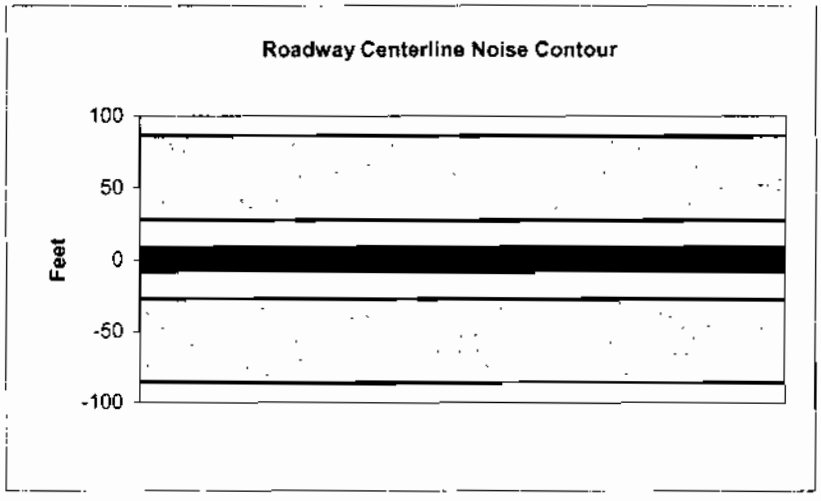
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.7	55.4	53.6	47.6	56.2	56.8
Medium Trucks:	57.3	49.2	42.8	41.2	49.7	50.0
Heavy Trucks:	62.9	51.0	41.9	43.1	53.3	53.4
Vehicle Noise:	**65.4**	**57.9**	**54.4**	**50.0**	**58.6**	**59.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	86
65 dBA	27
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7890
Peak Hour Traffic:	789
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

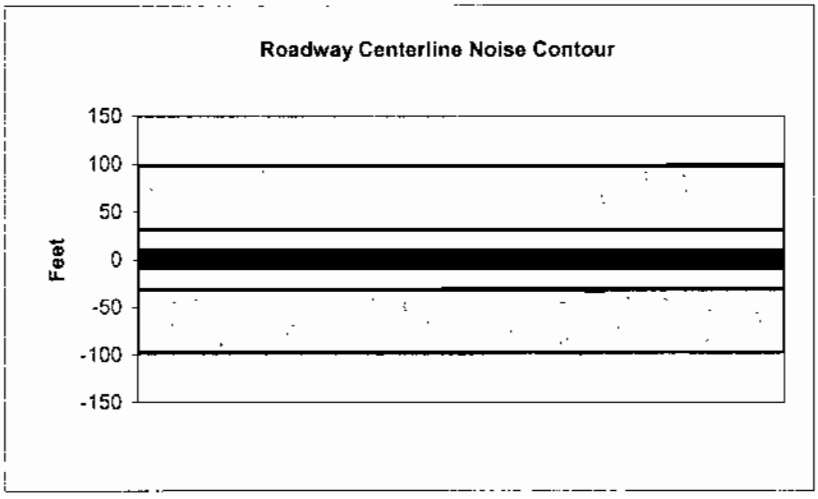
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.2	55.9	54.2	48.1	56.7	57.3
Medium Trucks:	57.8	49.7	43.3	41.7	50.2	50.5
Heavy Trucks:	63.4	51.5	42.4	43.6	53.8	53.9
Vehicle Noise:	**65.9**	**58.4**	**54.9**	**50.6**	**59.1**	**59.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	97
65 dBA	31
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between Broadway and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9720
Peak Hour Traffic:	**972**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

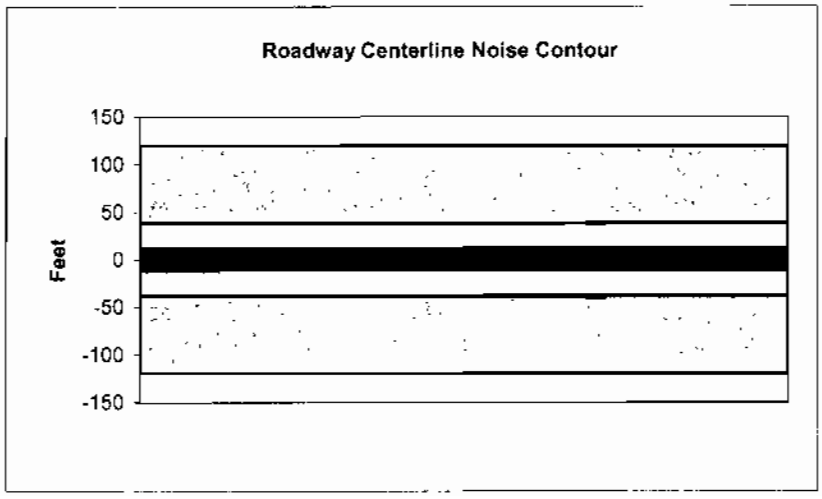
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.1	56.9	55.1	49.0	57.6	58.2
Medium Trucks:	58.7	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	64.3	52.4	43.3	44.5	54.7	54.8
Vehicle Noise:	**66.9**	**59.3**	**55.8**	**51.5**	**60.0**	**60.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	120
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue north of 3rd Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5910
Peak Hour Traffic:	591
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

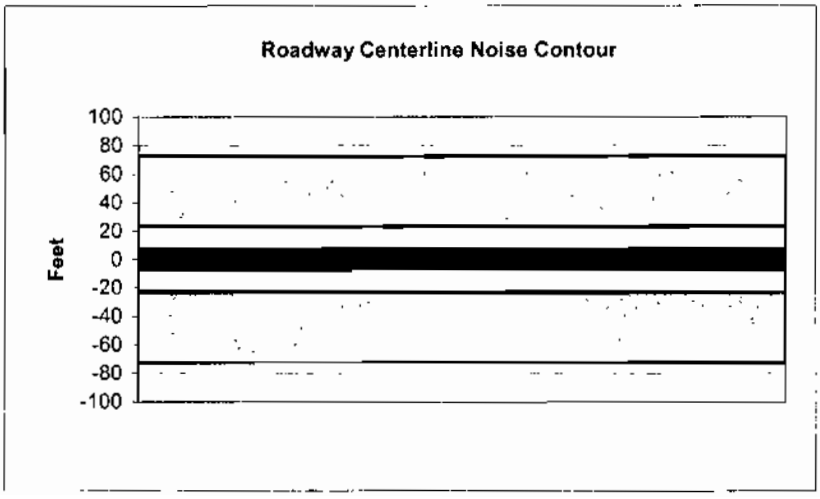
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.9	54.7	52.9	46.8	55.5	56.1
Medium Trucks:	56.5	48.4	42.1	40.5	49.0	49.2
Heavy Trucks:	62.2	50.2	41.2	42.4	52.5	52.6
Vehicle Noise:	**64.7**	**57.2**	**53.6**	**49.3**	**57.9**	**58.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	73
65 dBA	23
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue north of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	7120
Peak Hour Traffic:	712
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

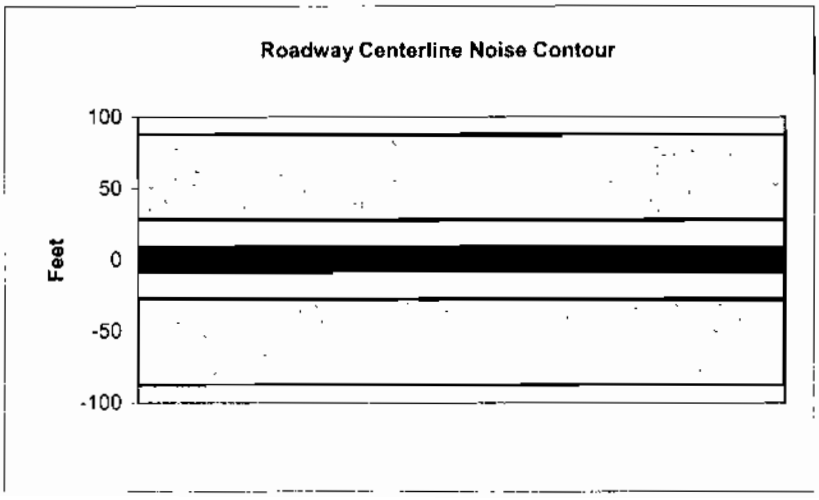
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.7	55.5	53.7	47.6	56.3	56.9
Medium Trucks:	57.3	49.3	42.9	41.3	49.8	50.0
Heavy Trucks:	63.0	51.0	42.0	43.2	53.3	53.4
Vehicle Noise:	**65.5**	**58.0**	**54.4**	**50.1**	**58.7**	**59.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	88
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue south of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7500
Peak Hour Traffic:	750
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

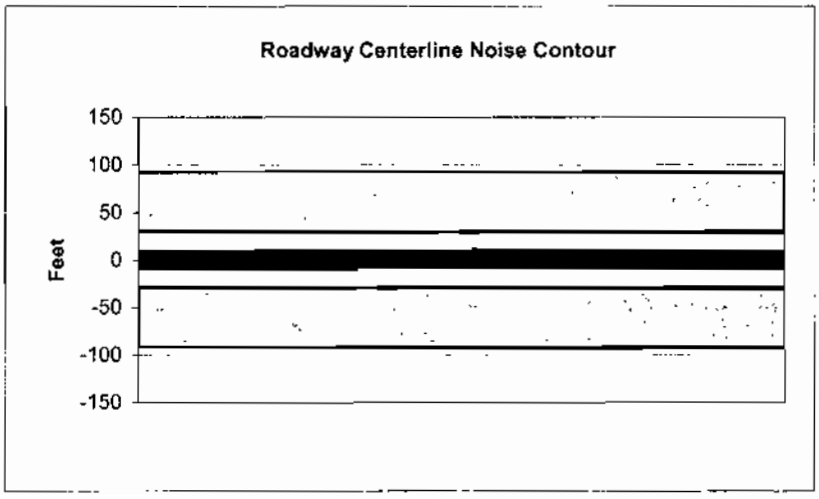
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.9	55.7	53.9	47.9	56.5	57.1
Medium Trucks:	57.5	49.5	43.1	41.5	50.0	50.2
Heavy Trucks:	63.2	51.3	42.2	43.4	53.5	53.7
Vehicle Noise:	**65.7**	**58.2**	**54.7**	**50.3**	**58.9**	**59.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	93
65 dBA	29
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Mangolia Avenue south of Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3860
Peak Hour Traffic:	386
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

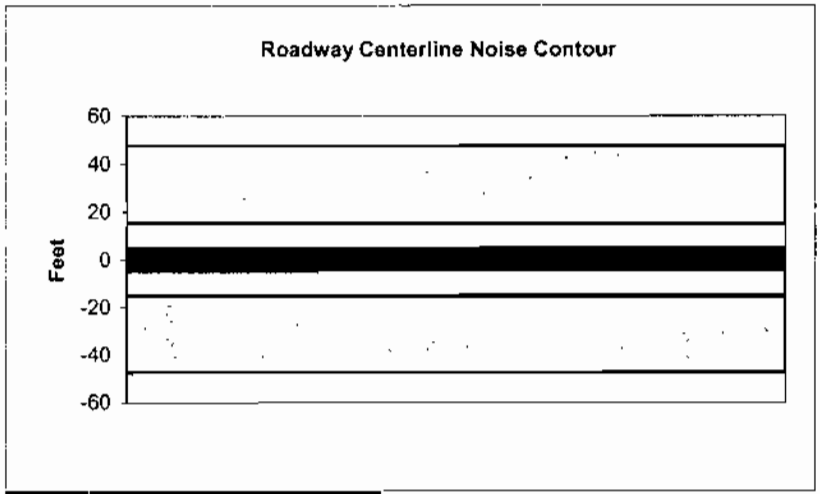
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.1	52.8	51.1	45.0	53.6	54.2
Medium Trucks:	54.7	46.6	40.2	38.6	47.1	47.4
Heavy Trucks:	60.3	48.4	39.3	40.5	50.7	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.8**	**47.5**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	48
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Medio Street		
Road Segment:	Medio Street West of Alamitos		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	260
Peak Hour Traffic:	26
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

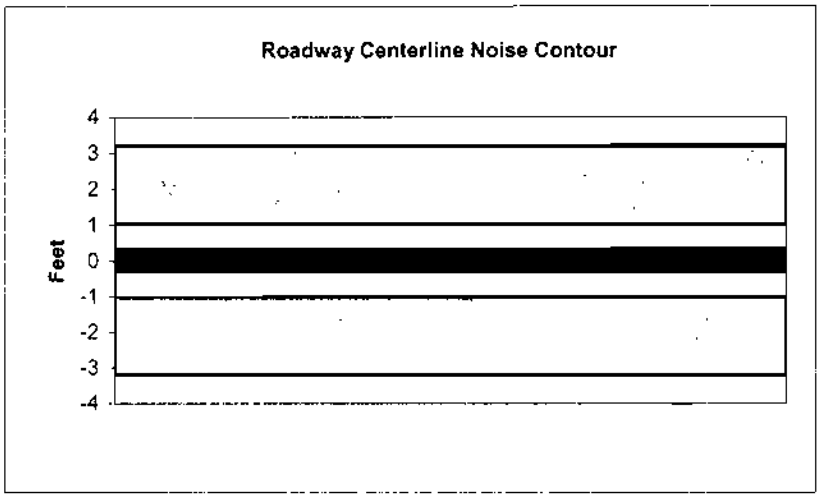
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	32.5	41.2	39.5	33.4	42.0	42.6
Medium Trucks:	43.1	35.0	28.6	27.0	35.5	35.8
Heavy Trucks:	48.7	36.8	27.7	28.9	39.1	39.2
Vehicle Noise:	**51.2**	**43.7**	**40.2**	**35.9**	**44.4**	**44.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	3
65 dBA	1
	0
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Martin Luther King Jr. Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	6710
Receiver Barrier Dist:	0	Peak Hour Traffic:	**671**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade).	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

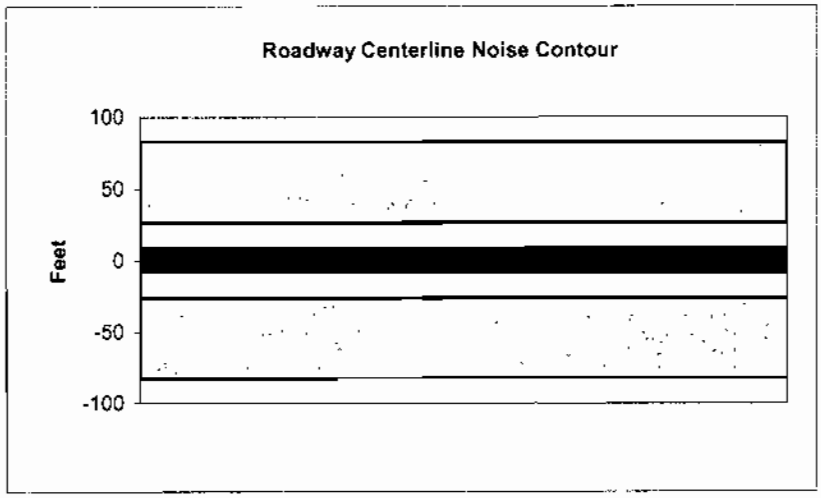
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.4	55.1	53.3	47.3	55.9	56.5
Medium Trucks:	57.0	48.9	42.5	40.9	49.4	49.7
Heavy Trucks:	62.6	50.7	41.6	42.8	53.0	53.1
Vehicle Noise:	**65.1**	**57.6**	**54.1**	**49.7**	**58.3**	**58.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	83
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Martin Luther King Jr. Avenue		
Road Segment:	Martin Luther King Jr. Avenue North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3120
Peak Hour Traffic:	312
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

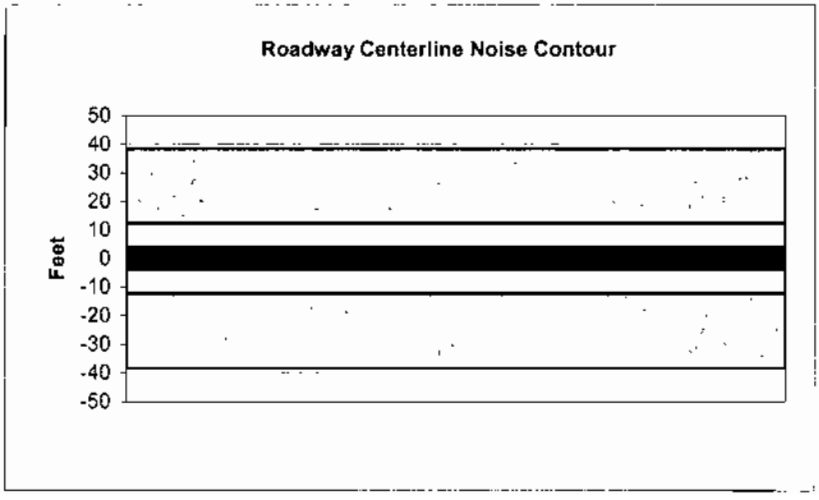
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.0	51.8	50.0	43.9	52.6	53.2
Medium Trucks:	53.6	45.6	39.2	37.6	46.1	46.3
Heavy Trucks:	59.3	47.3	38.3	39.5	49.6	49.8
Vehicle Noise:	**61.8**	**54.3**	**50.8**	**46.4**	**55.0**	**55.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	39
65 dBA	12
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Alamitos Avenue and Bonita Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	27790
Peak Hour Traffic:	2779
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

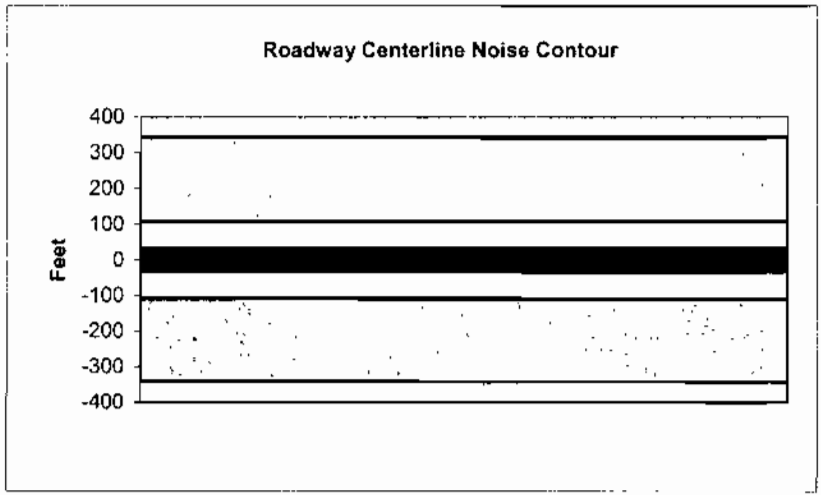
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.1	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	62.7	54.7	48.3	46.7	55.2	55.4
Heavy Trucks:	68.4	56.5	47.4	48.6	58.7	58.9
Vehicle Noise:	**70.9**	**63.4**	**59.9**	**55.5**	**64.1**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	343
65 dBA	108
	34
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Atlanic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	26165
Peak Hour Traffic:	**2616.5**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

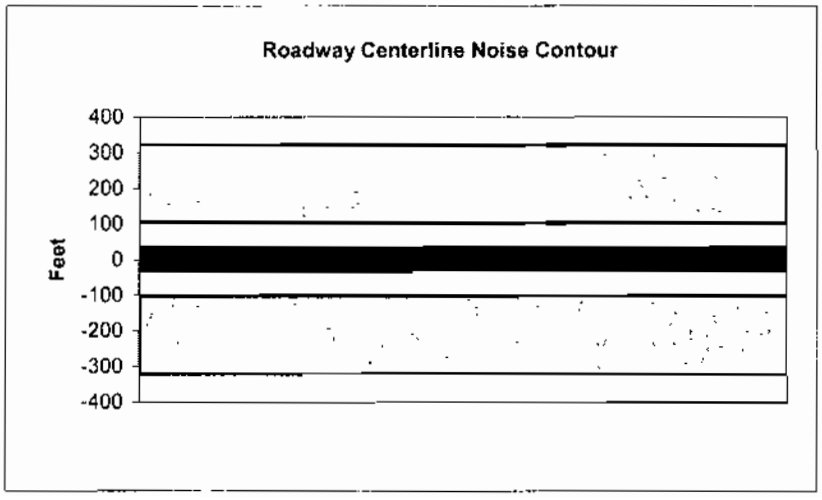
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.4	62.0
Medium Trucks:	62.5	54.4	48.0	46.5	54.9	55.2
Heavy Trucks:	68.1	56.2	47.1	48.4	58.5	58.6
Vehicle Noise:	**70.7**	**63.1**	**59.6**	**55.3**	**63.8**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	323
65 dBA	102
	32
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Bonita Avenue and Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	27685
Peak Hour Traffic:	2768.5
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

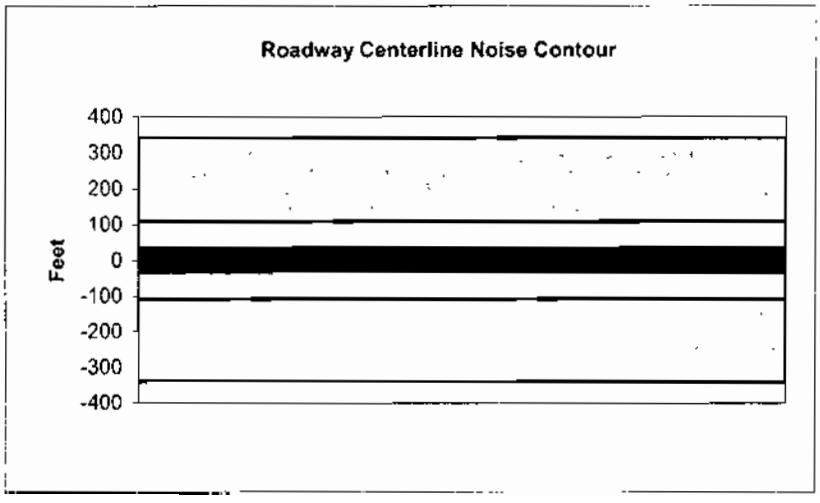
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.1	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	62.7	54.7	48.3	46.7	55.2	55.4
Heavy Trucks:	68.4	56.4	47.4	48.6	58.7	58.9
Vehicle Noise:	**70.9**	**63.4**	**59.8**	**55.5**	**64.1**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	342
65 dBA	108
	34
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Long Beach Blvd.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	27930
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2793**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

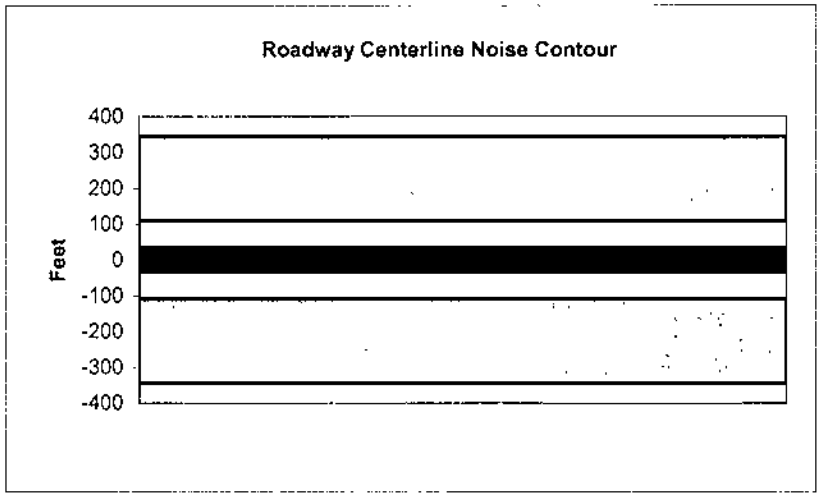
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.2	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	62.8	54.7	48.3	46.7	55.2	55.5
Heavy Trucks:	68.4	56.5	47.4	48.6	58.8	58.9
Vehicle Noise:	**70.9**	**63.4**	**59.9**	**55.6**	**64.1**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	344
65 dBA	109
	34
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Magnolia Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	29160
Peak Hour Traffic:	**2916**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

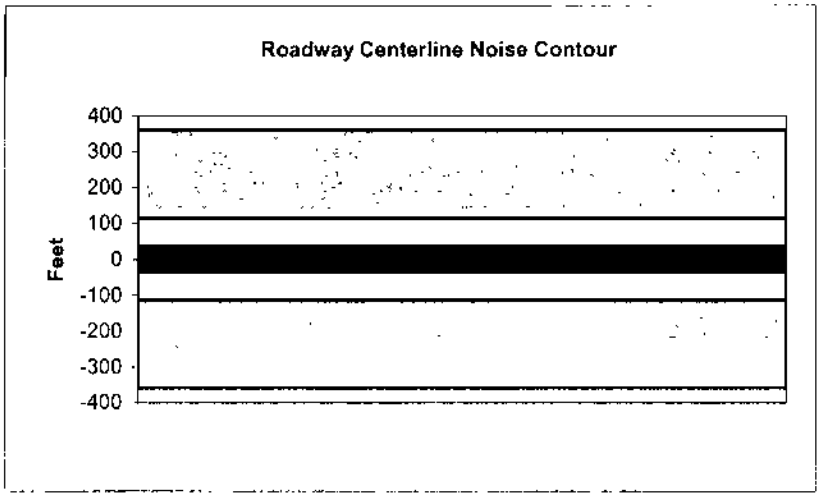
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.4	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	63.0	54.9	48.5	46.9	55.4	55.7
Heavy Trucks:	68.6	56.7	47.6	48.8	59.0	59.1
Vehicle Noise:	**71.1**	**63.6**	**60.1**	**55.7**	**64.3**	**64.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	360
65 dBA	114
	36
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Orange Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	28390
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2839**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

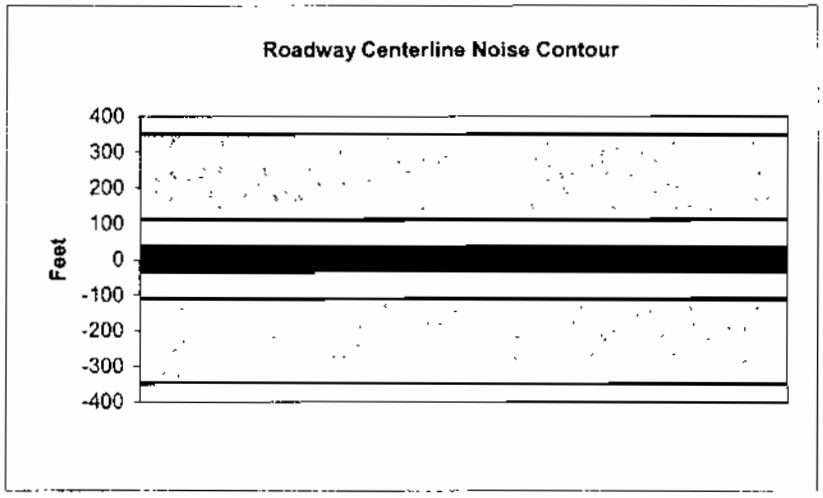
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.2	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	62.8	54.8	48.4	46.8	55.3	55.5
Heavy Trucks:	68.5	56.5	47.5	48.7	58.8	59.0
Vehicle Noise:	**71.0**	**63.5**	**60.0**	**55.6**	**64.2**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	351
65 dBA	111
	35
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Lime Street and Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	25725
Peak Hour Traffic:	**2572.5**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

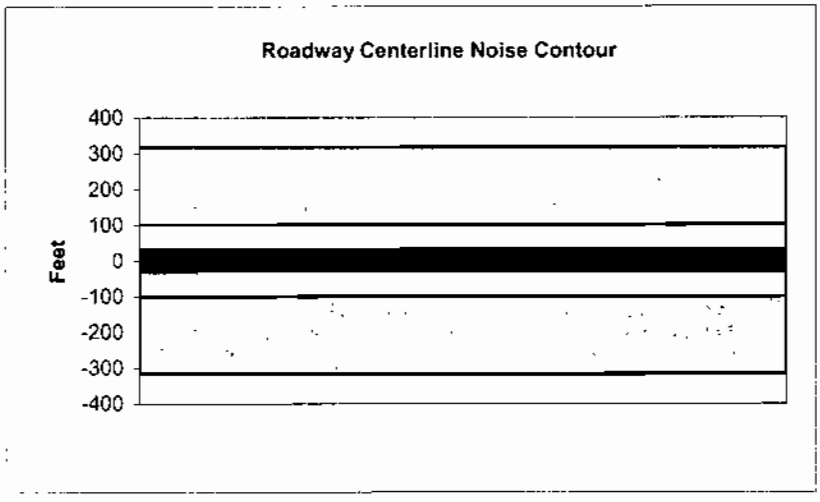
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	62.4	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	68.1	56.1	47.1	48.3	58.4	58.5
Vehicle Noise:	**70.6**	**63.1**	**59.5**	**55.2**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	318
65 dBA	100
	32
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	28770
Peak Hour Traffic:	2877
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

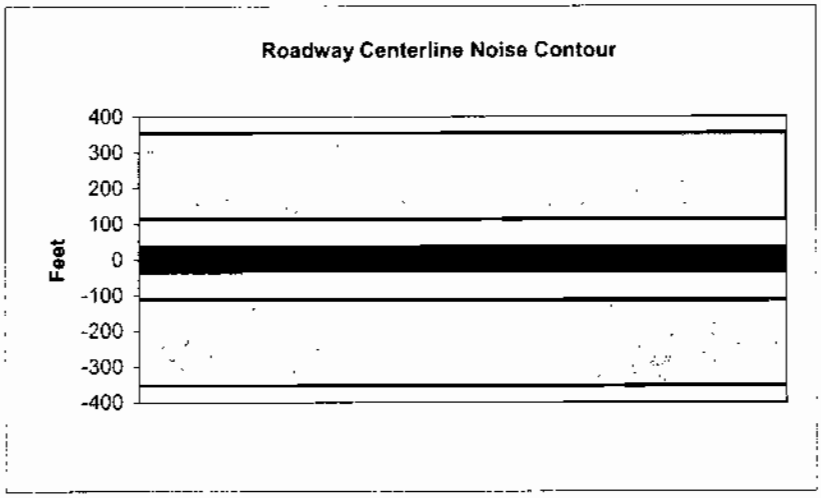
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.1	59.3	53.2	61.9	62.5
Medium Trucks:	62.9	54.8	48.4	46.9	55.4	55.6
Heavy Trucks:	68.5	56.6	47.5	48.8	58.9	59.0
Vehicle Noise:	**71.1**	**63.6**	**60.0**	**55.7**	**64.2**	**64.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	355
65 dBA	112
	36
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	29130
Peak Hour Traffic:	2913
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

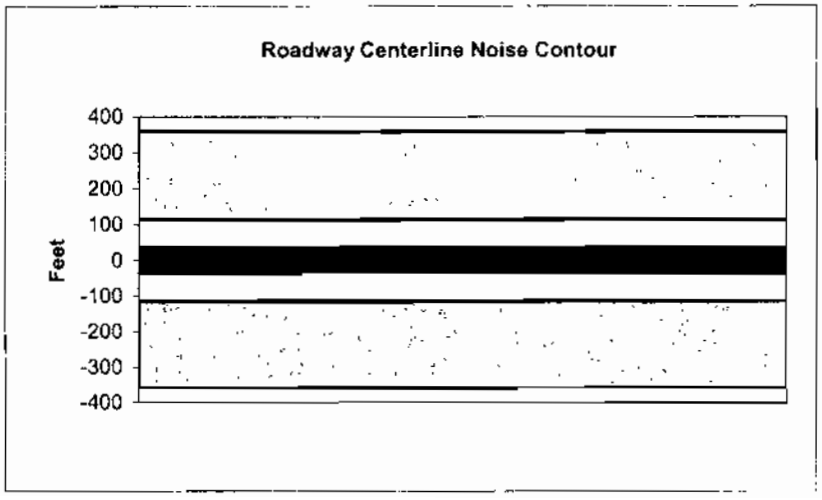
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	63.0	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	68.6	56.7	47.6	48.8	58.9	59.1
Vehicle Noise:	**71.1**	**63.6**	**60.1**	**55.7**	**64.3**	**64.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	360
65 dBA	114
	36
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Atlanic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	26340
Peak Hour Traffic:	**2634**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

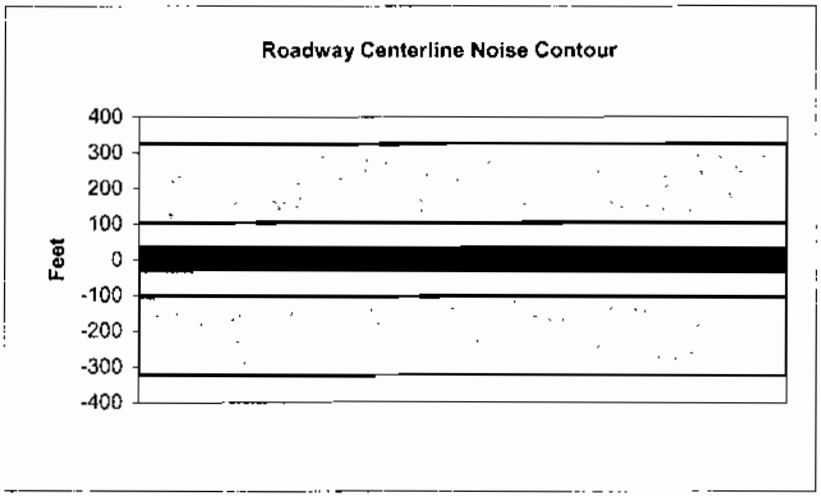
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	62.5	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	68.2	56.2	47.2	48.4	58.5	58.6
Vehicle Noise:	**70.7**	**63.2**	**59.6**	**55.3**	**63.9**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	325
65 dBA	103
	33
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	28640
Peak Hour Traffic:	**2864**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

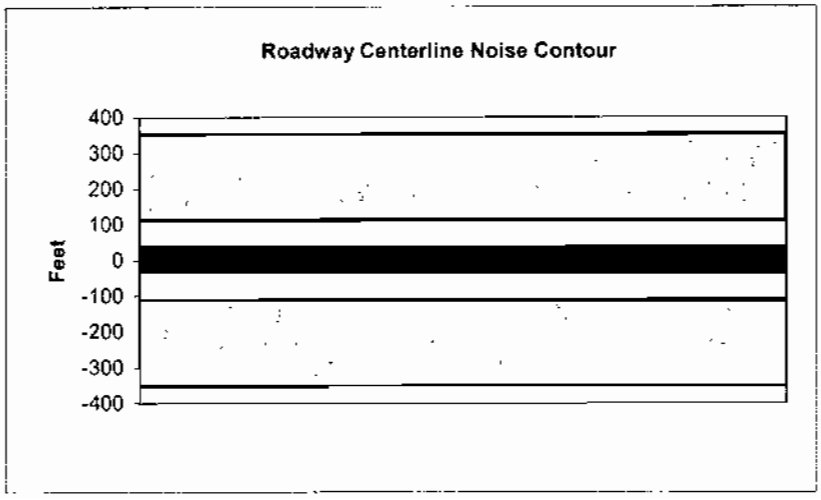
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.1	59.3	53.2	61.8	62.4
Medium Trucks:	62.9	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	68.5	56.6	47.5	48.7	58.9	59.0
Vehicle Noise:	**71.1**	**63.5**	**60.0**	**55.7**	**64.2**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	353
65 dBA	112
	35
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Pacific Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	30140
Receiver Barrier Dist:	0	Peak Hour Traffic:	**3014**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

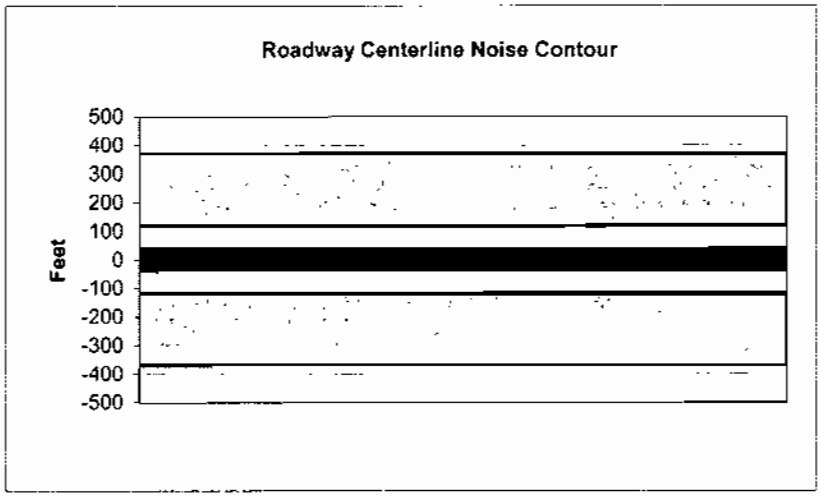
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.5	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	63.1	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	68.7	56.8	47.8	49.0	59.1	59.2
Vehicle Noise:	**71.3**	**63.8**	**60.2**	**55.9**	**64.4**	**64.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	373
65 dBA	118
	37
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2280
Peak Hour Traffic:	228
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

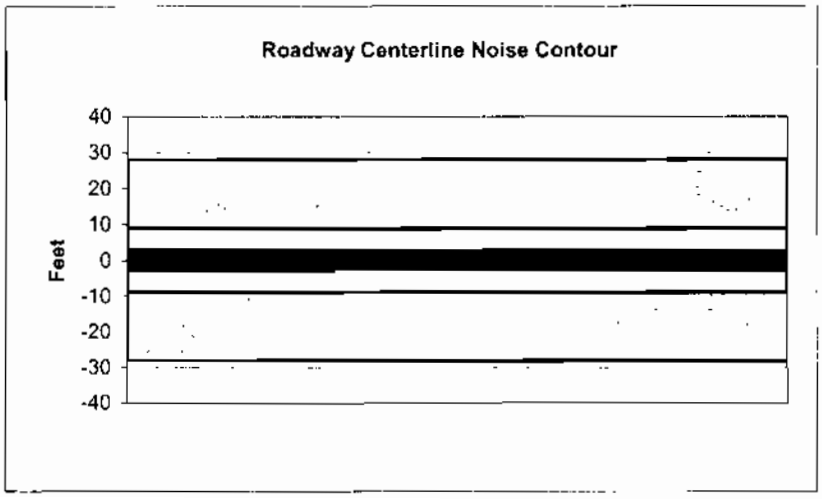
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.9	50.7	48.9	42.8	51.4	52.1
Medium Trucks:	52.5	44.4	38.0	36.5	45.0	45.2
Heavy Trucks:	58.1	46.2	37.1	38.4	48.5	48.6
Vehicle Noise:	**60.7**	**53.2**	**49.6**	**45.3**	**53.8**	**54.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	28
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue North of 4th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2260
Peak Hour Traffic:	**226**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

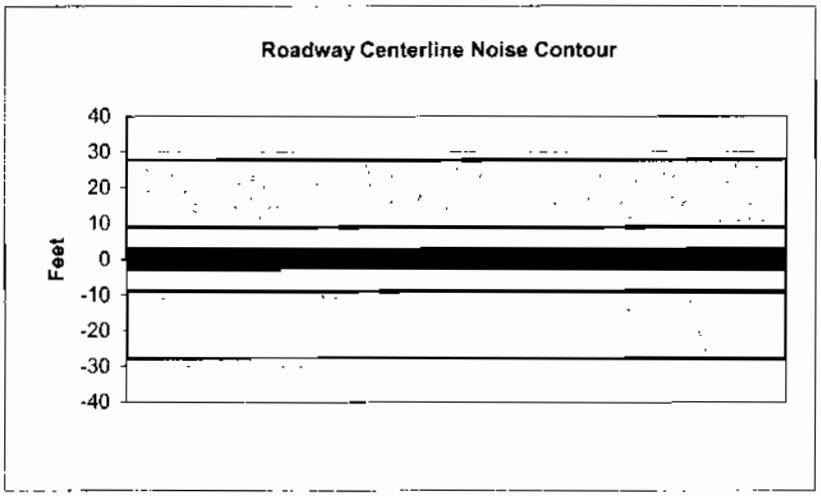
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.9	50.6	48.8	42.8	51.4	52.0
Medium Trucks:	52.5	44.4	38.0	36.4	44.9	45.2
Heavy Trucks:	58.1	46.2	37.1	38.3	48.5	48.6
Vehicle Noise:	**60.6**	**53.1**	**49.6**	**45.2**	**53.8**	**54.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	28
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue North of Ocean		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1160
Receiver Barrier Dist:	0	Peak Hour Traffic:	**116**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

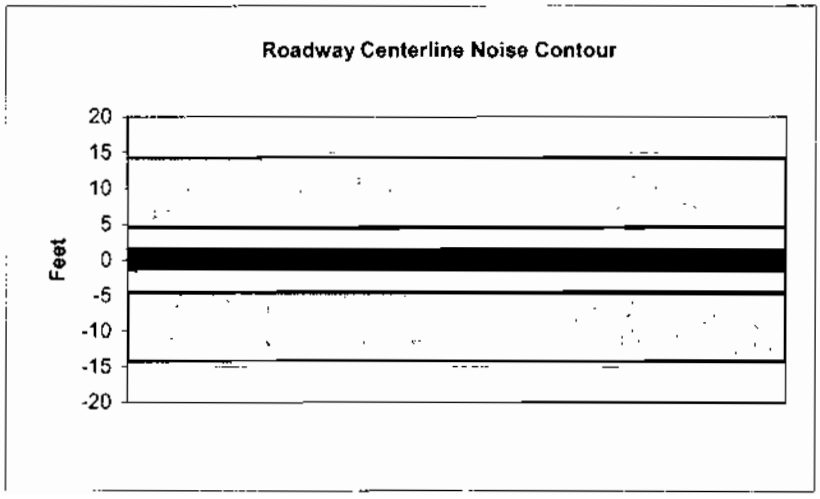
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.0	47.7	45.9	39.9	48.5	49.1
Medium Trucks:	49.6	41.5	35.1	33.5	42.0	42.3
Heavy Trucks:	55.2	43.3	34.2	35.4	45.6	45.7
Vehicle Noise:	**57.7**	**50.2**	**46.7**	**42.3**	**50.9**	**51.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	14
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue South of Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2610
Peak Hour Traffic:	261
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

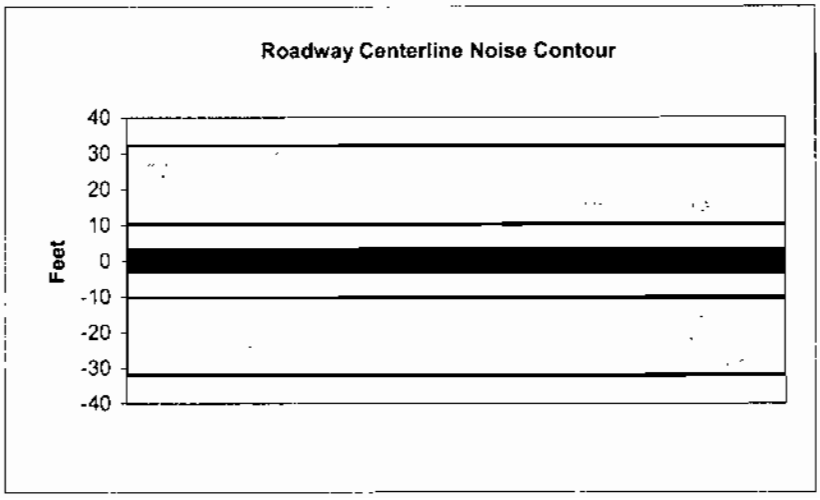
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.0	52.6
Medium Trucks:	53.1	45.0	38.6	37.1	45.5	45.8
Heavy Trucks:	58.7	46.8	37.7	39.0	49.1	49.2
Vehicle Noise:	**61.3**	**53.7**	**50.2**	**45.9**	**54.4**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	32
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	7220
Receiver Barrier Dist:	0	Peak Hour Traffic:	**722**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	30
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

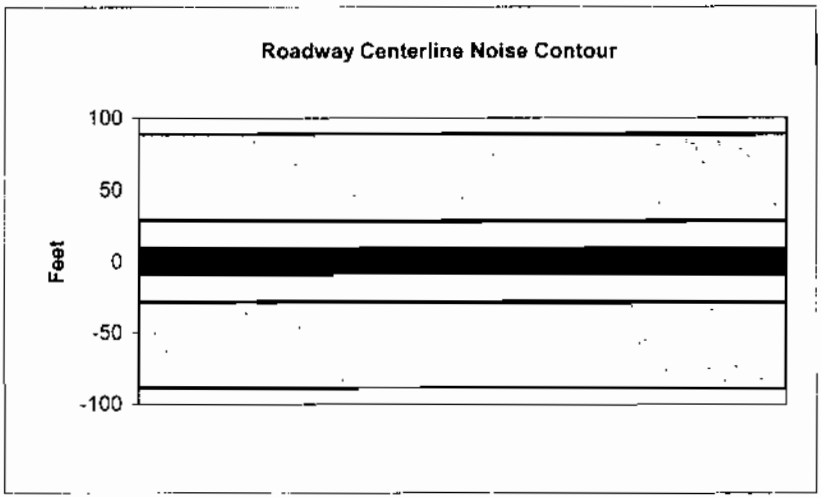
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.6	55.4	53.6	47.5	56.1	56.7
Medium Trucks:	57.2	49.1	42.7	41.2	49.6	49.9
Heavy Trucks:	62.8	50.9	41.8	43.0	53.2	53.3
Vehicle Noise:	**65.3**	**57.8**	**54.3**	**50.0**	**58.5**	**58.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	89
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7010
Peak Hour Traffic:	701
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

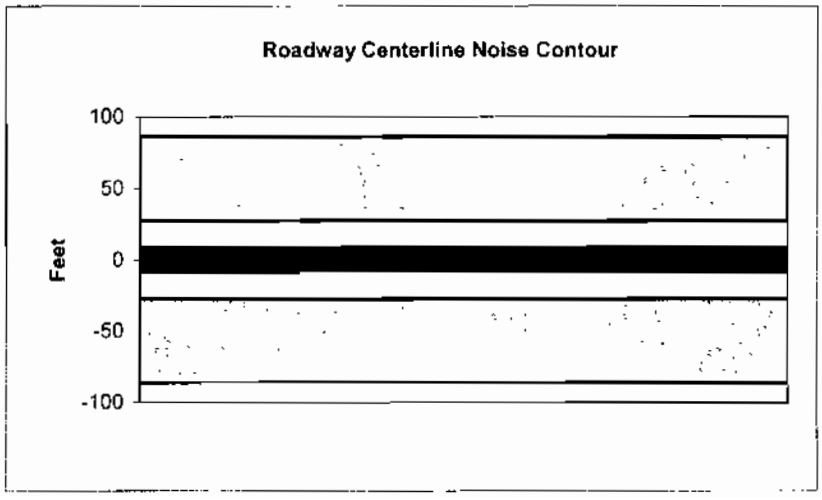
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.4	55.2	53.4	47.4	56.0	56.6
Medium Trucks:	57.0	49.0	42.6	41.0	49.5	49.7
Heavy Trucks:	62.7	50.8	41.7	42.9	53.0	53.2
Vehicle Noise:	**65.2**	**57.7**	**54.2**	**49.8**	**58.4**	**58.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	86
65 dBA	27
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4020
Peak Hour Traffic:	402
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

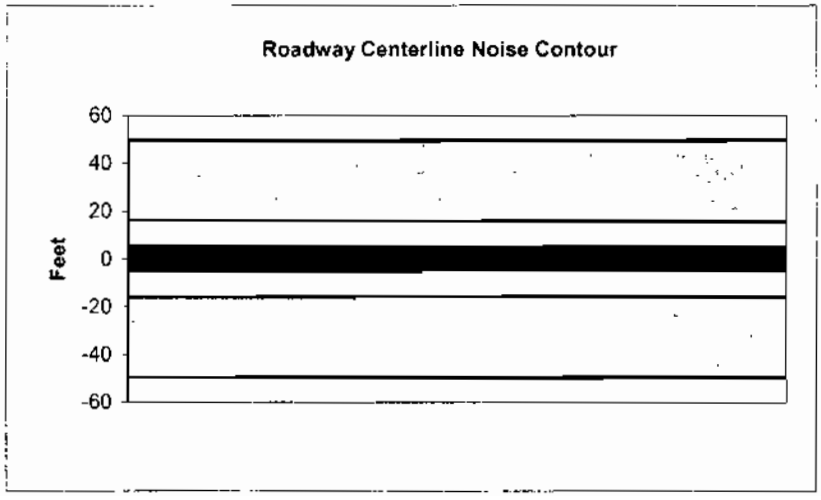
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.0	52.8	51.0	44.9	53.6	54.2
Medium Trucks:	54.6	46.6	40.2	38.6	47.1	47.3
Heavy Trucks:	60.3	48.3	39.3	40.5	50.6	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.7**	**47.4**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	50
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	4370
Peak Hour Traffic:	**437**
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

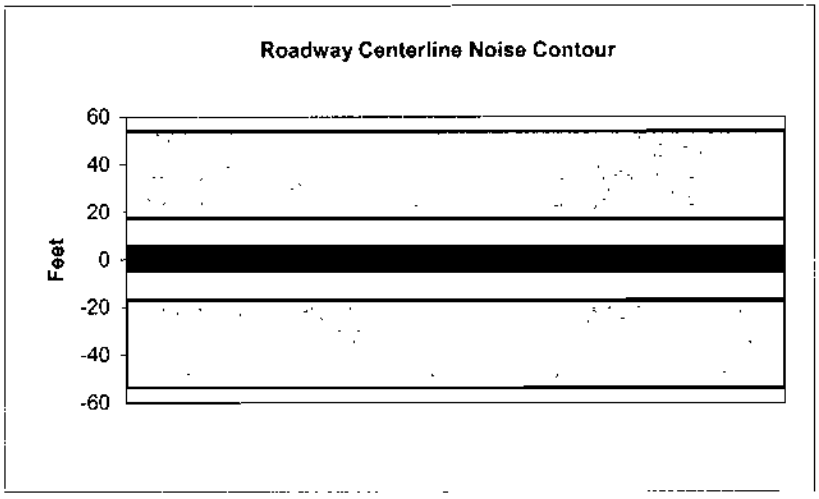
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.4	53.2	51.4	45.3	54.0	54.6
Medium Trucks:	55.0	46.9	40.5	39.0	47.5	47.7
Heavy Trucks:	60.6	48.7	39.6	40.9	51.0	51.1
Vehicle Noise:	**63.2**	**55.7**	**52.1**	**47.8**	**56.3**	**56.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	54
65 dBA	17
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8050
Peak Hour Traffic:	805
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

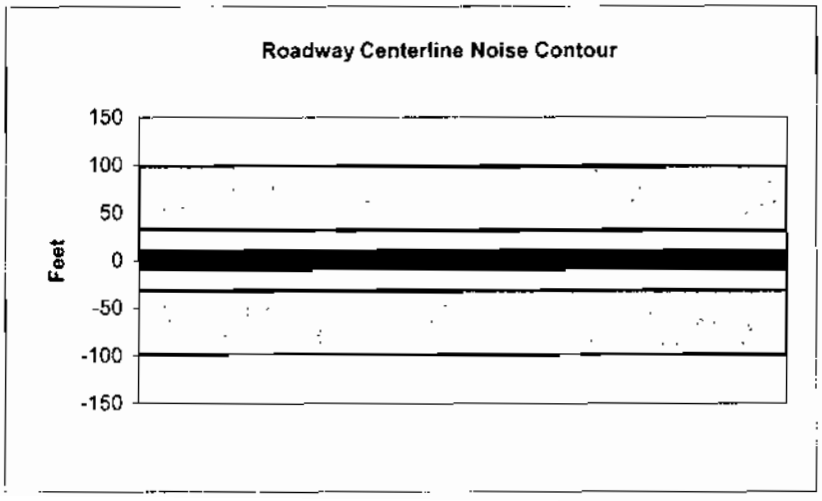
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.0	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	57.6	49.6	43.2	41.6	50.1	50.3
Heavy Trucks:	63.3	51.4	42.3	43.5	53.6	53.8
Vehicle Noise:	**65.8**	**58.3**	**54.8**	**50.4**	**59.0**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	99
65 dBA	31
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue north of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8080
Peak Hour Traffic:	808
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

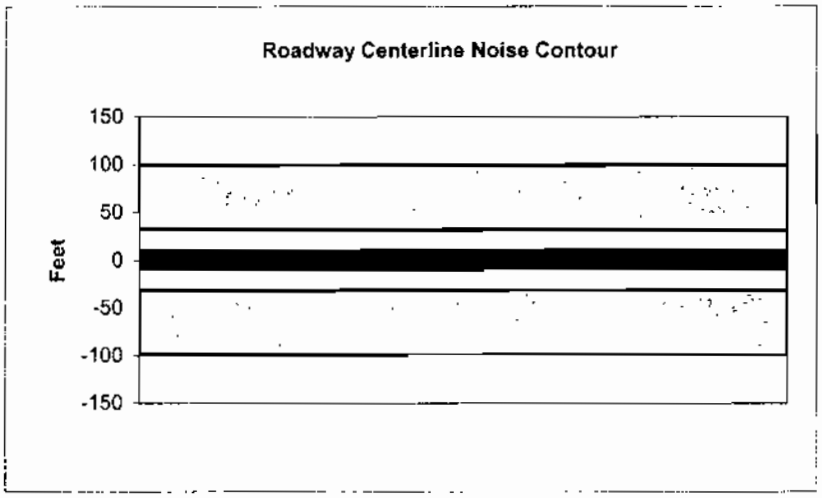
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.1	55.8	54.1	48.0	56.6	57.2
Medium Trucks:	57.7	49.6	43.2	41.6	50.1	50.4
Heavy Trucks:	63.3	51.4	42.3	43.5	53.7	53.8
Vehicle Noise:	**65.8**	**58.3**	**54.8**	**50.5**	**59.0**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	100
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue north of Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6400
Peak Hour Traffic:	640
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

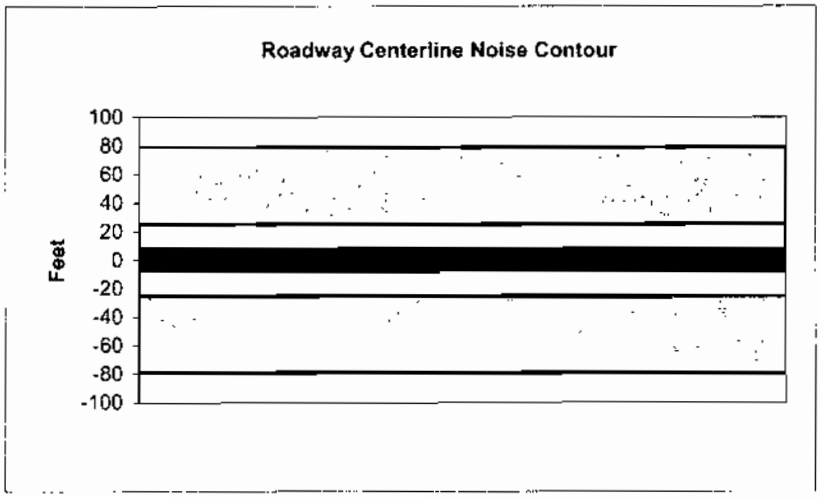
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.0	54.8	53.0	47.0	55.6	56.2
Medium Trucks:	56.7	48.6	42.2	40.6	49.1	49.3
Heavy Trucks:	62.3	50.4	41.3	42.5	52.6	52.8
Vehicle Noise:	**64.8**	**57.3**	**53.8**	**49.4**	**58.0**	**58.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	79
65 dBA	25
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue south of Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9020
Peak Hour Traffic:	902
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

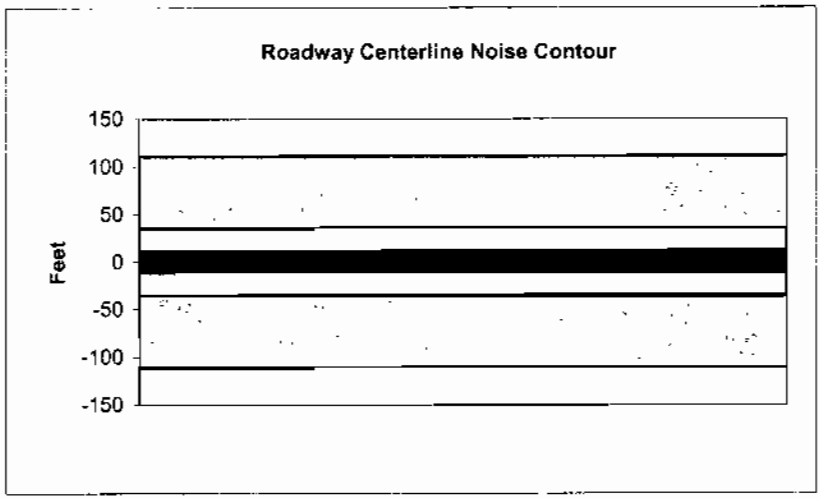
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.5	56.3	54.5	48.4	57.1	57.7
Medium Trucks:	58.1	50.1	43.7	42.1	50.6	50.8
Heavy Trucks:	63.8	51.8	42.8	44.0	54.1	54.3
Vehicle Noise:	**66.3**	**58.8**	**55.3**	**50.9**	**59.5**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	111
65 dBA	35
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3920
Receiver Barrier Dist:	0	Peak Hour Traffic:	**392**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

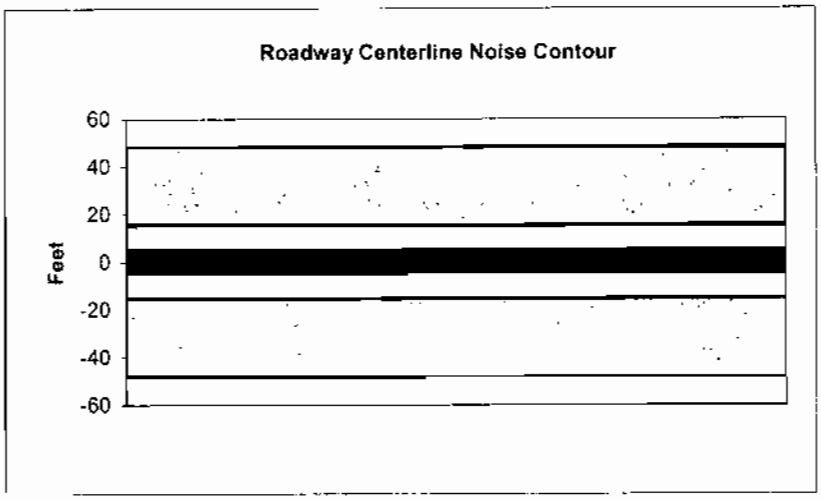
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.2	53.0	51.2	45.2	53.8	54.4
Medium Trucks:	54.8	46.8	40.4	38.8	47.3	47.5
Heavy Trucks:	60.5	48.6	39.5	40.7	50.8	51.0
Vehicle Noise:	**63.0**	**55.5**	**52.0**	**47.6**	**56.2**	**56.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	48
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3730
Peak Hour Traffic:	373
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

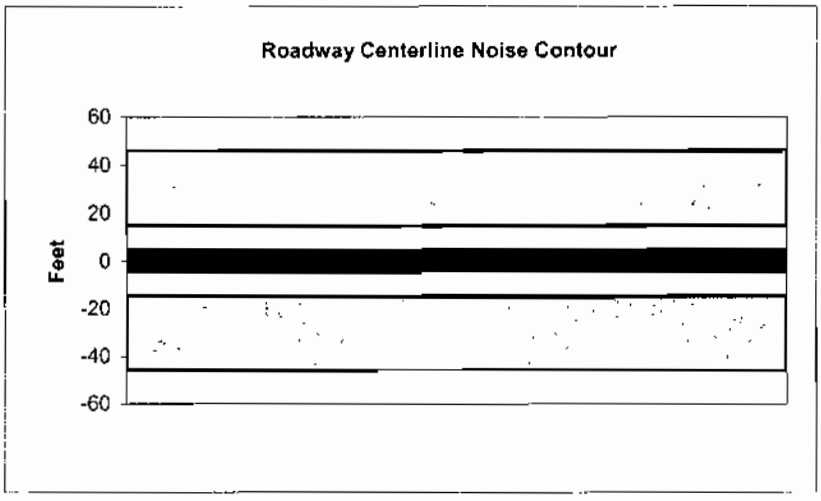
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.0	52.8	51.0	44.9	53.6	54.2
Medium Trucks:	54.6	46.6	40.2	38.6	47.1	47.3
Heavy Trucks:	60.3	48.3	39.3	40.5	50.6	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.7**	**47.4**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	46
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3870
Peak Hour Traffic:	387
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

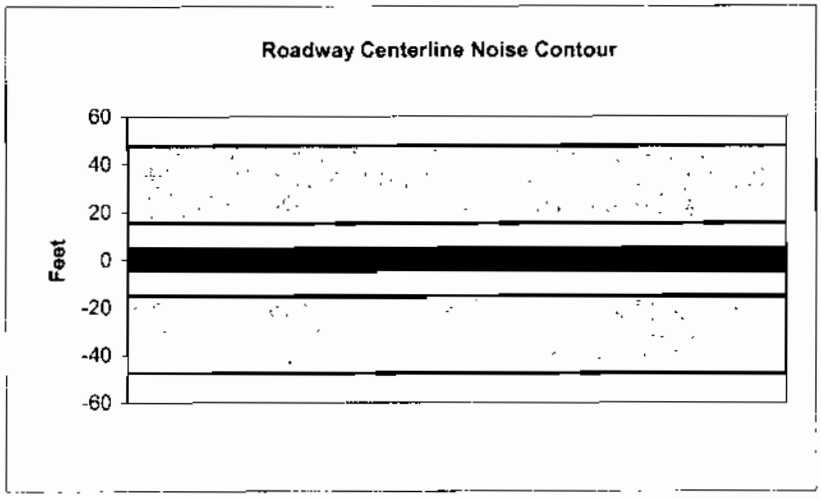
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.2	53.0	51.2	45.1	53.7	54.4
Medium Trucks:	54.8	46.7	40.3	38.8	47.3	47.5
Heavy Trucks:	60.4	48.5	39.4	40.7	50.8	50.9
Vehicle Noise:	**63.0**	**55.4**	**51.9**	**47.6**	**56.1**	**56.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	48
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4150
Peak Hour Traffic:	415
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

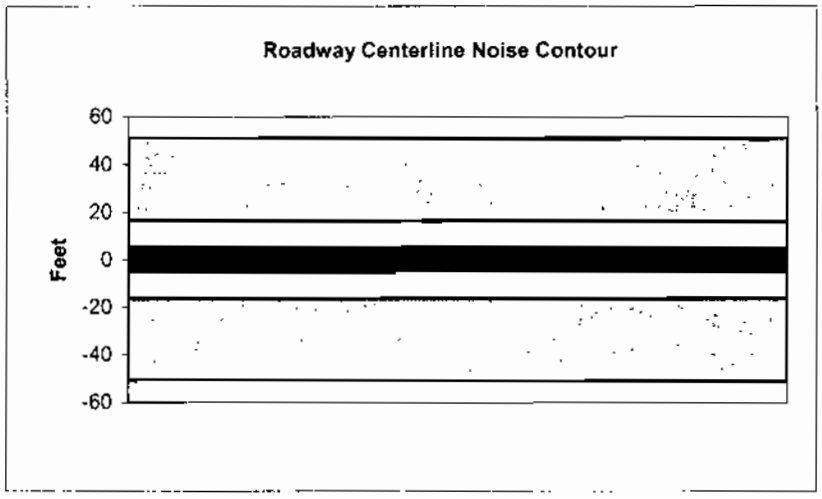
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.5	53.3	51.5	45.4	54.0	54.7
Medium Trucks:	55.1	47.0	40.6	39.1	47.6	47.8
Heavy Trucks:	60.7	48.8	39.7	41.0	51.1	51.2
Vehicle Noise:	**63.3**	**55.8**	**52.2**	**47.9**	**56.4**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	51
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3415
Receiver Barrier Dist:	0	Peak Hour Traffic:	**341.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

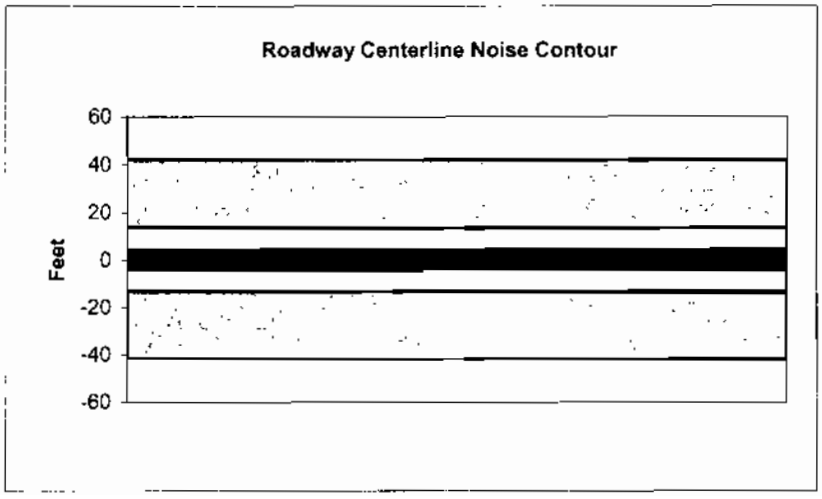
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.6	52.4	50.6	44.6	53.2	53.8
Medium Trucks:	54.2	46.2	39.8	38.2	46.7	46.9
Heavy Trucks:	59.9	48.0	38.9	40.1	50.2	50.4
Vehicle Noise:	**62.4**	**54.9**	**51.4**	**47.0**	**55.6**	**56.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	42
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street north of Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5120
Peak Hour Traffic:	512
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

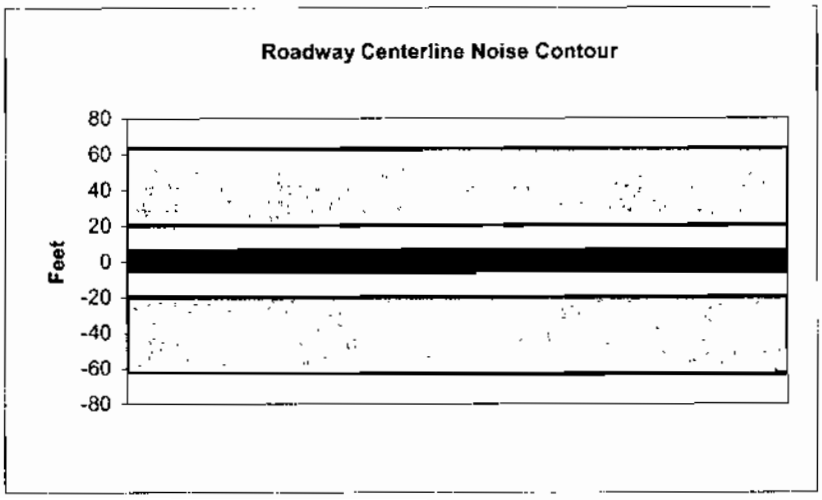
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.4	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	56.0	47.9	41.6	40.0	48.5	48.7
Heavy Trucks:	61.7	49.7	40.7	41.9	52.0	52.1
Vehicle Noise:	**64.2**	**56.7**	**53.1**	**48.8**	**57.3**	**57.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	63
65 dBA	20
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street north of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3360
Peak Hour Traffic:	336
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

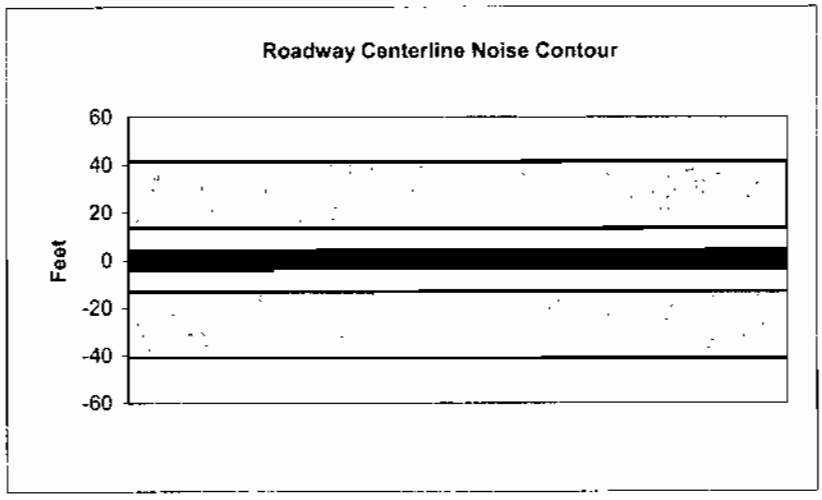
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.6	52.4	50.6	44.5	53.1	53.7
Medium Trucks:	54.2	46.1	39.7	38.2	46.6	46.9
Heavy Trucks:	59.8	47.9	38.8	40.0	50.2	50.3
Vehicle Noise:	**62.4**	**54.8**	**51.3**	**47.0**	**55.5**	**55.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	41
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street south of Ocean Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4320
Receiver Barrier Dist:	0	Peak Hour Traffic:	**432**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

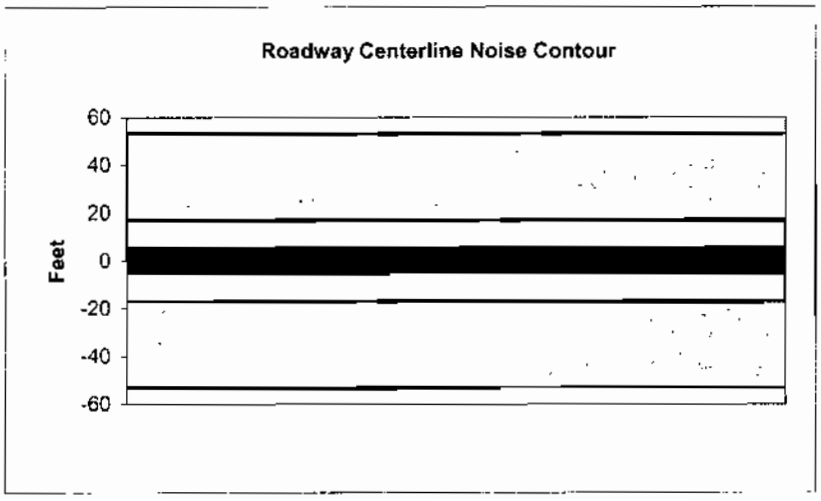
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.4	51.7	45.6	54.2	54.8
Medium Trucks:	55.3	47.2	40.8	39.2	47.7	48.0
Heavy Trucks:	60.9	49.0	39.9	41.1	51.3	51.4
Vehicle Noise:	**63.4**	**55.9**	**52.4**	**48.1**	**56.6**	**57.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	53
65 dBA	17
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive South of Intersection 68		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11590
Peak Hour Traffic:	1159
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

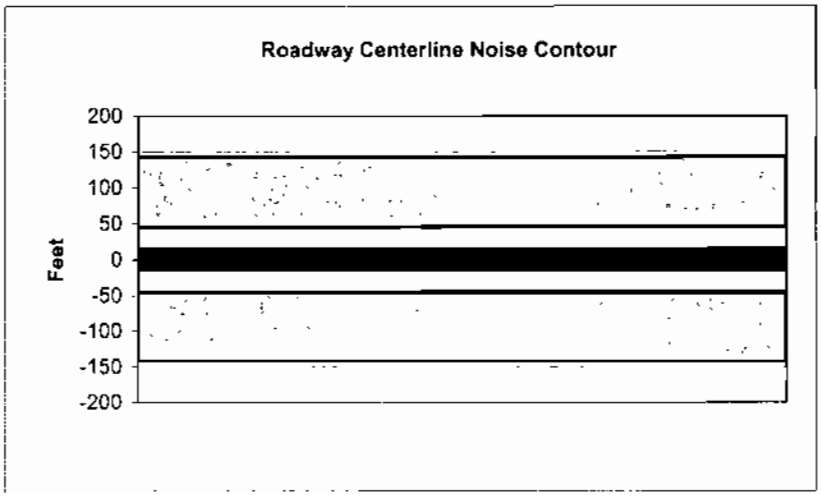
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	58.9	50.9	44.5	42.9	51.4	51.6
Heavy Trucks:	64.6	52.7	43.6	44.8	54.9	55.1
Vehicle Noise:	**67.1**	**59.6**	**56.1**	**51.7**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	143
65 dBA	45
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive North of Intersection 68		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11660
Peak Hour Traffic:	1166
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

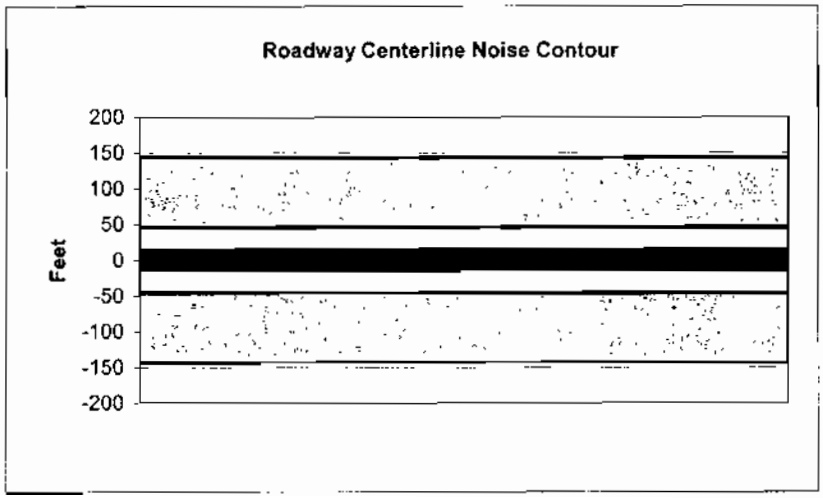
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	57.9	58.5
Medium Trucks:	59.0	50.9	44.5	43.0	51.4	51.7
Heavy Trucks:	64.6	52.7	43.6	44.8	55.0	55.1
Vehicle Noise:	**67.1**	**59.6**	**56.1**	**51.8**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	144
65 dBA	46
	14
Mitigated	
60 dBA	
65 dBA	



SCENARIO: FUTURE

Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue north of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8160
Peak Hour Traffic:	816
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

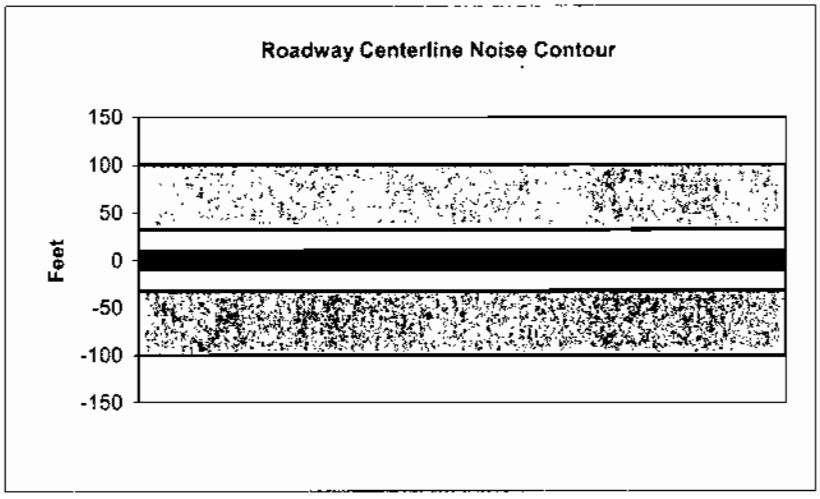
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.3	56.1	54.3	48.2	56.9	57.5
Medium Trucks:	57.9	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	63.6	51.6	42.6	43.8	53.9	54.0
Vehicle Noise:	**66.1**	**58.6**	**55.0**	**50.7**	**59.3**	**59.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	101
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9640
Peak Hour Traffic:	**964**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

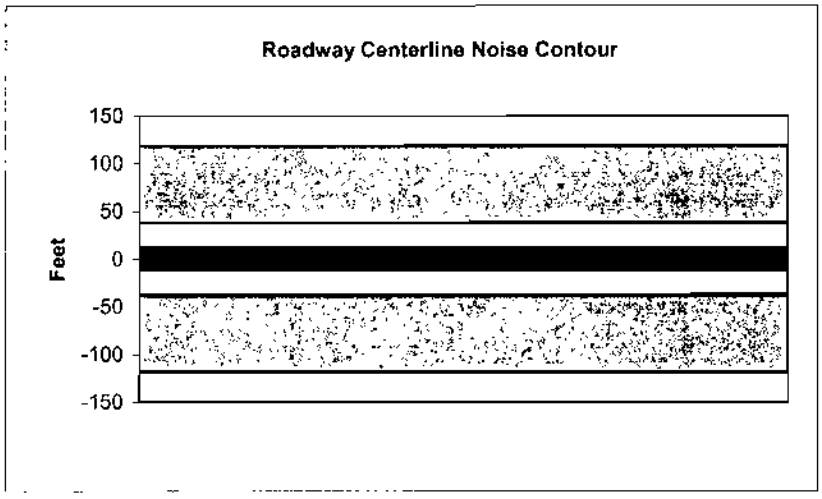
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	58.6	50.6	44.2	42.6	51.1	51.3
Heavy Trucks:	64.3	52.3	43.3	44.5	54.6	54.8
Vehicle Noise:	**66.8**	**59.3**	**55.8**	**51.4**	**60.0**	**60.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	119
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue south of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9370
Peak Hour Traffic:	937
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

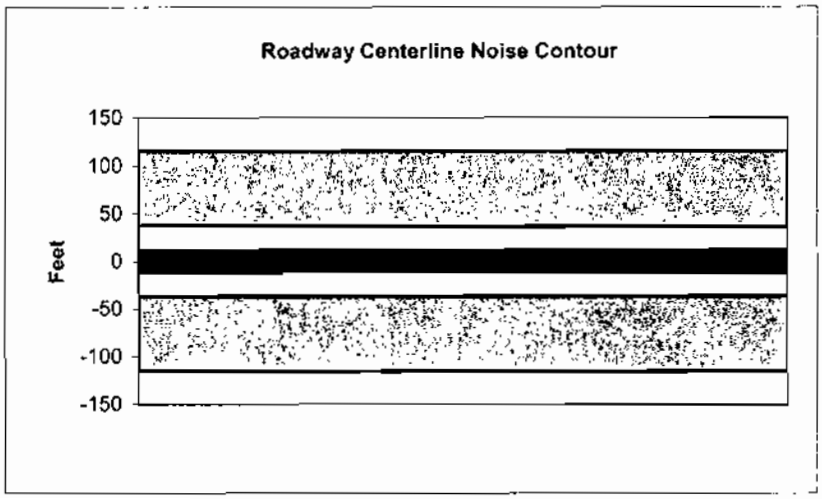
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	58.5	50.4	44.1	42.5	51.0	51.2
Heavy Trucks:	64.2	52.2	43.2	44.4	54.5	54.6
Vehicle Noise:	**66.7**	**59.2**	**55.6**	**51.3**	**59.9**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	116
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104541
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue north of 3rd Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	7680
Peak Hour Traffic:	768
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

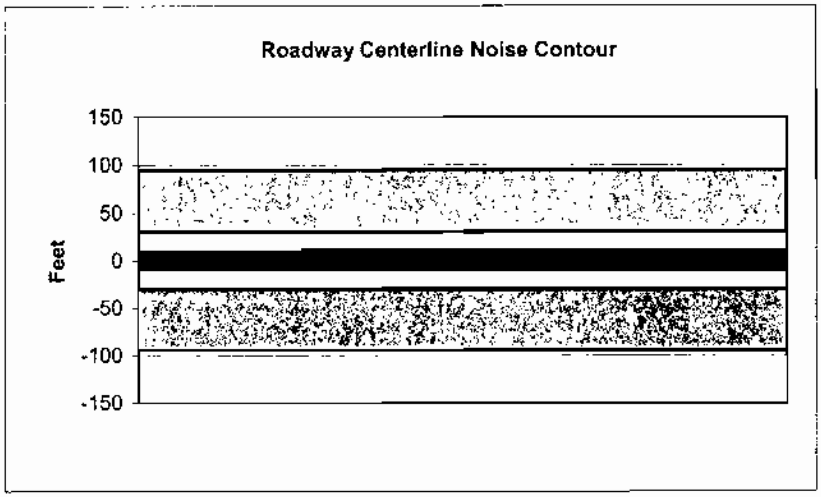
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.1	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	57.7	49.6	43.2	41.6	50.1	50.4
Heavy Trucks:	63.3	51.4	42.3	43.5	53.7	53.8
Vehicle Noise:	**65.8**	**58.3**	**54.8**	**50.4**	**59.0**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	95
65 dBA	30
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8515
Peak Hour Traffic:	**851.5**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

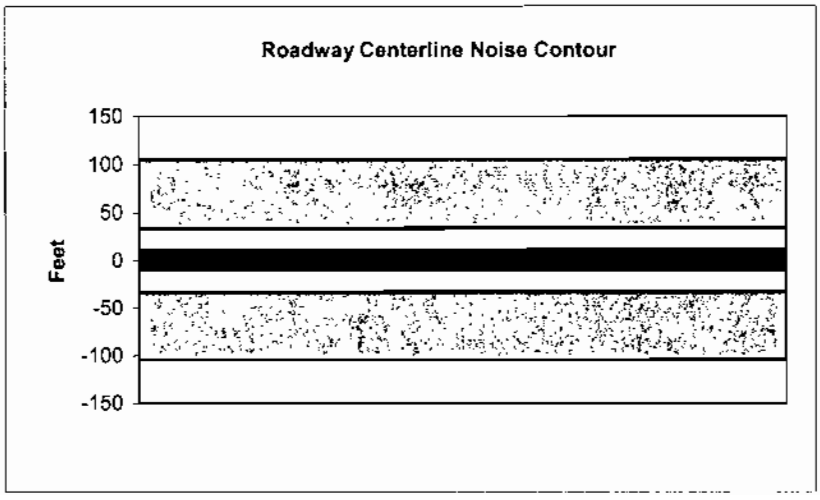
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.5	56.3	54.5	48.4	57.1	57.7
Medium Trucks:	58.1	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	63.7	51.8	42.8	44.0	54.1	54.2
Vehicle Noise:	**66.3**	**58.8**	**55.2**	**50.9**	**59.4**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	105
65 dBA	33
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between Broadway and Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12570
Peak Hour Traffic:	**1257**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

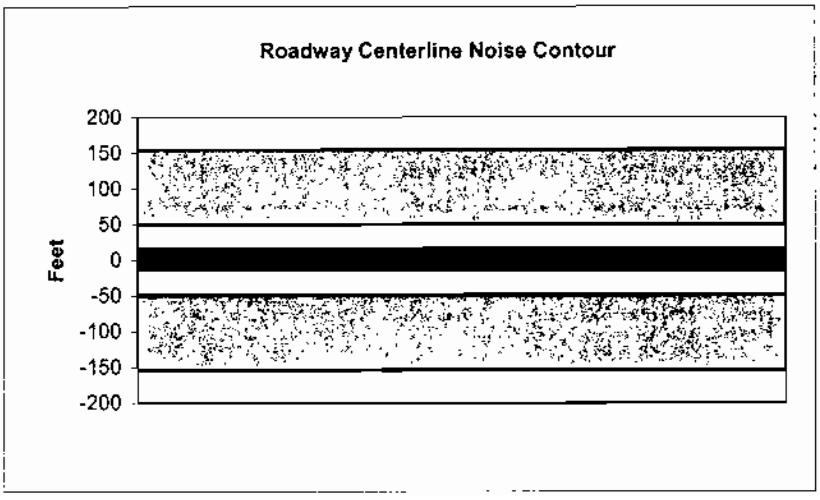
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.2	58.0	56.2	50.1	58.7	59.4
Medium Trucks:	59.8	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	65.4	53.5	44.4	45.7	55.8	55.9
Vehicle Noise:	**68.0**	**60.5**	**56.9**	**52.6**	**61.1**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	155
65 dBA	49
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Mangolia Avenue south of Ocean Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4520
Receiver Barrier Dist:	0	Peak Hour Traffic:	**452**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	18
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

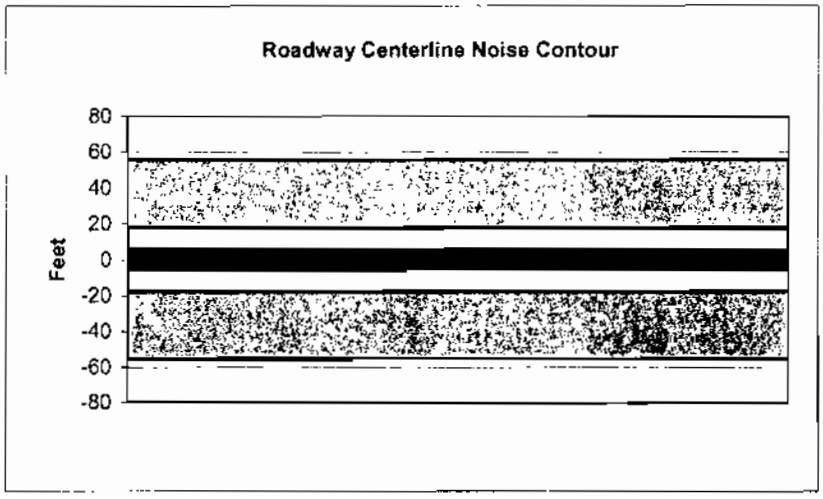
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.5	51.7	45.7	54.3	54.9
Medium Trucks:	55.4	47.3	40.9	39.3	47.8	48.0
Heavy Trucks:	61.0	49.1	40.0	41.2	51.3	51.5
Vehicle Noise:	**63.5**	**56.0**	**52.5**	**48.1**	**56.7**	**57.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	56
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Chestnut Avenue		
Road Segment:	Chestnut Avenue north of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1160
Peak Hour Traffic:	116
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

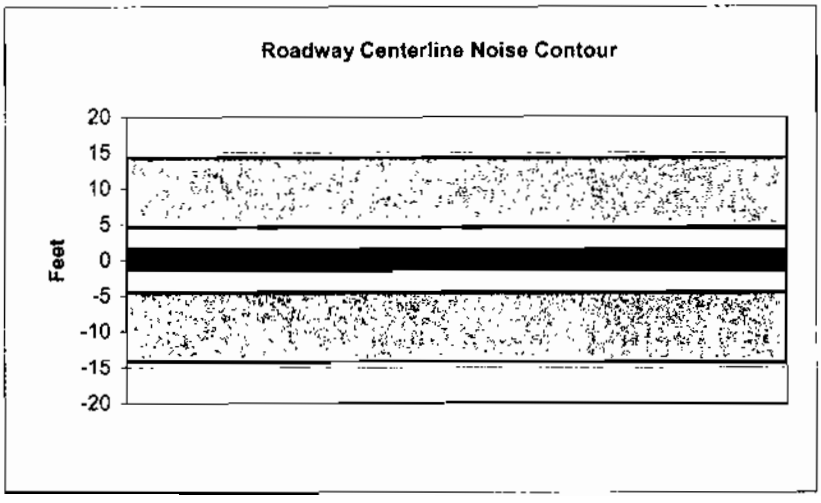
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.0	47.7	45.9	39.9	48.5	49.1
Medium Trucks:	49.6	41.5	35.1	33.5	42.0	42.3
Heavy Trucks:	55.2	43.3	34.2	35.4	45.6	45.7
Vehicle Noise:	**57.7**	**50.2**	**46.7**	**42.3**	**50.9**	**51.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	14
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Chestnut Avenue		
Road Segment:	Chestnut Avenue south of 5th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1080
Peak Hour Traffic:	108
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

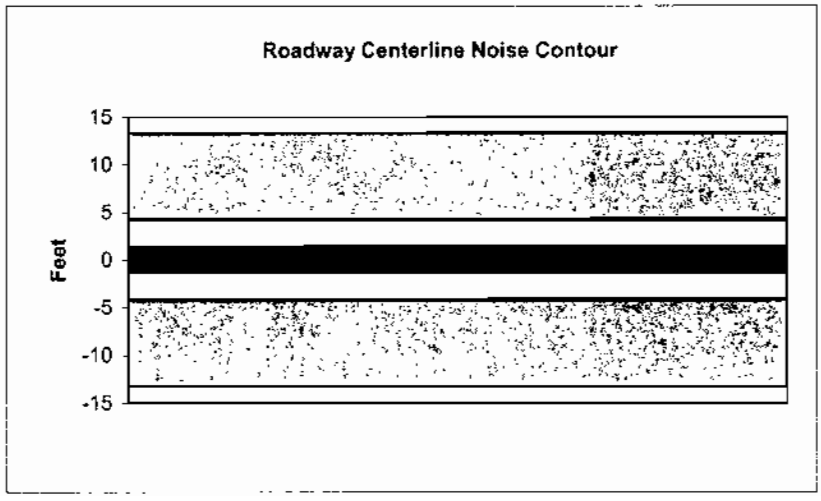
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.6	47.4	45.6	39.6	48.2	48.8
Medium Trucks:	49.2	41.2	34.8	33.2	41.7	41.9
Heavy Trucks:	54.9	43.0	33.9	35.1	45.2	45.4
Vehicle Noise:	**57.4**	**49.9**	**46.4**	**42.0**	**50.6**	**51.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	13
65 dBA	4
	1
Mitigated	
60 dBA:	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Cedar Avenue north of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2900
Peak Hour Traffic:	**290**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

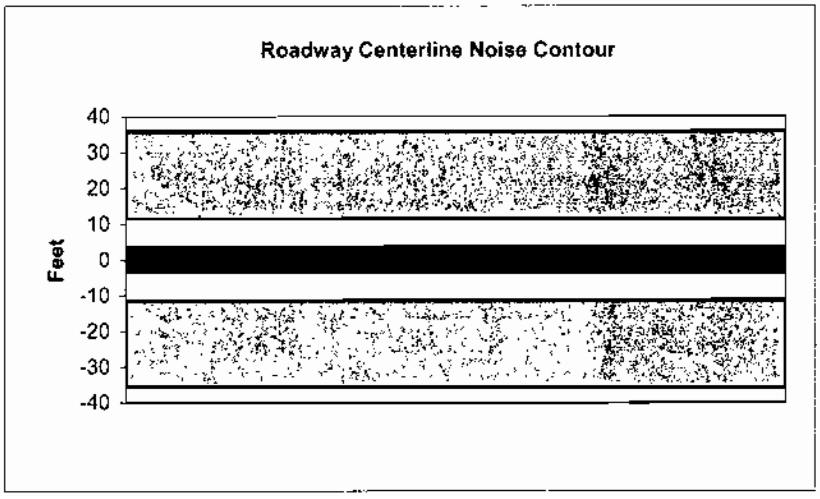
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.5	53.1
Medium Trucks:	53.5	45.5	39.1	37.5	46.0	46.2
Heavy Trucks:	59.2	47.2	38.2	39.4	49.5	49.7
Vehicle Noise:	**61.7**	**54.2**	**50.7**	**46.3**	**54.9**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	36
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2425
Peak Hour Traffic:	**242.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

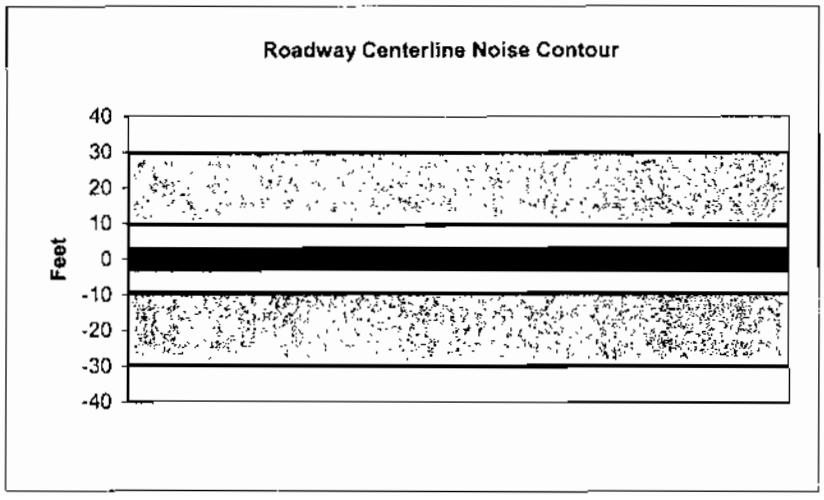
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.2	50.9	49.1	43.1	51.7	52.3
Medium Trucks:	52.8	44.7	38.3	36.7	45.2	45.5
Heavy Trucks:	58.4	46.5	37.4	38.6	48.8	48.9
Vehicle Noise:	**60.9**	**53.4**	**49.9**	**45.5**	**54.1**	**54.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	30
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Cedar Avenue south of 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2060
Peak Hour Traffic:	**206**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

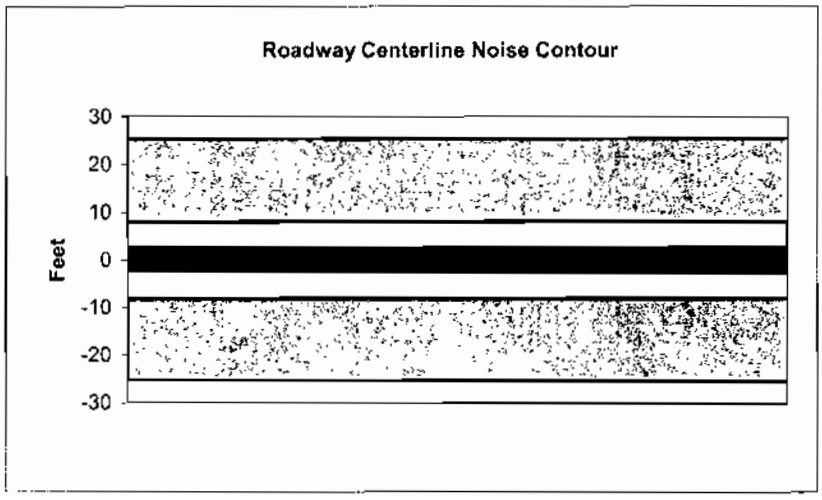
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.4	50.2	48.4	42.4	51.0	51.6
Medium Trucks:	52.1	44.0	37.6	36.0	44.5	44.7
Heavy Trucks:	57.7	45.8	36.7	37.9	48.0	48.2
Vehicle Noise:	**60.2**	**52.7**	**49.2**	**44.8**	**53.4**	**53.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	25
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue north of 7th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10420
Peak Hour Traffic:	1042
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

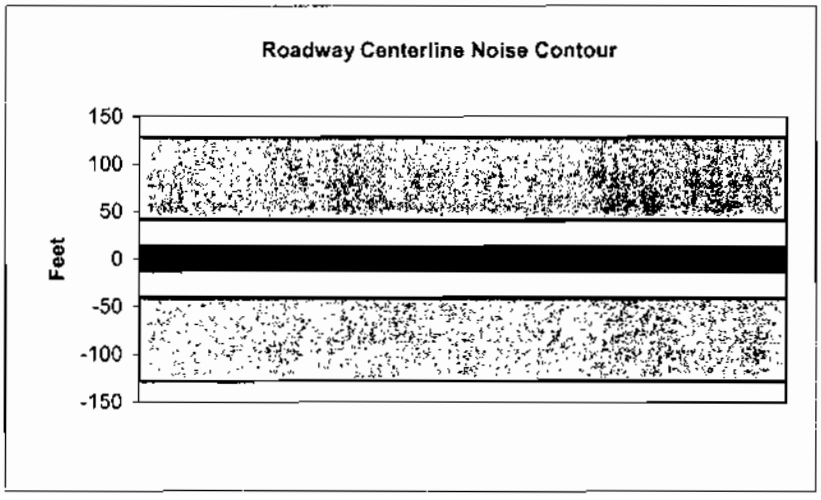
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	56.9	55.2	49.1	57.7	58.3
Medium Trucks:	58.8	50.7	44.3	42.7	51.2	51.5
Heavy Trucks:	64.4	52.5	43.4	44.6	54.8	54.9
Vehicle Noise:	**66.9**	**59.4**	**55.9**	**51.6**	**60.1**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	129
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10750
Peak Hour Traffic:	1075
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

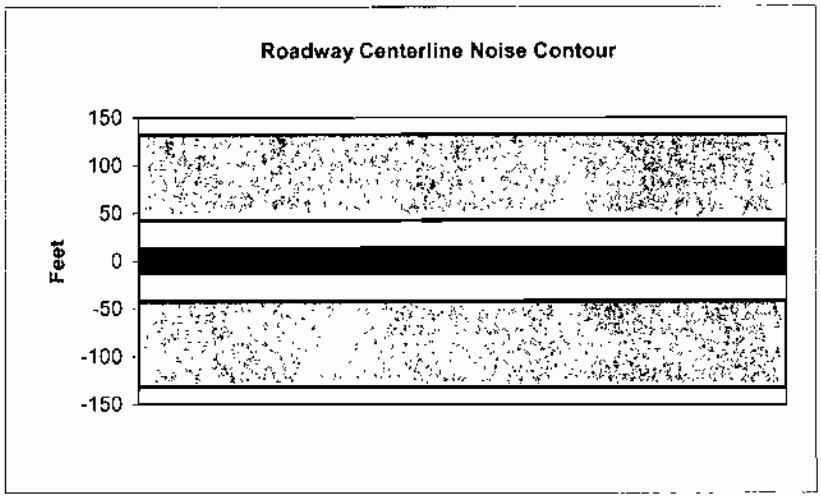
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.1	55.3	49.2	57.9	58.5
Medium Trucks:	58.9	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	64.5	52.6	43.6	44.8	54.9	55.0
Vehicle Noise:	**67.1**	**59.6**	**56.0**	**51.7**	**60.2**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	133
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6660
Peak Hour Traffic:	666
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

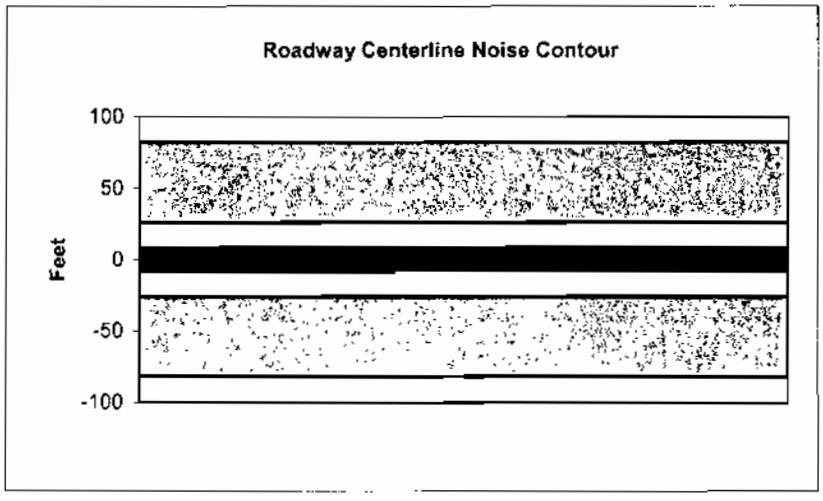
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.2	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	56.8	48.8	42.4	40.8	49.3	49.5
Heavy Trucks:	62.5	50.5	41.5	42.7	52.8	52.9
Vehicle Noise:	**65.0**	**57.5**	**53.9**	**49.6**	**58.2**	**58.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	82
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	6225
Receiver Barrier Dist:	0	Peak Hour Traffic:	**622.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	30
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

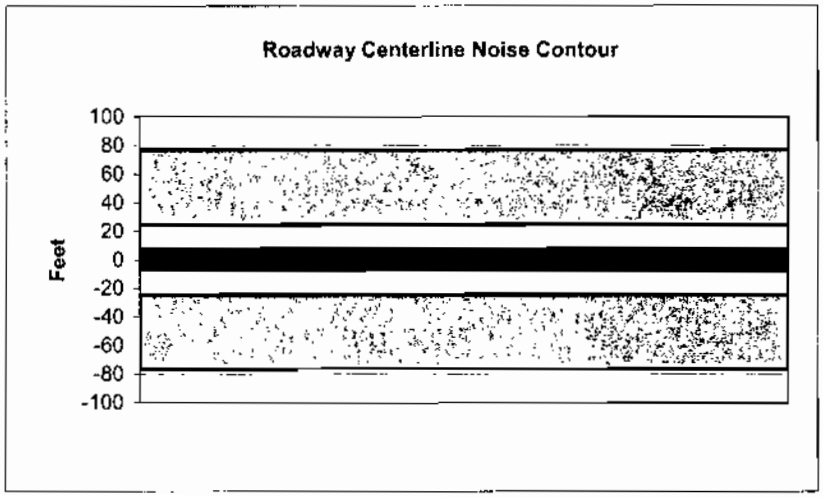
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.9	54.7	52.9	46.8	55.5	56.1
Medium Trucks:	56.5	48.5	42.1	40.5	49.0	49.2
Heavy Trucks:	62.2	50.2	41.2	42.4	52.5	52.7
Vehicle Noise:	**64.7**	**57.2**	**53.6**	**49.3**	**57.9**	**58.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	77
65 dBA	24
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9515
Peak Hour Traffic:	**951.5**
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

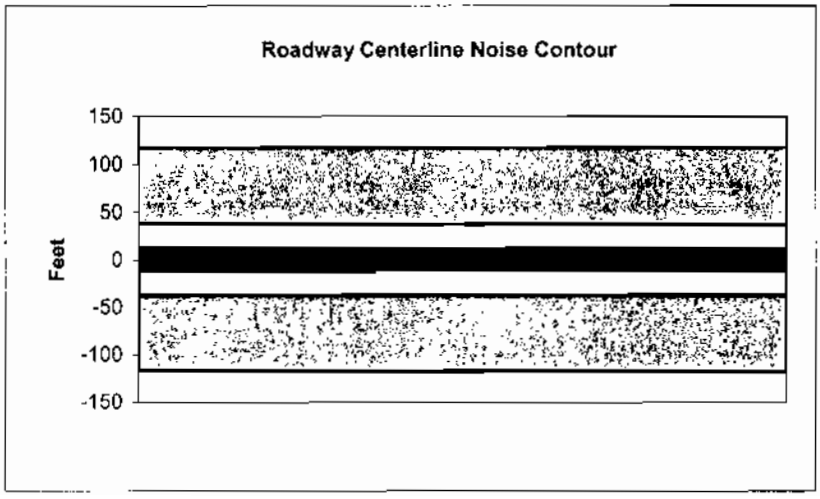
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.6	54.8	48.7	57.3	57.9
Medium Trucks:	58.4	50.3	43.9	42.3	50.8	51.1
Heavy Trucks:	64.0	52.1	43.0	44.2	54.4	54.5
Vehicle Noise:	**66.5**	**59.0**	**55.5**	**51.2**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	117
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9820
Peak Hour Traffic:	982
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

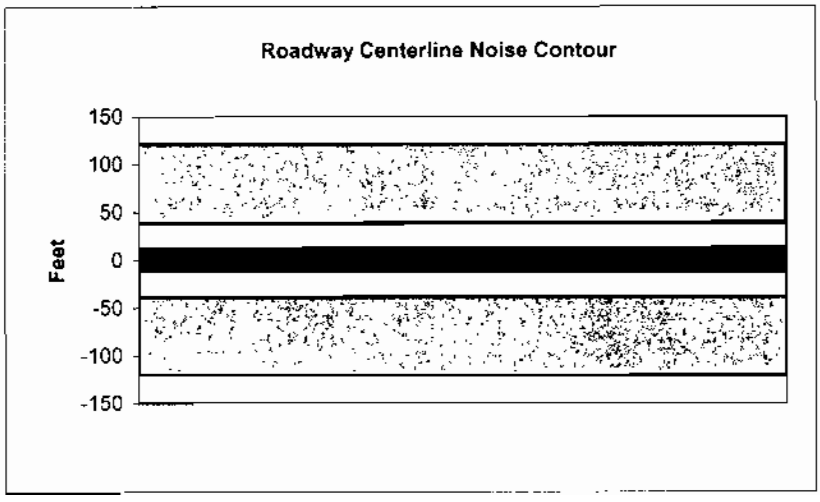
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	58.5	50.4	44.1	42.5	51.0	51.2
Heavy Trucks:	64.2	52.2	43.2	44.4	54.5	54.6
Vehicle Noise:	**66.7**	**59.2**	**55.6**	**51.3**	**59.8**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	121
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue south of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11150
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1115**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	30
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

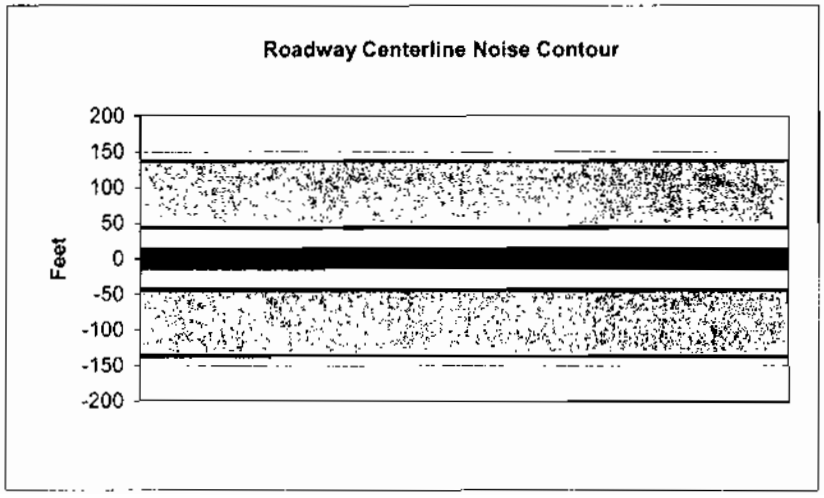
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.2	55.5	49.4	58.0	58.6
Medium Trucks:	59.1	51.0	44.6	43.0	51.5	51.8
Heavy Trucks:	64.7	52.8	43.7	44.9	55.1	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.9**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	138
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue north of Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8250
Peak Hour Traffic:	825
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

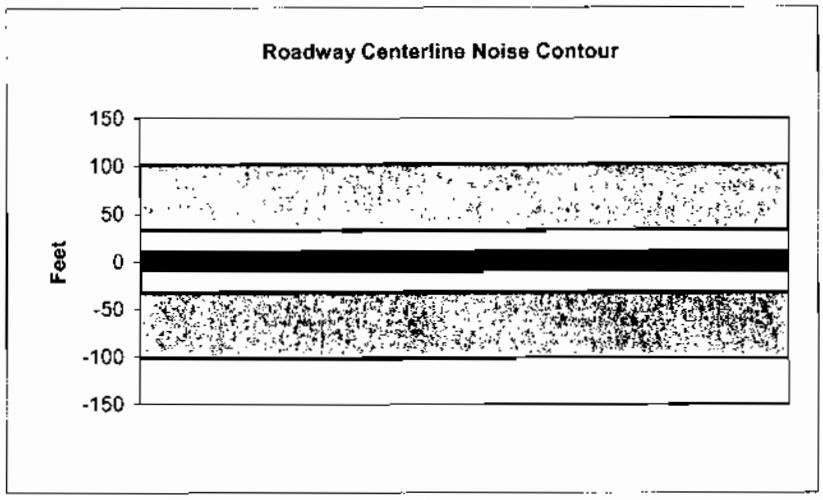
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.2	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	57.8	49.7	43.3	41.7	50.2	50.5
Heavy Trucks:	63.4	51.5	42.4	43.6	53.8	53.9
Vehicle Noise:	**65.9**	**58.4**	**54.9**	**50.5**	**59.1**	**59.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	102
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street north of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4180
Receiver Barrier Dist:	0	Peak Hour Traffic:	**418**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

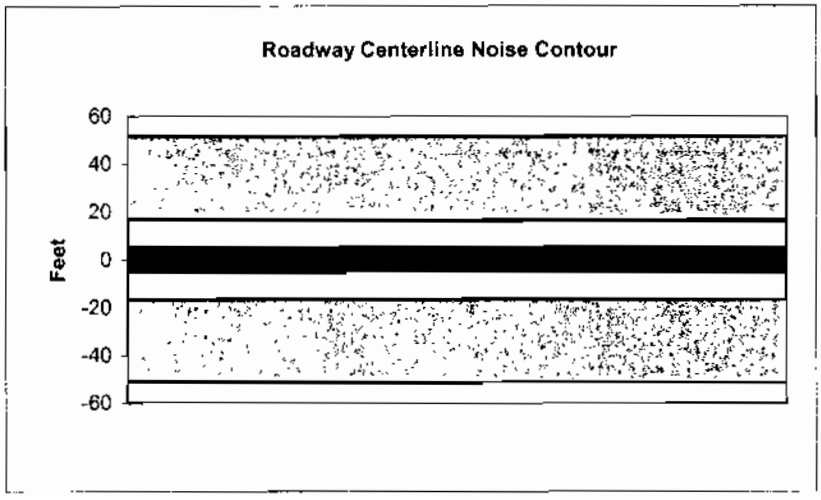
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.5	53.3	51.5	45.4	54.1	54.7
Medium Trucks:	55.1	47.1	40.7	39.1	47.6	47.8
Heavy Trucks:	60.8	48.8	39.8	41.0	51.1	51.2
Vehicle Noise:	**63.3**	**55.8**	**52.2**	**47.9**	**56.5**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	52
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4165
Peak Hour Traffic:	**416.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

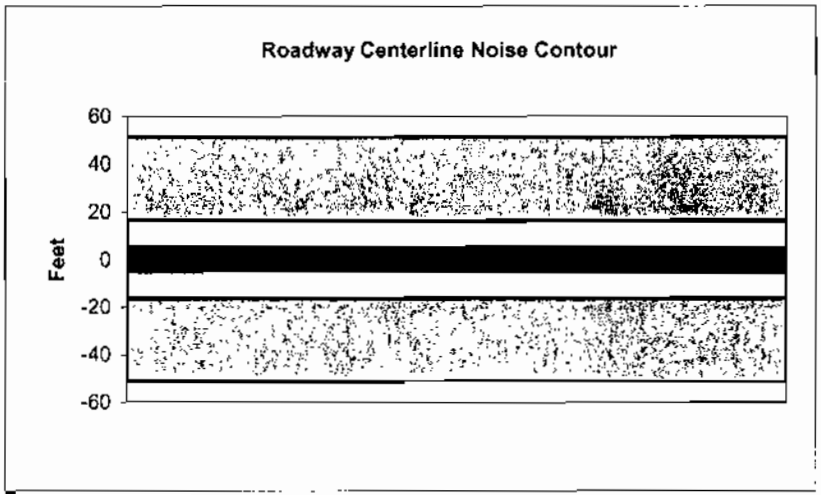
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.5	53.3	51.5	45.4	54.1	54.7
Medium Trucks:	55.1	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	60.8	48.8	39.8	41.0	51.1	51.2
Vehicle Noise:	**63.3**	**55.8**	**52.2**	**47.9**	**56.4**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	51
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	5105
Receiver Barrier Dist:	0	Peak Hour Traffic:	**510.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

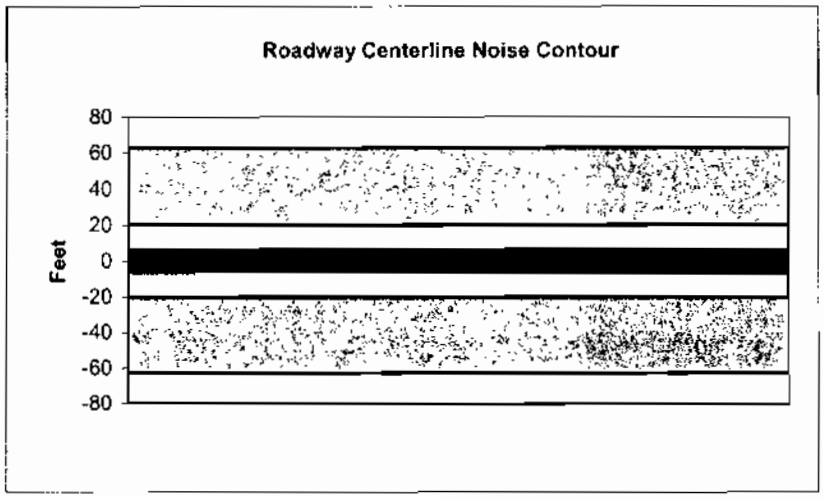
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.4	54.2	52.4	46.3	54.9	55.6
Medium Trucks:	56.0	47.9	41.5	40.0	48.5	48.7
Heavy Trucks:	61.6	49.7	40.6	41.9	52.0	52.1
Vehicle Noise:	**64.2**	**56.7**	**53.1**	**48.8**	**57.3**	**57.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	63
65 dBA	20
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4825
Peak Hour Traffic:	**482.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

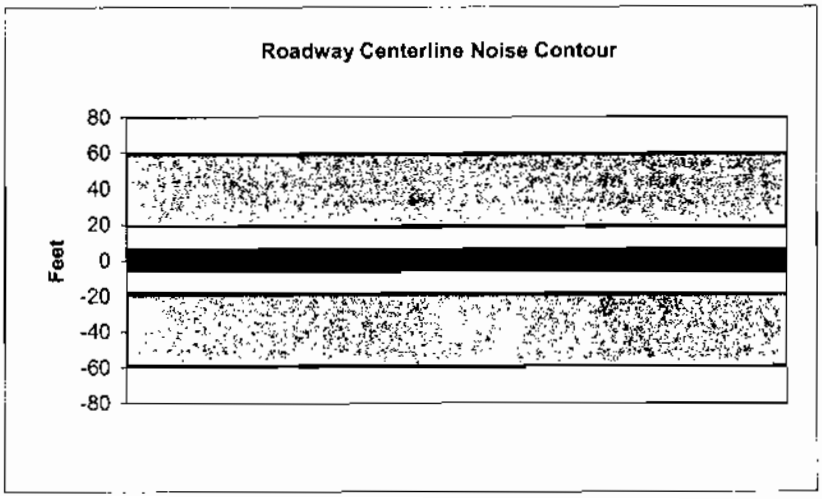
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.1	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	55.7	47.7	41.3	39.7	48.2	48.4
Heavy Trucks:	61.4	49.5	40.4	41.6	51.7	51.9
Vehicle Noise:	**63.9**	**56.4**	**52.9**	**48.5**	**57.1**	**57.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	60
65 dBA	19
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4540
Peak Hour Traffic:	**454**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

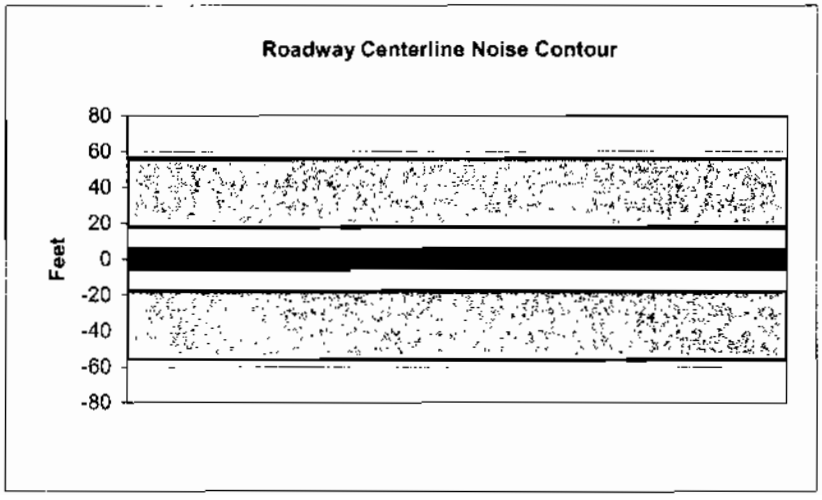
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.9	53.7	51.9	45.8	54.4	55.0
Medium Trucks:	55.5	47.4	41.0	39.5	47.9	48.2
Heavy Trucks:	61.1	49.2	40.1	41.4	51.5	51.6
Vehicle Noise:	**63.7**	**56.1**	**52.6**	**48.3**	**56.8**	**57.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	56
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	5810
Peak Hour Traffic:	**581**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

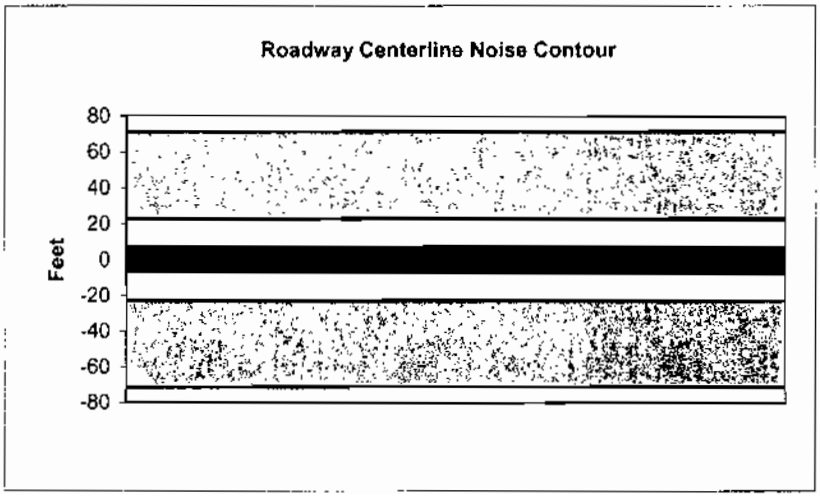
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.0	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	56.6	48.5	42.1	40.5	49.0	49.3
Heavy Trucks:	62.2	50.3	41.2	42.4	52.6	52.7
Vehicle Noise:	**64.7**	**57.2**	**53.7**	**49.3**	**57.9**	**58.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	72
65 dBA	23
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street south of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	6610
Receiver Barrier Dist:	0	Peak Hour Traffic:	**661**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

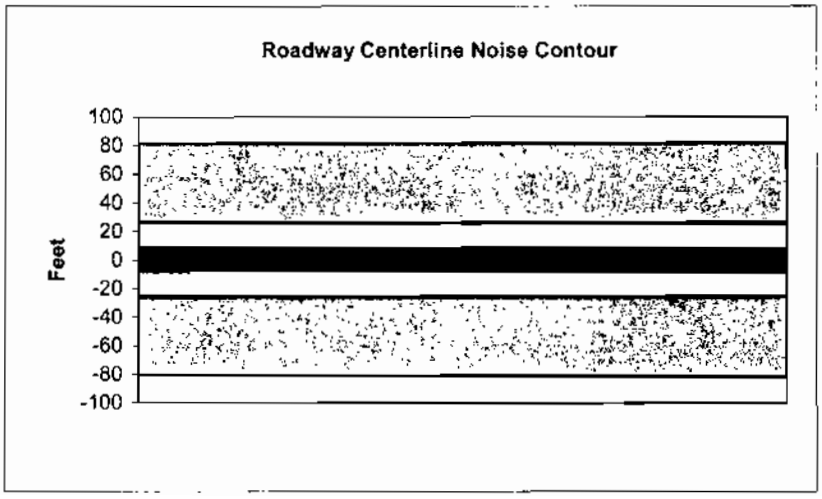
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.5	55.3	53.5	47.4	56.1	56.7
Medium Trucks:	57.1	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	62.8	50.8	41.8	43.0	53.1	53.2
Vehicle Noise:	**65.3**	**57.8**	**54.2**	**49.9**	**58.5**	**58.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	82
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street north of Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6500
Peak Hour Traffic:	650
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

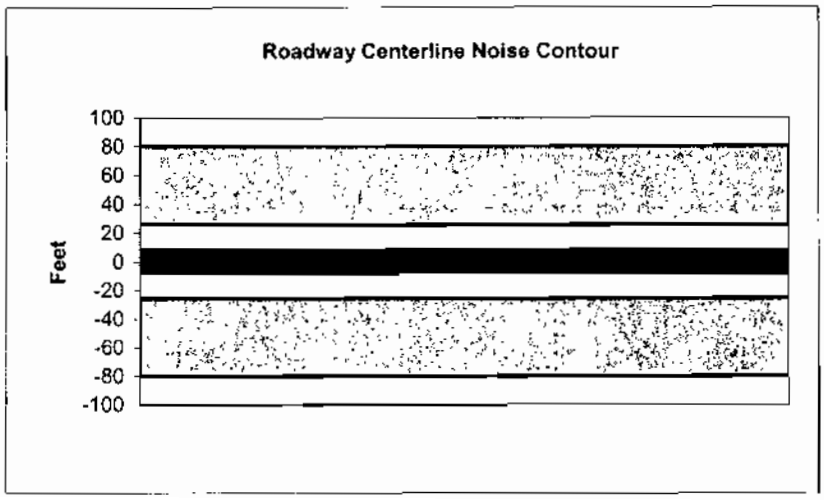
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.4	55.2	53.4	47.3	56.0	56.6
Medium Trucks:	57.0	49.0	42.6	41.0	49.5	49.7
Heavy Trucks:	62.7	50.8	41.7	42.9	53.0	53.2
Vehicle Noise:	**65.2**	**57.7**	**54.2**	**49.8**	**58.4**	**58.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	80
65 dBA	25
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street south of Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6770
Peak Hour Traffic:	677
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

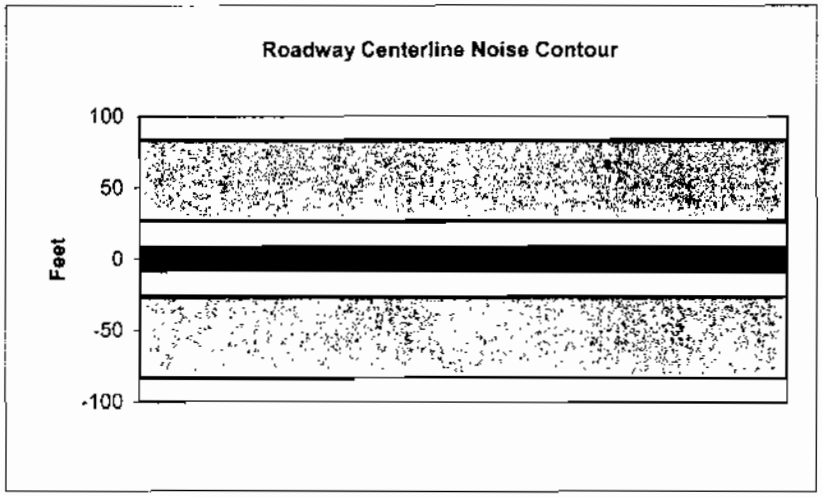
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.6	55.4	53.6	47.5	56.2	56.8
Medium Trucks:	57.2	49.2	42.8	41.2	49.7	49.9
Heavy Trucks:	62.9	50.9	41.9	43.1	53.2	53.3
Vehicle Noise:	**65.4**	**57.9**	**54.3**	**50.0**	**58.6**	**59.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	84
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Long Beach Boulevard North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16380
Peak Hour Traffic:	1638
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

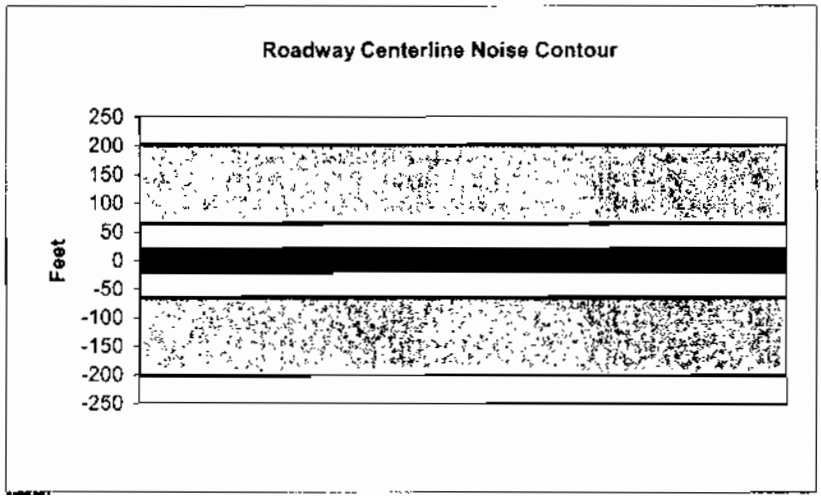
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	60.5	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.2	45.2	46.4	56.5	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.3**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	202
65 dBA	64
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17640
Peak Hour Traffic:	1764
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

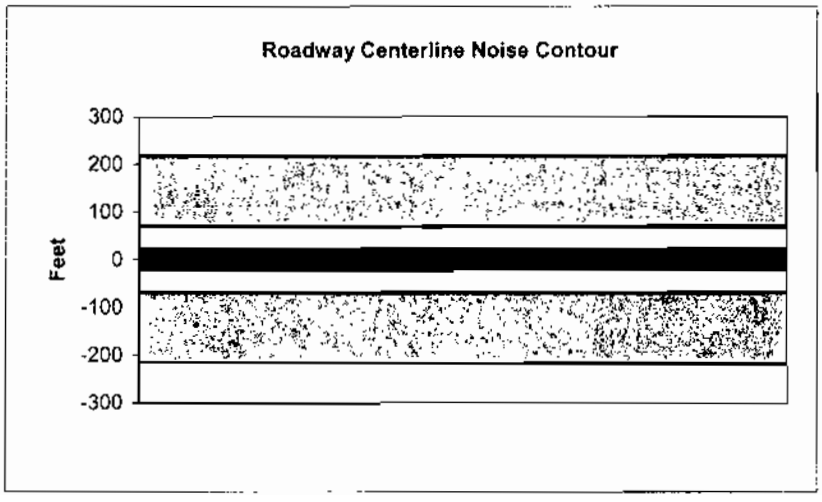
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.3	59.0	57.3	51.2	59.8	60.4
Medium Trucks:	60.9	52.8	46.4	44.8	53.3	53.6
Heavy Trucks:	66.5	54.6	45.5	46.7	56.9	57.0
Vehicle Noise:	**69.0**	**61.5**	**58.0**	**53.7**	**62.2**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	218
65 dBA	69
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	16130
Peak Hour Traffic:	1613
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

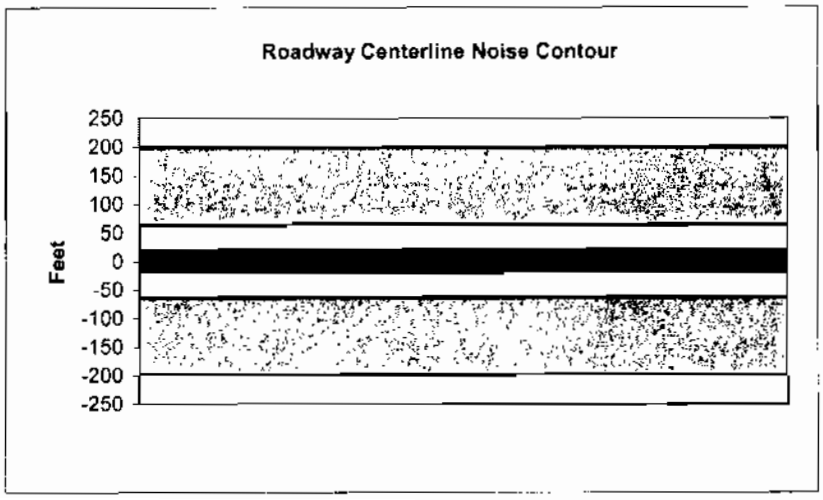
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.4	60.0
Medium Trucks:	60.5	52.4	46.0	44.4	52.9	53.2
Heavy Trucks:	66.1	54.2	45.1	46.3	56.5	56.6
Vehicle Noise:	**68.6**	**61.1**	**57.6**	**53.3**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15790
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1579**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	42
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

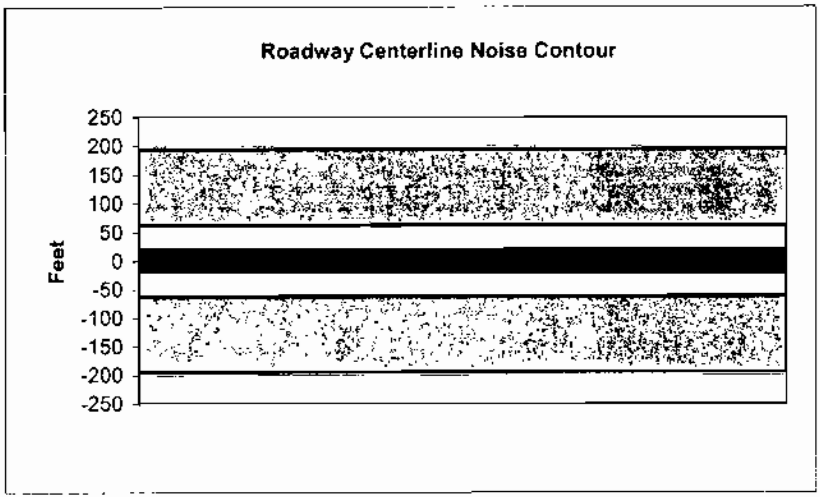
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.3	59.9
Medium Trucks:	60.4	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	66.0	54.1	45.0	46.3	56.4	56.5
Vehicle Noise:	**68.6**	**61.0**	**57.5**	**53.2**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	195
65 dBA	62
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	13180
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1318**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	42
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

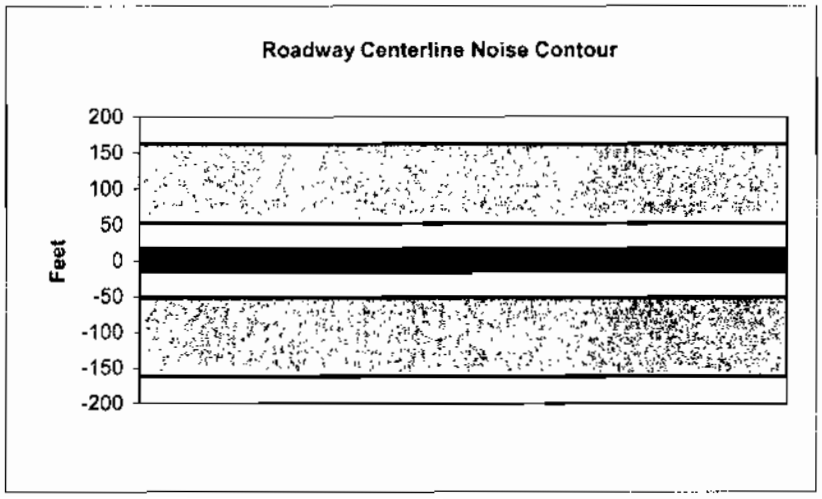
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.8	56.0	49.9	58.6	59.2
Medium Trucks:	59.6	51.5	45.1	43.6	52.1	52.3
Heavy Trucks:	65.2	53.3	44.2	45.5	55.6	55.7
Vehicle Noise:	**67.8**	**60.3**	**56.7**	**52.4**	**60.9**	**61.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	163
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13165
Peak Hour Traffic:	1316.5
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

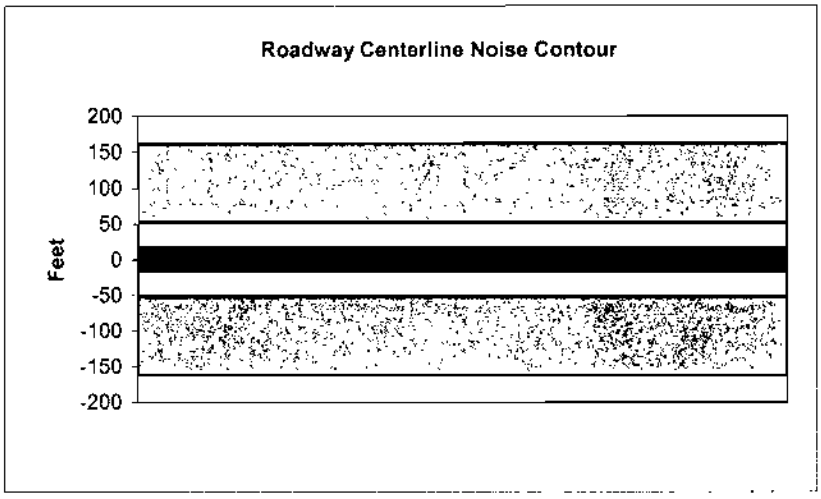
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.8	56.0	49.9	58.5	59.2
Medium Trucks:	59.6	51.5	45.1	43.6	52.1	52.3
Heavy Trucks:	65.2	53.3	44.2	45.5	55.6	55.7
Vehicle Noise:	**67.8**	**60.3**	**56.7**	**52.4**	**60.9**	**61.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	163
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11650
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1165**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	42
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

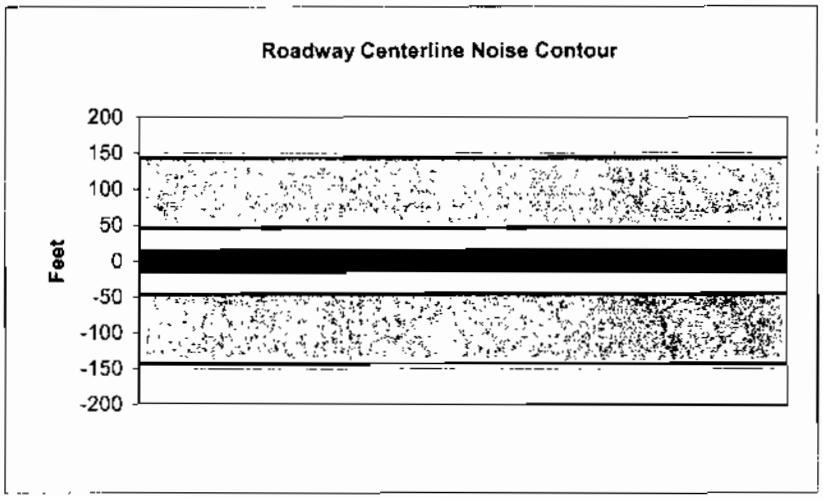
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.2	55.5	49.4	58.0	58.6
Medium Trucks:	59.1	51.0	44.6	43.0	51.5	51.8
Heavy Trucks:	64.7	52.8	43.7	44.9	55.1	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.8**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	144
65 dBA	46
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9835
Peak Hour Traffic:	983.5
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

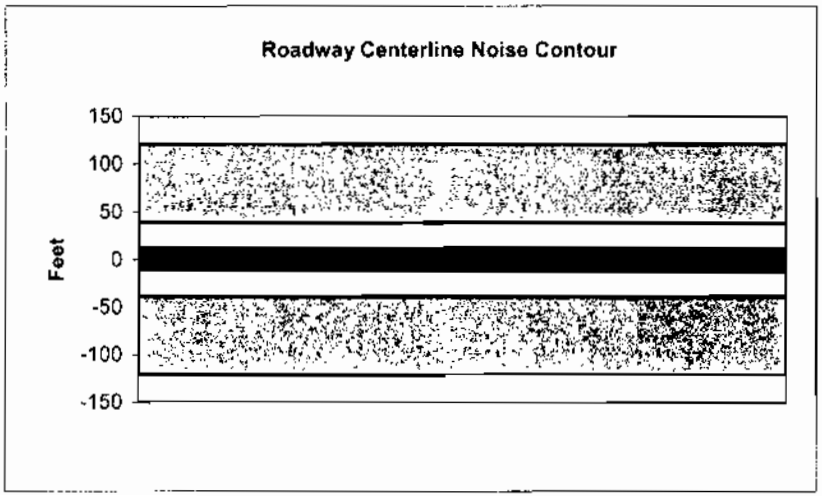
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	58.3	50.3	43.9	42.3	50.8	51.0
Heavy Trucks:	64.0	52.0	43.0	44.2	54.3	54.5
Vehicle Noise:	**66.5**	**59.0**	**55.4**	**51.1**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	121
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1100
Peak Hour Traffic:	110
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

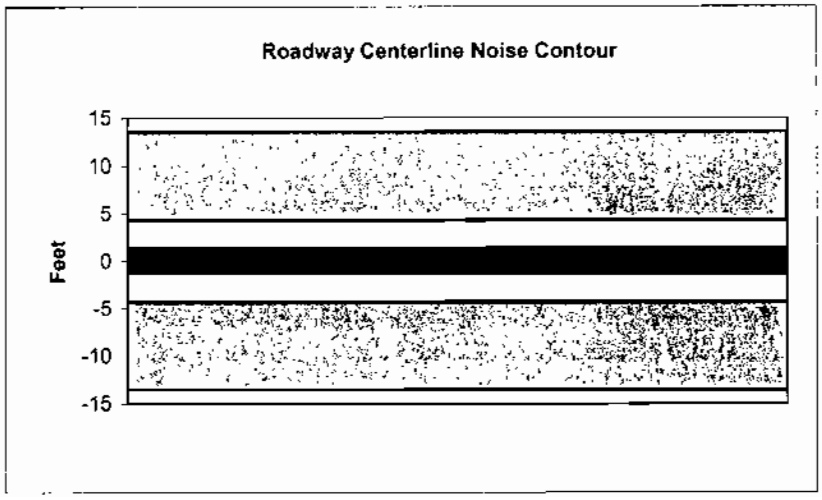
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.7	47.5	45.7	39.6	48.3	48.9
Medium Trucks:	49.3	41.3	34.9	33.3	41.8	42.0
Heavy Trucks:	55.0	43.0	34.0	35.2	45.3	45.5
Vehicle Noise:	**57.5**	**50.0**	**46.4**	**42.1**	**50.7**	**51.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	14
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1300
Peak Hour Traffic:	130
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

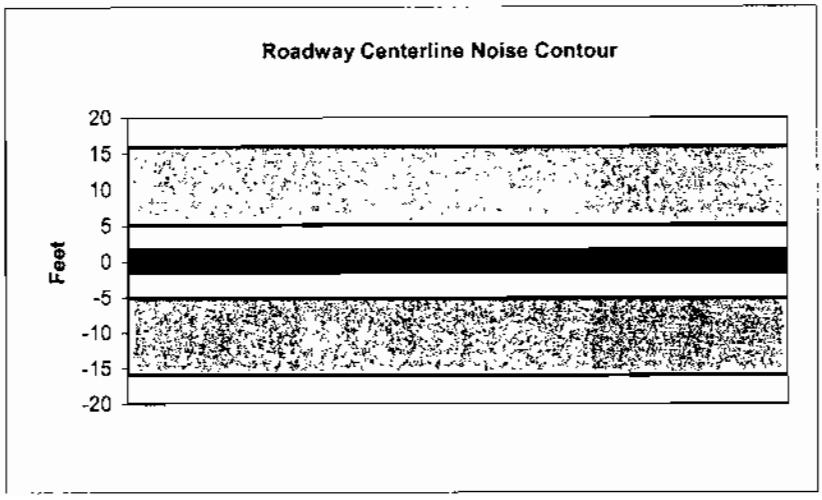
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.4	48.2	46.4	40.4	49.0	49.6
Medium Trucks:	50.1	42.0	35.6	34.0	42.5	42.7
Heavy Trucks:	55.7	43.8	34.7	35.9	46.1	46.2
Vehicle Noise:	**58.2**	**50.7**	**47.2**	**42.8**	**51.4**	**51.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue South of 6th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1480
Receiver Barrier Dist:	0	Peak Hour Traffic:	**148**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

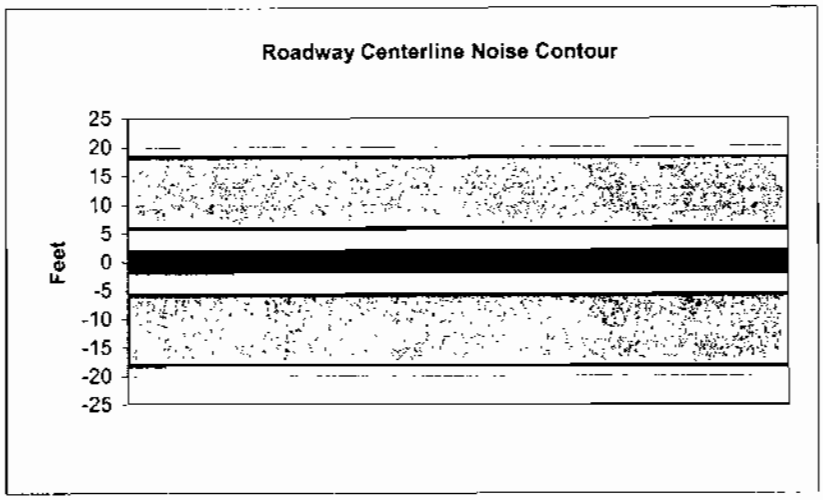
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.0	48.8	47.0	40.9	49.6	50.2
Medium Trucks:	50.6	42.5	36.2	34.6	43.1	43.3
Heavy Trucks:	56.3	44.3	35.3	36.5	46.6	46.7
Vehicle Noise:	**58.8**	**51.3**	**47.7**	**43.4**	**52.0**	**52.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	18
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue North of 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2770
Peak Hour Traffic:	277
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

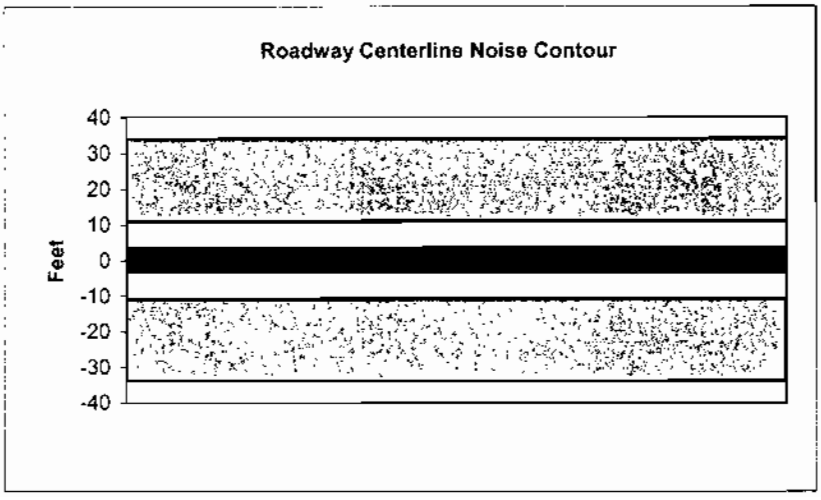
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.7	51.5	49.7	43.6	52.3	52.9
Medium Trucks:	53.3	45.3	38.9	37.3	45.8	46.0
Heavy Trucks:	59.0	47.0	38.0	39.2	49.3	49.5
Vehicle Noise:	**61.5**	**54.0**	**50.5**	**46.1**	**54.7**	**55.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	34
65 dBA	11
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3260
Peak Hour Traffic:	326
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

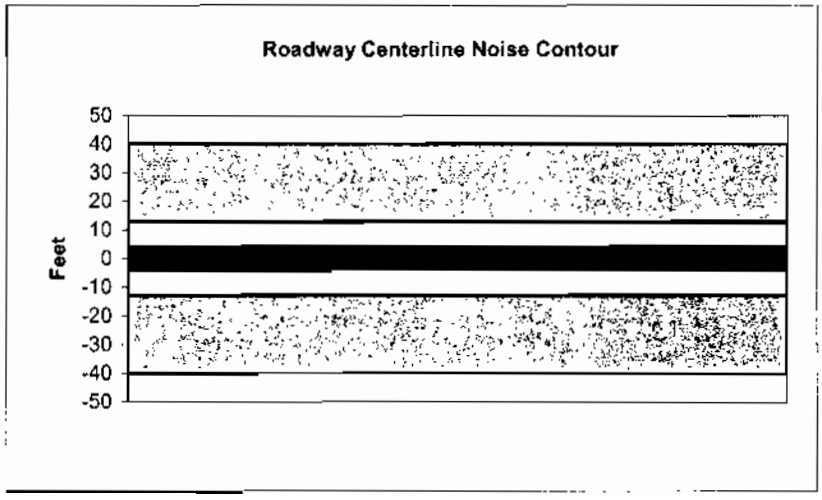
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.4	52.2	50.4	44.4	53.0	53.6
Medium Trucks:	54.0	46.0	39.6	38.0	46.5	46.7
Heavy Trucks:	59.7	47.8	38.7	39.9	50.0	50.2
Vehicle Noise:	**62.2**	**54.7**	**51.2**	**46.8**	**55.4**	**55.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	40
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4680
Receiver Barrier Dist:	0	Peak Hour Traffic:	468
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

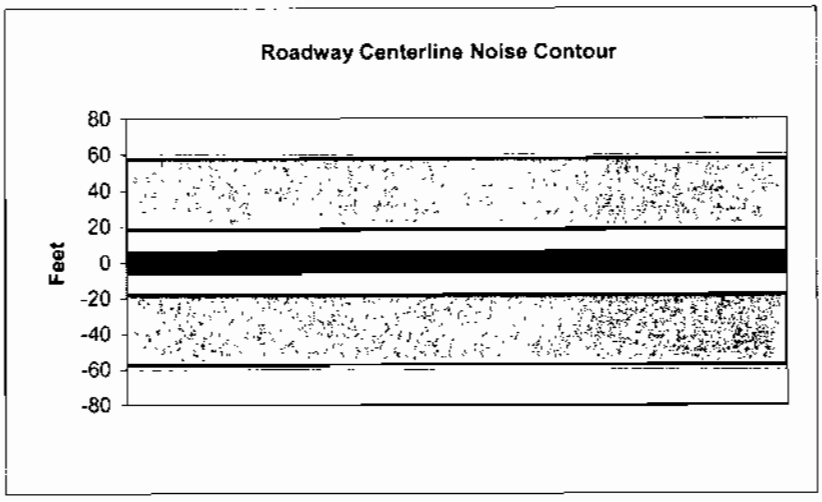
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.0	53.8	52.0	45.9	54.6	55.2
Medium Trucks:	55.6	47.5	41.2	39.6	48.1	48.3
Heavy Trucks:	61.3	49.3	40.3	41.5	51.6	51.7
Vehicle Noise:	**63.8**	**56.3**	**52.7**	**48.4**	**57.0**	**57.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	58
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue South of 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4800
Peak Hour Traffic:	**480**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

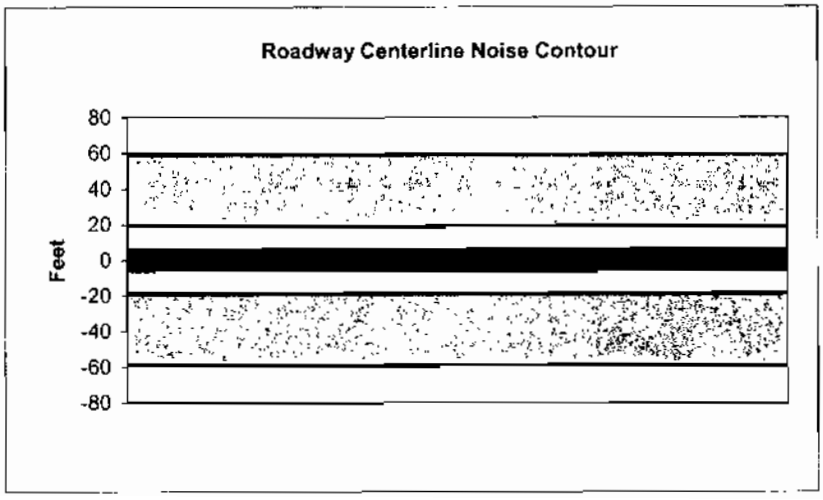
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.1	53.9	52.1	46.0	54.7	55.3
Medium Trucks:	55.7	47.7	41.3	39.7	48.2	48.4
Heavy Trucks:	61.4	49.4	40.4	41.6	51.7	51.9
Vehicle Noise:	**63.9**	**56.4**	**52.8**	**48.5**	**57.1**	**57.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	59
65 dBA	19
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Atlantic Avenue North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12450
Peak Hour Traffic:	1245
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

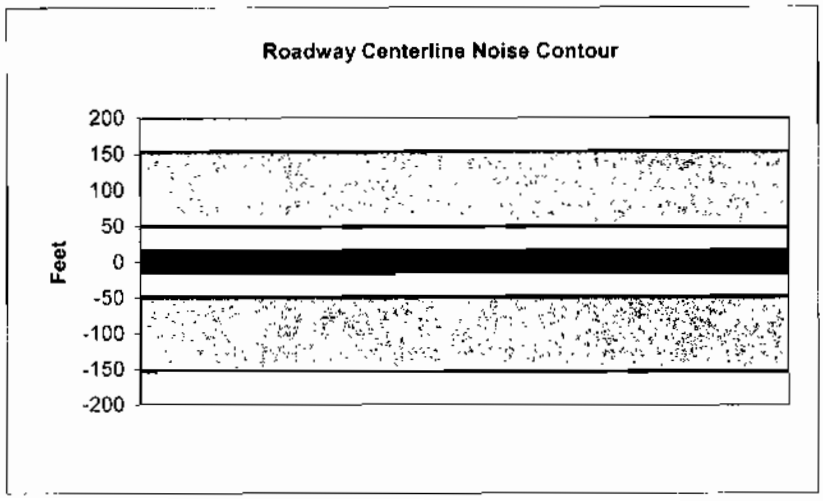
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	59.6	51.6	45.2	43.6	52.1	52.3
Heavy Trucks:	65.3	53.4	44.3	45.5	55.6	55.8
Vehicle Noise:	**67.8**	**60.3**	**56.8**	**52.4**	**61.0**	**61.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	154
65 dBA	49
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11430
Peak Hour Traffic:	1143
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

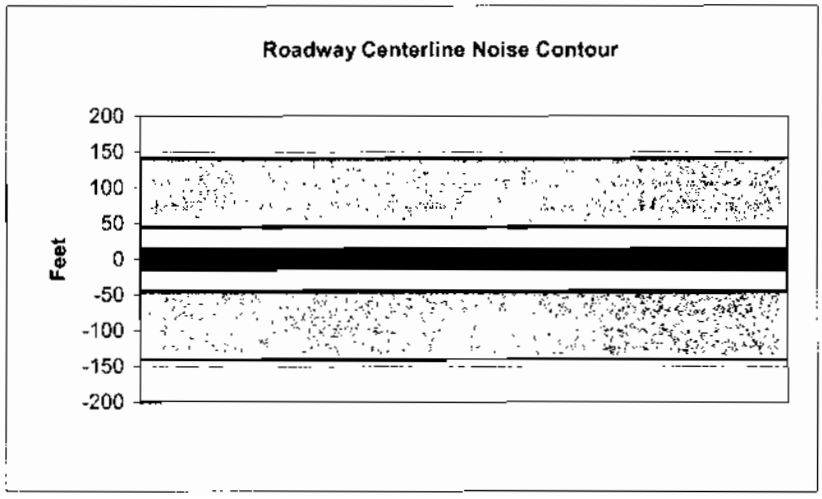
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.7	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	59.3	51.2	44.8	43.2	51.7	52.0
Heavy Trucks:	64.9	53.0	43.9	45.1	55.3	55.4
Vehicle Noise:	**67.4**	**59.9**	**56.4**	**52.1**	**60.6**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	141
65 dBA	45
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11030
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1103**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

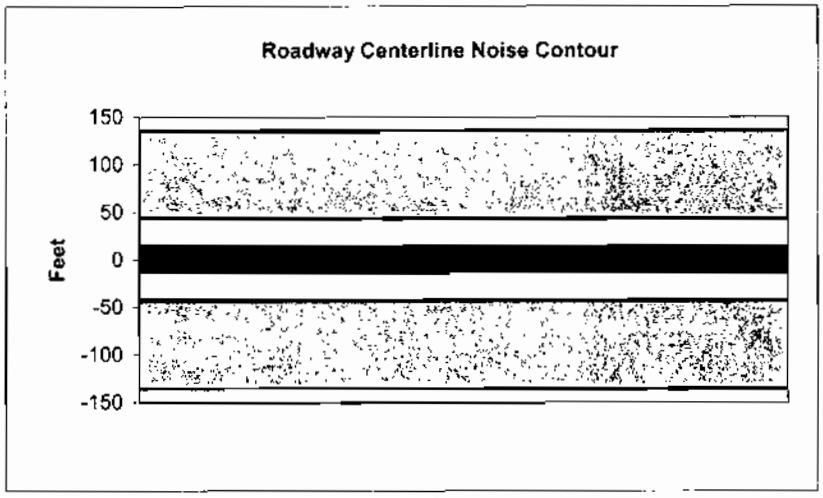
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	59.1	51.0	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.8	43.8	45.0	55.1	55.2
Vehicle Noise:	**67.3**	**59.8**	**56.2**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	136
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10645
Peak Hour Traffic:	**1064.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

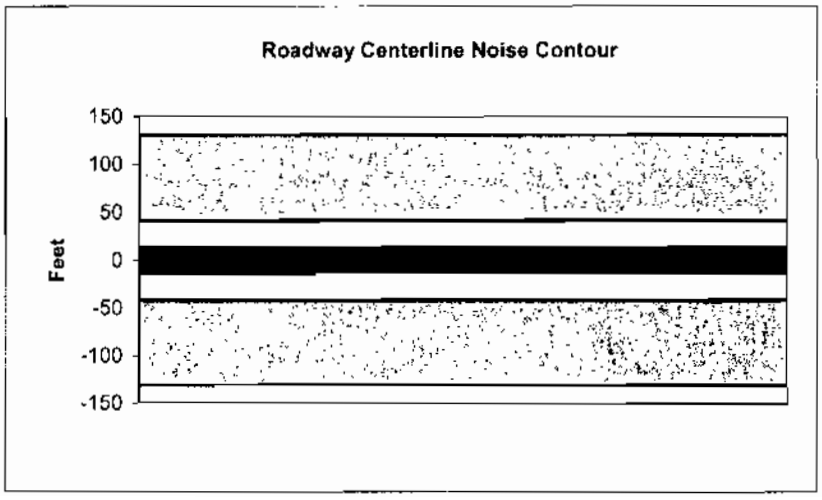
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.1	55.4	49.3	57.9	58.5
Medium Trucks:	59.0	50.9	44.5	42.9	51.4	51.7
Heavy Trucks:	64.6	52.7	43.6	44.8	55.0	55.1
Vehicle Noise:	**67.1**	**59.6**	**56.1**	**51.8**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	131
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	8435
Receiver Barrier Dist:	0	Peak Hour Traffic:	**843.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

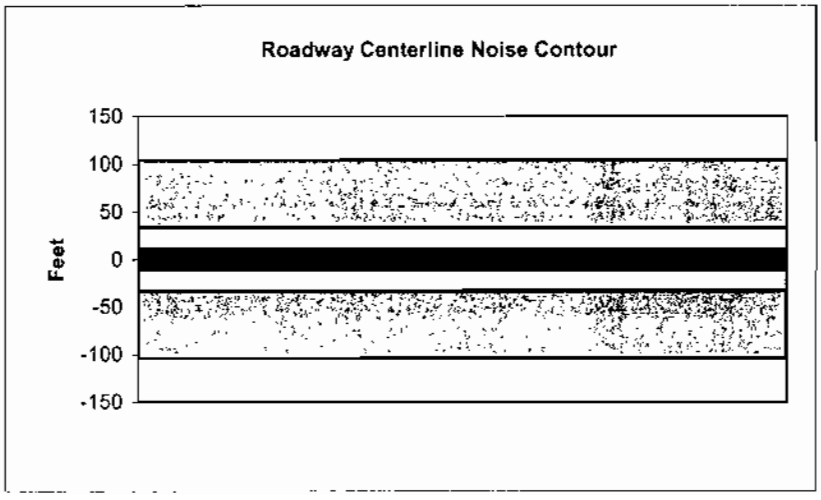
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	58.0	49.9	43.5	41.9	50.4	50.6
Heavy Trucks:	63.6	51.7	42.6	43.8	54.0	54.1
Vehicle Noise:	**66.1**	**58.6**	**55.1**	**50.7**	**59.3**	**59.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	104
65 dBA	33
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7270
Peak Hour Traffic:	727
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

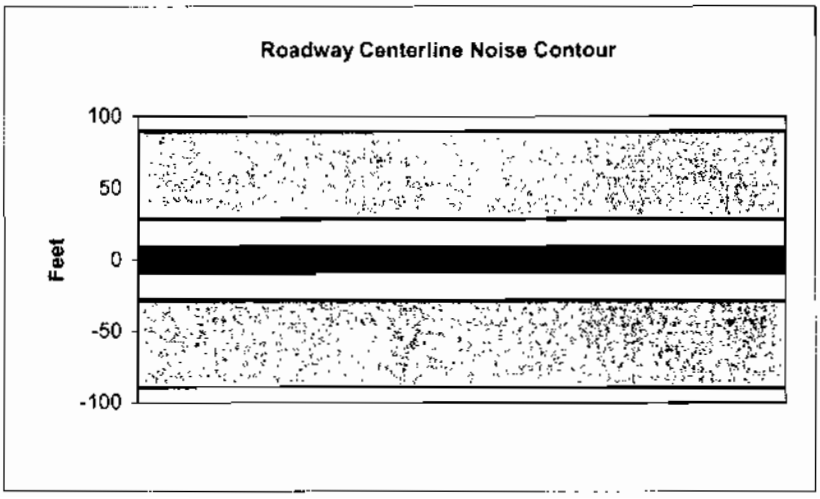
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.7	55.5	53.7	47.6	56.3	56.9
Medium Trucks:	57.3	49.2	42.9	41.3	49.8	50.0
Heavy Trucks:	63.0	51.0	42.0	43.2	53.3	53.4
Vehicle Noise:	**65.5**	**58.0**	**54.4**	**50.1**	**58.6**	**59.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	90
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6640
Peak Hour Traffic:	664
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

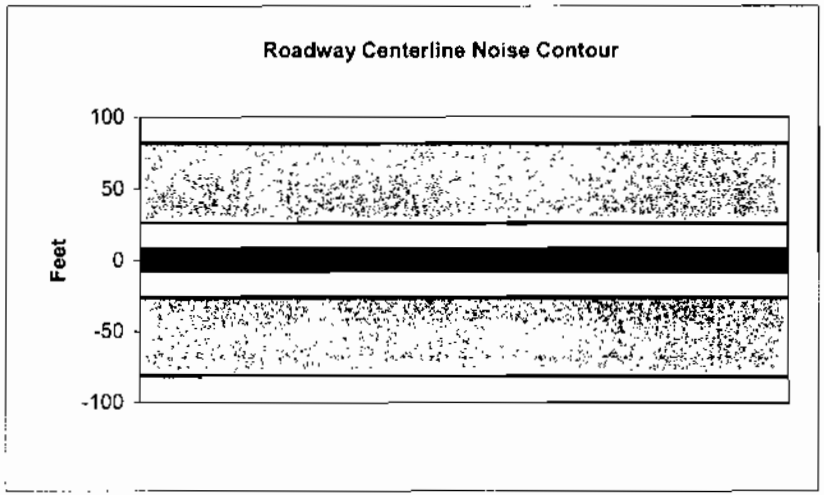
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.3	55.1	53.3	47.2	55.9	56.5
Medium Trucks:	56.9	48.8	42.5	40.9	49.4	49.6
Heavy Trucks:	62.6	50.6	41.6	42.8	52.9	53.0
Vehicle Noise:	**65.1**	**57.6**	**54.0**	**49.7**	**58.3**	**58.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	82
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 1st Street and Ocean		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	5160
Peak Hour Traffic:	**516**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

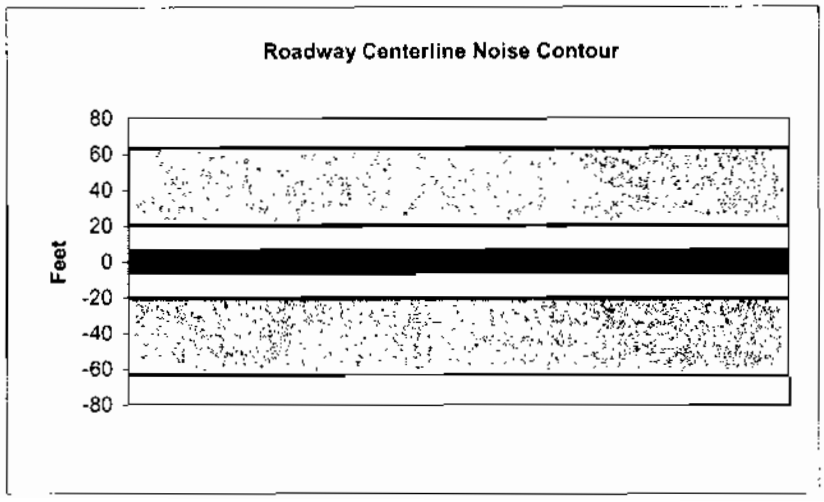
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.2	54.0	52.2	46.1	54.8	55.4
Medium Trucks:	55.8	47.7	41.4	39.8	48.3	48.5
Heavy Trucks:	61.5	49.5	40.5	41.7	51.8	51.9
Vehicle Noise:	**64.0**	**56.5**	**52.9**	**48.6**	**57.2**	**57.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	64
65 dBA	20
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	5370
Peak Hour Traffic:	537
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

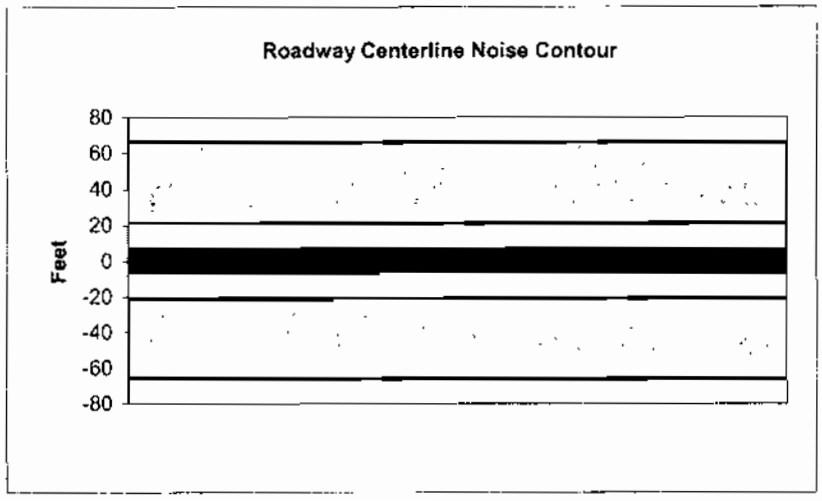
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.4	54.2	52.4	46.3	54.9	55.6
Medium Trucks:	56.0	47.9	41.5	40.0	48.5	48.7
Heavy Trucks:	61.6	49.7	40.6	41.9	52.0	52.1
Vehicle Noise:	**64.2**	**56.7**	**53.1**	**48.8**	**57.3**	**57.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	66
65 dBA	21
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Lime Avenue North of 7th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	630
Peak Hour Traffic:	63
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

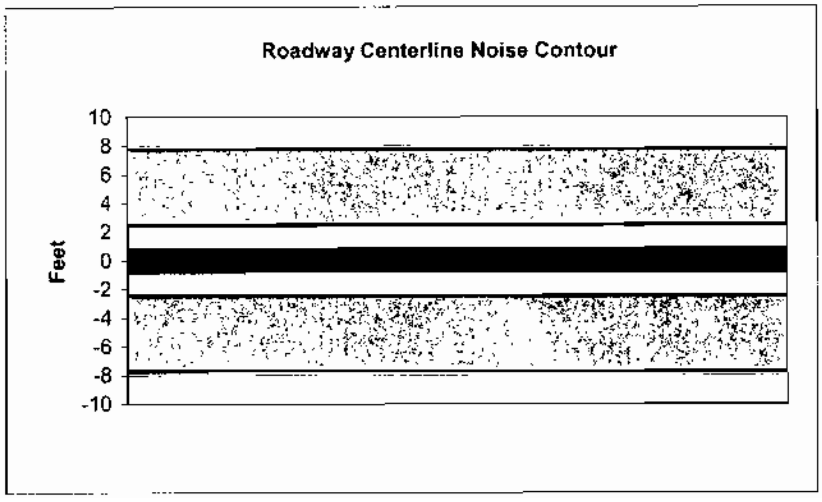
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.3	45.1	43.3	37.2	45.9	46.5
Medium Trucks:	46.9	38.8	32.5	30.9	39.4	39.6
Heavy Trucks:	52.6	40.6	31.6	32.8	42.9	43.0
Vehicle Noise:	**55.1**	**47.6**	**44.0**	**39.7**	**48.2**	**48.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	8
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1230
Peak Hour Traffic:	123
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

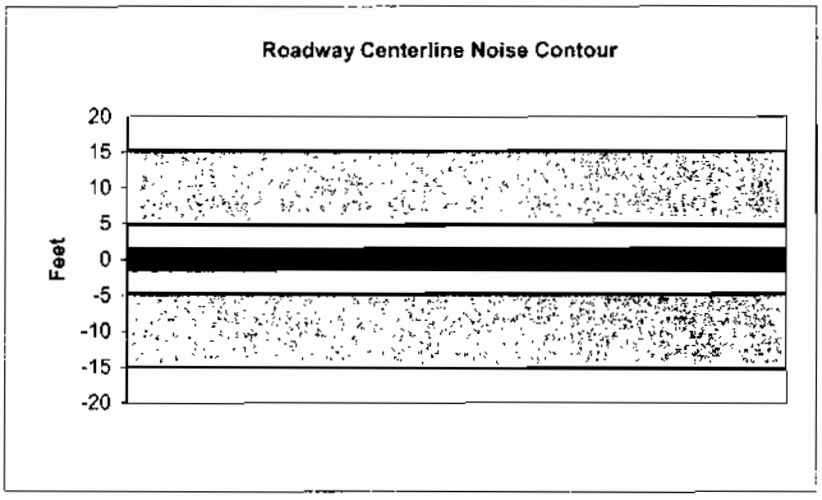
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.2	48.0	46.2	40.1	48.8	49.4
Medium Trucks:	49.8	41.7	35.4	33.8	42.3	42.5
Heavy Trucks:	55.5	43.5	34.5	35.7	45.8	45.9
Vehicle Noise:	**58.0**	**50.5**	**46.9**	**42.6**	**51.1**	**51.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	15
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1640
Peak Hour Traffic:	164
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

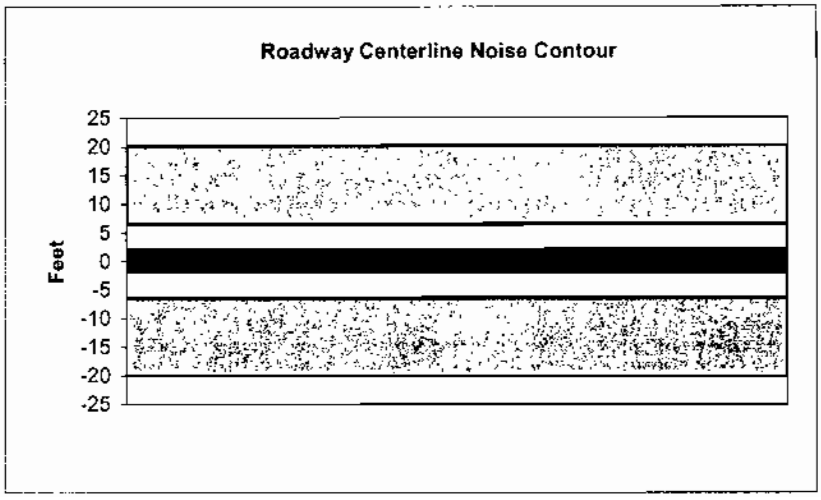
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.5	49.2	47.5	41.4	50.0	50.6
Medium Trucks:	51.1	43.0	36.6	35.0	43.5	43.8
Heavy Trucks:	56.7	44.8	35.7	36.9	47.1	47.2
Vehicle Noise:	**59.2**	**51.7**	**48.2**	**43.8**	**52.4**	**52.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	20
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	905
Peak Hour Traffic:	90.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

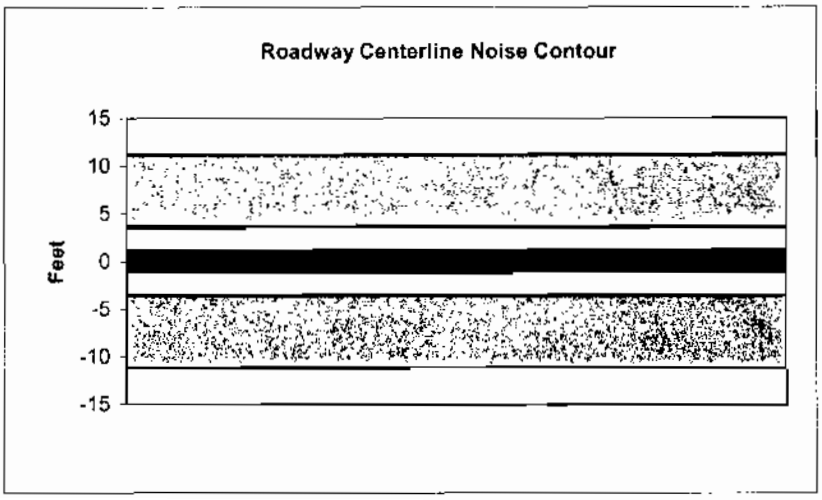
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.9	46.7	44.9	38.8	47.4	48.0
Medium Trucks:	48.5	40.4	34.0	32.5	40.9	41.2
Heavy Trucks:	54.1	42.2	33.1	34.4	44.5	44.6
Vehicle Noise:	**56.7**	**49.1**	**45.6**	**41.3**	**49.8**	**50.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	11
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	850
Peak Hour Traffic:	85
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

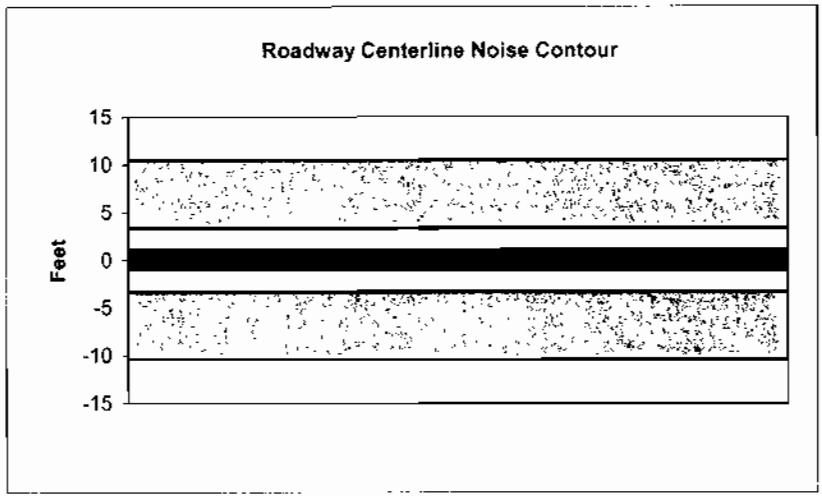
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.6	46.4	44.6	38.5	47.2	47.8
Medium Trucks:	48.2	40.1	33.8	32.2	40.7	40.9
Heavy Trucks:	53.9	41.9	32.9	34.1	44.2	44.3
Vehicle Noise:	**56.4**	**48.9**	**45.3**	**41.0**	**49.5**	**50.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	10
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	920
Peak Hour Traffic:	92
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

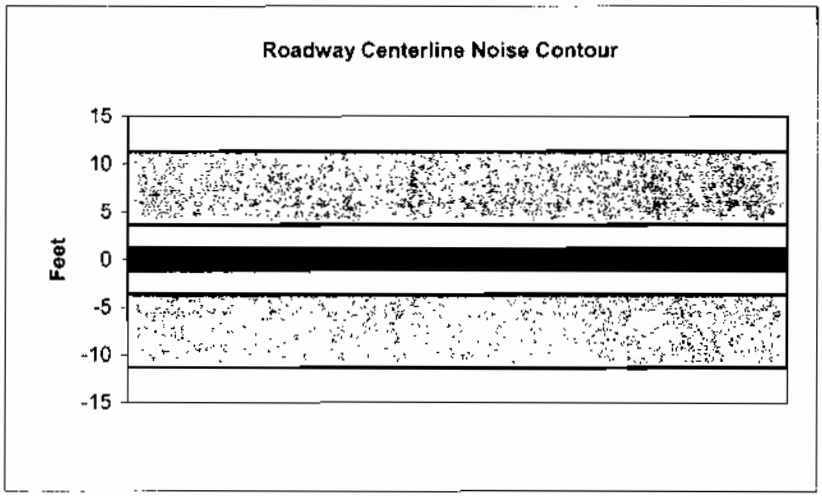
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.9	46.7	44.9	38.9	47.5	48.1
Medium Trucks:	48.6	40.5	34.1	32.5	41.0	41.2
Heavy Trucks:	54.2	42.3	33.2	34.4	44.5	44.7
Vehicle Noise:	**56.7**	**49.2**	**45.7**	**41.3**	**49.9**	**50.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	11
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1190
Receiver Barrier Dist:	0	Peak Hour Traffic:	**119**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

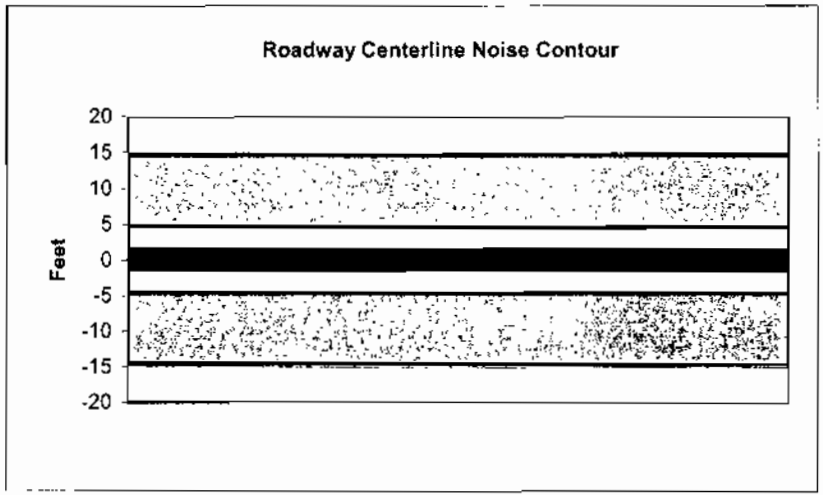
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.1	47.8	46.1	40.0	48.6	49.2
Medium Trucks:	49.7	41.6	35.2	33.6	42.1	42.4
Heavy Trucks:	55.3	43.4	34.3	35.5	45.7	45.8
Vehicle Noise:	**57.8**	**50.3**	**46.8**	**42.5**	**51.0**	**51.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	15
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	570
Peak Hour Traffic:	57
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

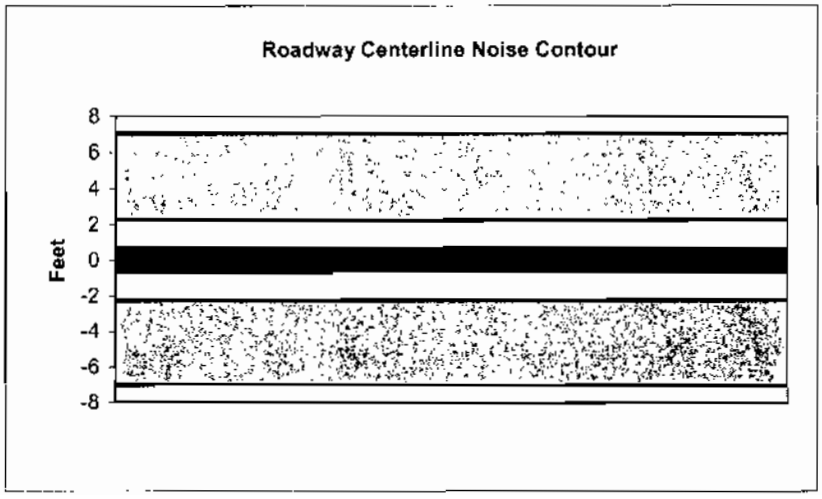
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	35.9	44.6	42.9	36.8	45.4	46.0
Medium Trucks:	46.5	38.4	32.0	30.4	38.9	39.2
Heavy Trucks:	52.1	40.2	31.1	32.3	42.5	42.6
Vehicle Noise:	**54.6**	**47.1**	**43.6**	**39.3**	**47.8**	**48.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Martin Luther King Jr. Avenue		
Road Segment:	Martin Luther King Jr. Avenue North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3430
Peak Hour Traffic:	343
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

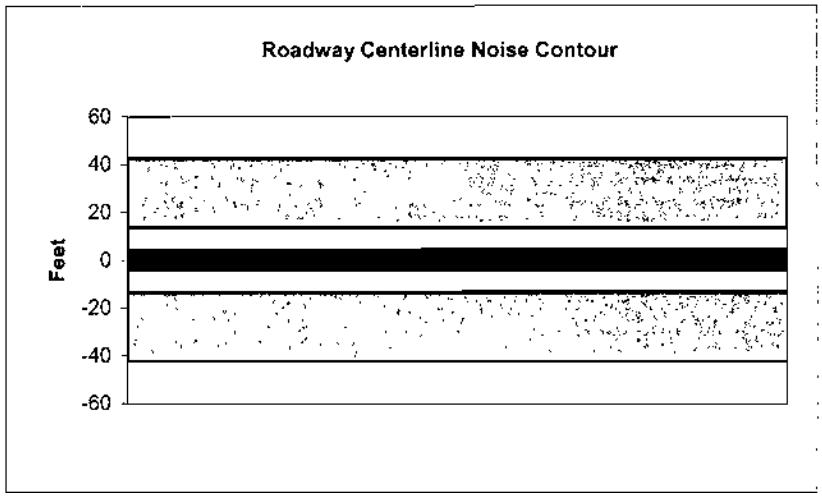
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.4	52.2	50.4	44.4	53.0	53.6
Medium Trucks:	54.0	46.0	39.6	38.0	46.5	46.7
Heavy Trucks:	59.7	47.8	38.7	39.9	50.0	50.2
Vehicle Noise:	**62.2**	**54.7**	**51.2**	**46.8**	**55.4**	**55.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	42
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Martin Luther King Jr. Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7930
Peak Hour Traffic:	793
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

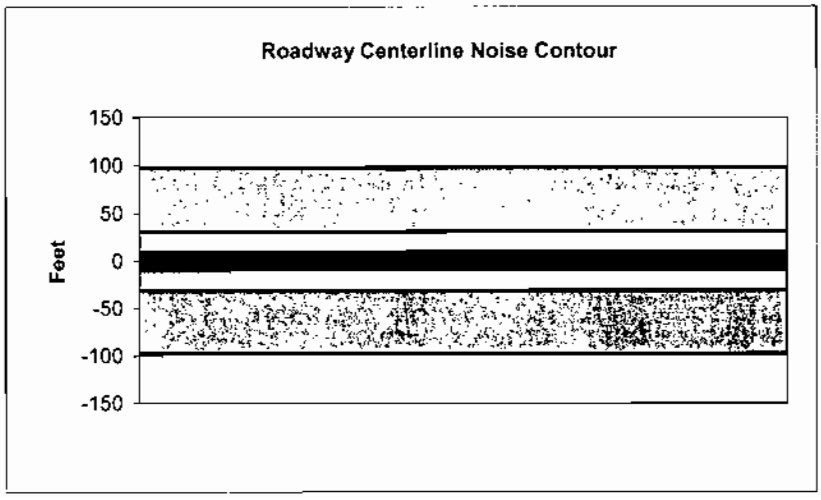
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.1	55.9	54.1	48.0	56.6	57.2
Medium Trucks:	57.7	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	63.3	51.4	42.3	43.6	53.7	53.8
Vehicle Noise:	**65.9**	**58.3**	**54.8**	**50.5**	**59.0**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	98
65 dBA	31
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	17270
Peak Hour Traffic:	1727
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

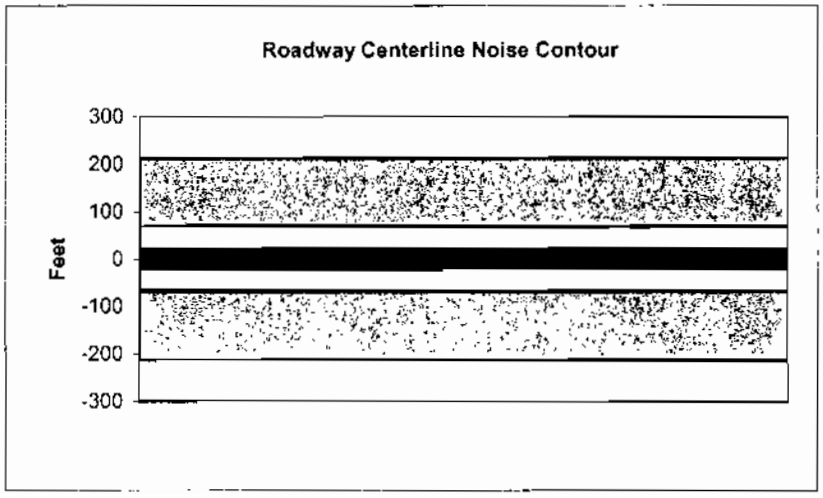
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	61.1	53.0	46.6	45.0	53.5	53.8
Heavy Trucks:	66.7	54.8	45.7	46.9	57.1	57.2
Vehicle Noise:	**69.2**	**61.7**	**58.2**	**53.9**	**62.4**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	213
65 dBA	67
	21
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	23450
Peak Hour Traffic:	2345
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

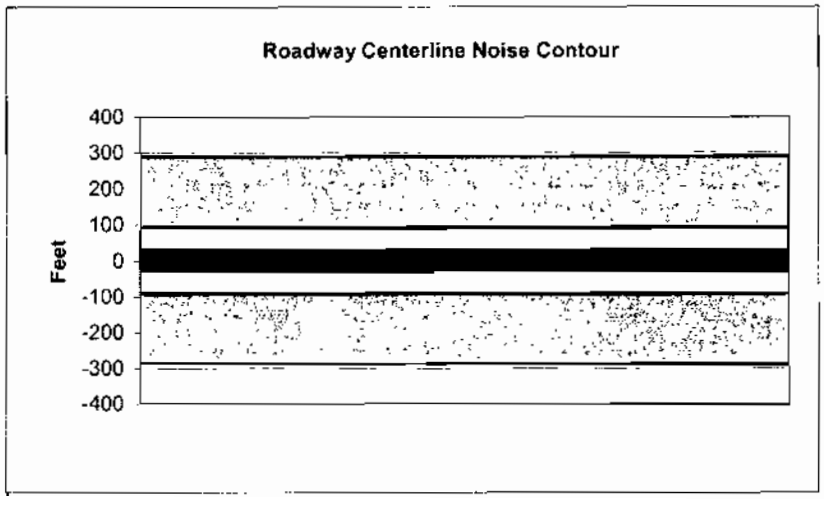
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.6	58.8	52.7	61.3	62.0
Medium Trucks:	62.4	54.3	47.9	46.4	54.9	55.1
Heavy Trucks:	68.0	56.1	47.0	48.3	58.4	58.5
Vehicle Noise:	**70.6**	**63.1**	**59.5**	**55.2**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	290
65 dBA	92
	29
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue South of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	24220
Peak Hour Traffic:	2422
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

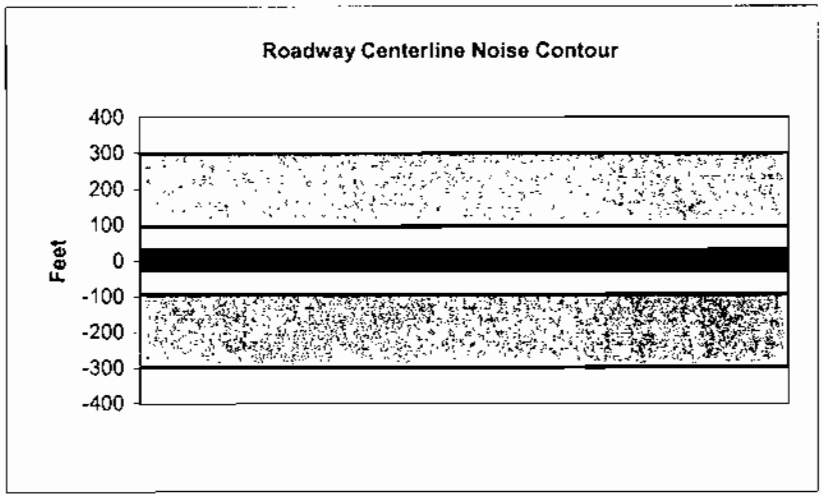
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	62.5	54.5	48.1	46.5	55.0	55.2
Heavy Trucks:	68.2	56.2	47.2	48.4	58.5	58.7
Vehicle Noise:	**70.7**	**63.2**	**59.7**	**55.3**	**63.9**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	299
65 dBA	95
	30
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue North of 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	23300
Peak Hour Traffic:	2330
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

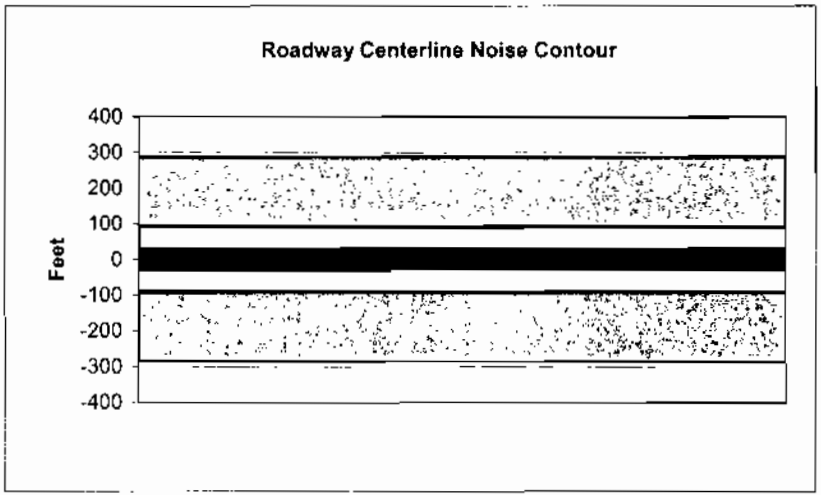
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	62.4	54.3	47.9	46.3	54.8	55.1
Heavy Trucks:	68.0	56.1	47.0	48.2	58.4	58.5
Vehicle Noise:	**70.5**	**63.0**	**59.5**	**55.2**	**63.7**	**64.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	288
65 dBA	91
	29
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	23760
Peak Hour Traffic:	2376
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

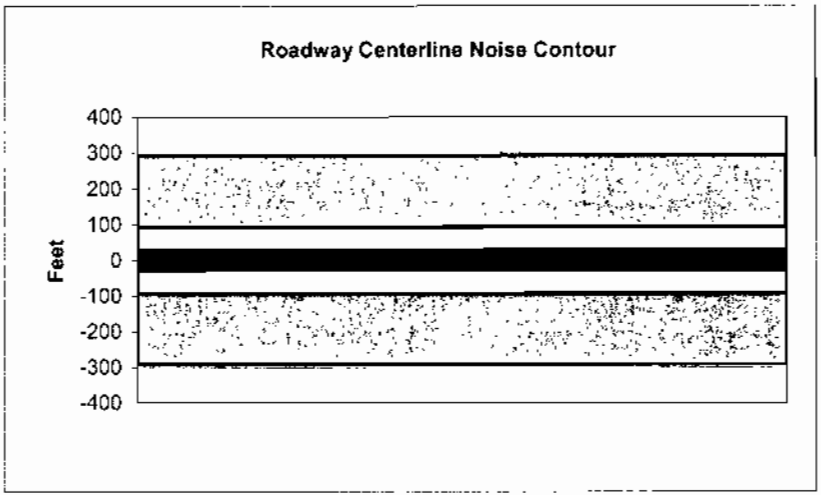
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	62.4	54.4	48.0	46.4	54.9	55.1
Heavy Trucks:	68.1	56.2	47.1	48.3	58.4	58.6
Vehicle Noise:	**70.6**	**63.1**	**59.6**	**55.2**	**63.8**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	294
65 dBA	93
	29
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	17570
Peak Hour Traffic:	1757
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

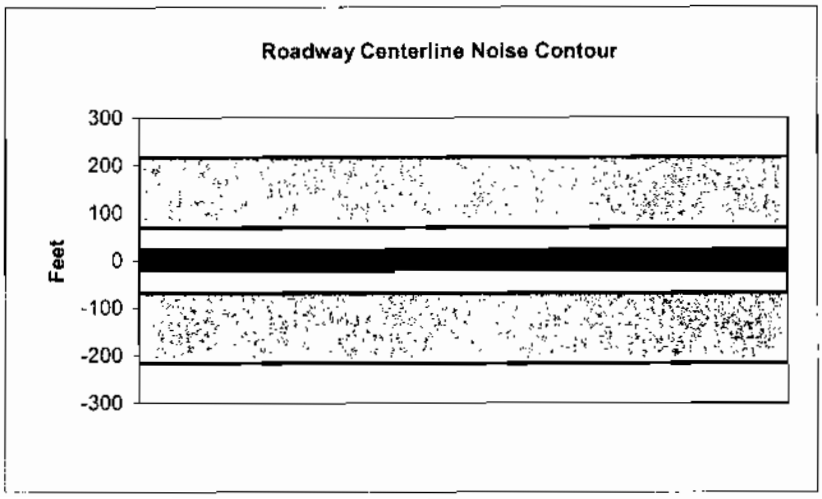
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	66.8	54.8	45.8	47.0	57.1	57.3
Vehicle Noise:	**69.3**	**61.8**	**58.3**	**53.9**	**62.5**	**62.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	217
65 dBA	69
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 1st Street and East 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15160
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1516**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

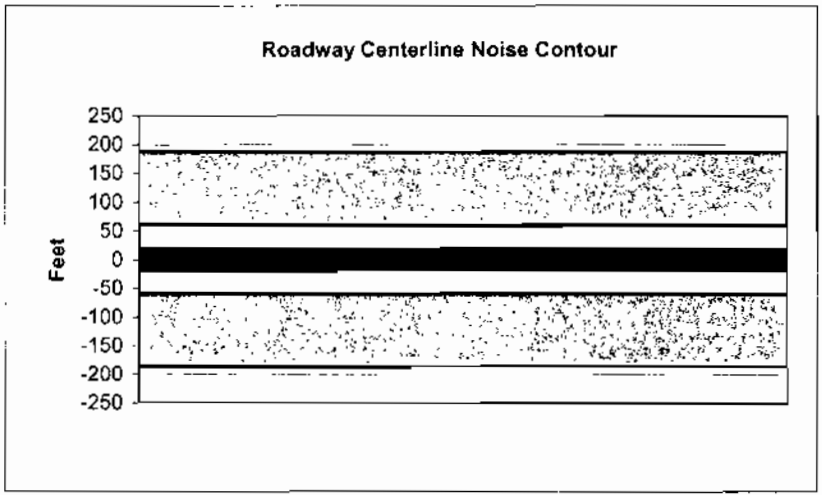
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	60.5	52.4	46.0	44.5	53.0	53.2
Heavy Trucks:	66.1	54.2	45.2	46.4	56.5	56.6
Vehicle Noise:	**68.7**	**61.2**	**57.6**	**53.3**	**61.8**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	187
65 dBA	59
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between East 1st Street and Medio Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	14900
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1490**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

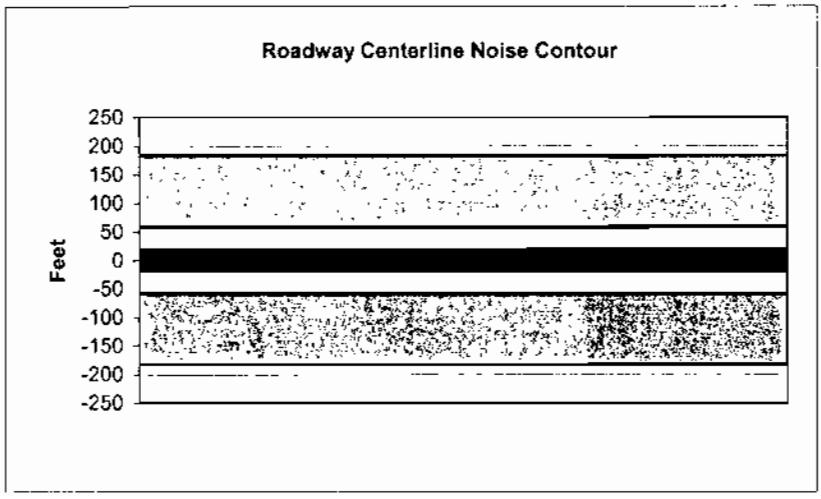
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	60.4	52.4	46.0	44.4	52.9	53.1
Heavy Trucks:	66.1	54.1	45.1	46.3	56.4	56.5
Vehicle Noise:	**68.6**	**61.1**	**57.5**	**53.2**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	184
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between Medio Street and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14535
Peak Hour Traffic:	**1453.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

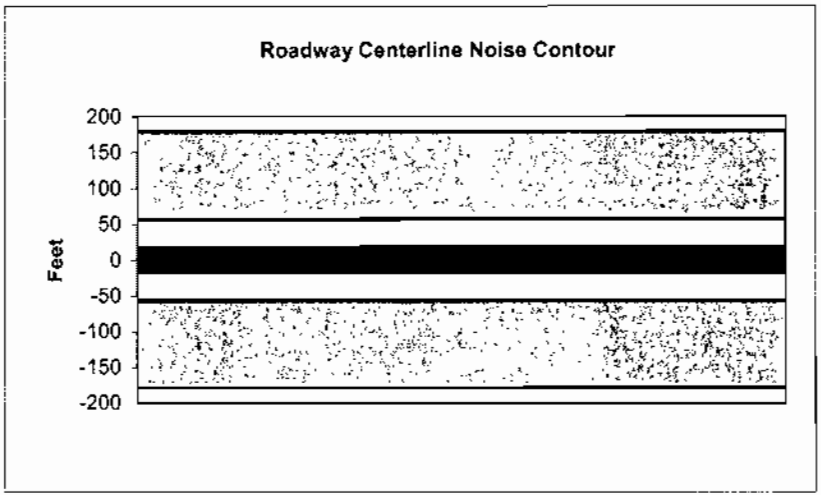
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.3	59.9
Medium Trucks:	60.3	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	66.0	54.0	45.0	46.2	56.3	56.4
Vehicle Noise:	**68.5**	**61.0**	**57.4**	**53.1**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	179
65 dBA	57
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive South of Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13920
Peak Hour Traffic:	1392
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

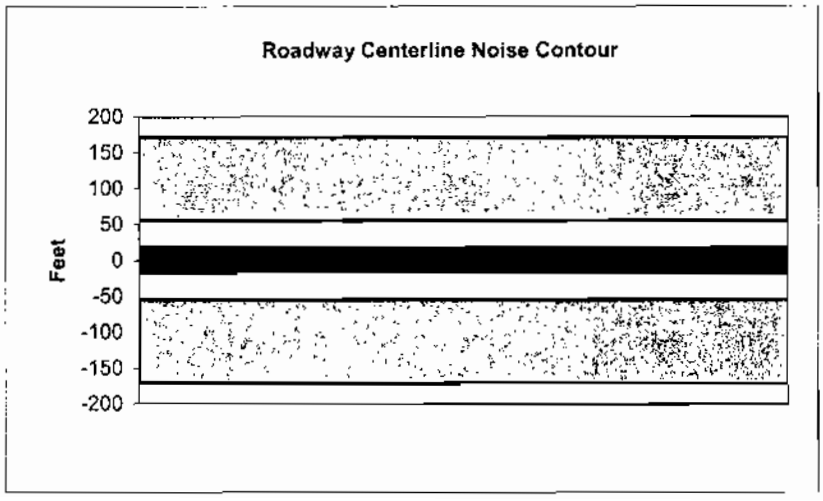
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.1	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	59.7	51.7	45.3	43.7	52.2	52.4
Heavy Trucks:	65.4	53.5	44.4	45.6	55.7	55.9
Vehicle Noise:	**67.9**	**60.4**	**56.9**	**52.5**	**61.1**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	172
65 dBA	54
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive North of Intersection 68		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14040
Peak Hour Traffic:	1404
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

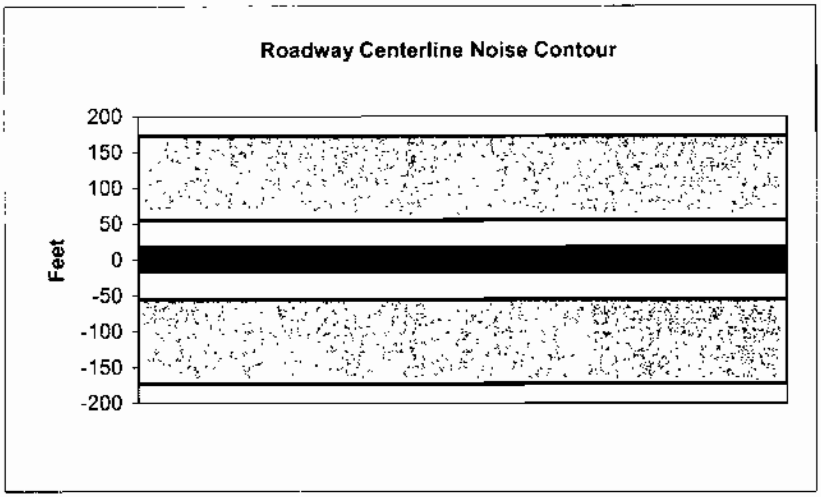
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.2	58.0	56.2	50.1	58.7	59.3
Medium Trucks:	59.8	51.7	45.3	43.8	52.2	52.5
Heavy Trucks:	65.4	53.5	44.4	45.7	55.8	55.9
Vehicle Noise:	**68.0**	**60.4**	**56.9**	**52.6**	**61.1**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA:	173
65 dBA	55
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive South of Intersection 68		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	13960
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1396**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

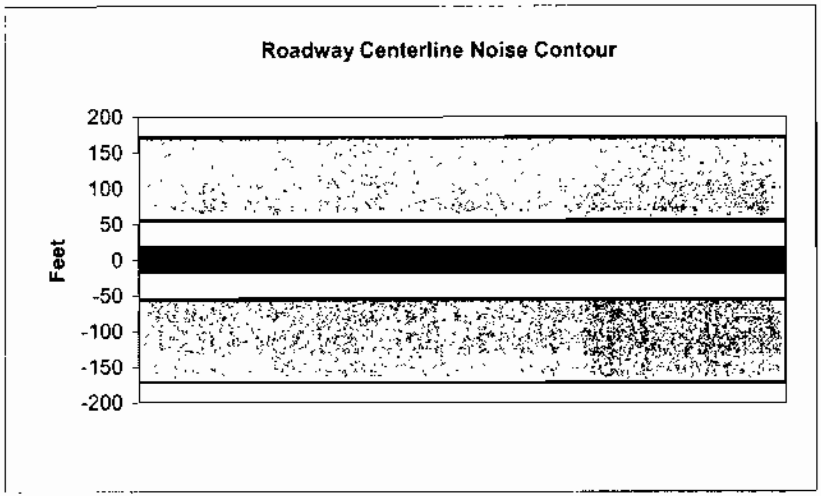
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.2	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	59.8	51.7	45.3	43.7	52.2	52.5
Heavy Trucks:	65.4	53.5	44.4	45.6	55.8	55.9
Vehicle Noise:	**67.9**	**60.4**	**56.9**	**52.5**	**61.1**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	172
65 dBA	54
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue North of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	420
Receiver Barrier Dist:	0	Peak Hour Traffic:	**42**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

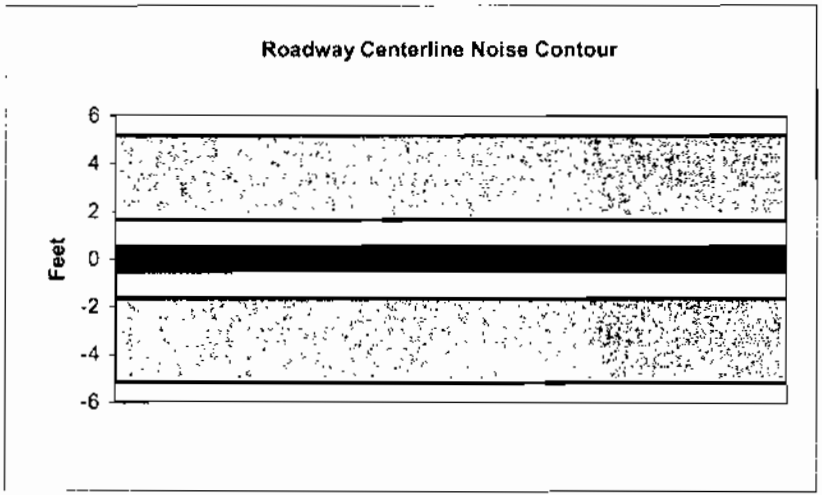
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	34.5	43.3	41.5	35.5	44.1	44.7
Medium Trucks:	45.1	37.1	30.7	29.1	37.6	37.8
Heavy Trucks:	50.8	38.9	29.8	31.0	41.1	41.3
Vehicle Noise:	**53.3**	**45.8**	**42.3**	**37.9**	**46.5**	**46.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	5
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue South of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	600
Receiver Barrier Dist:	0	Peak Hour Traffic:	60
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

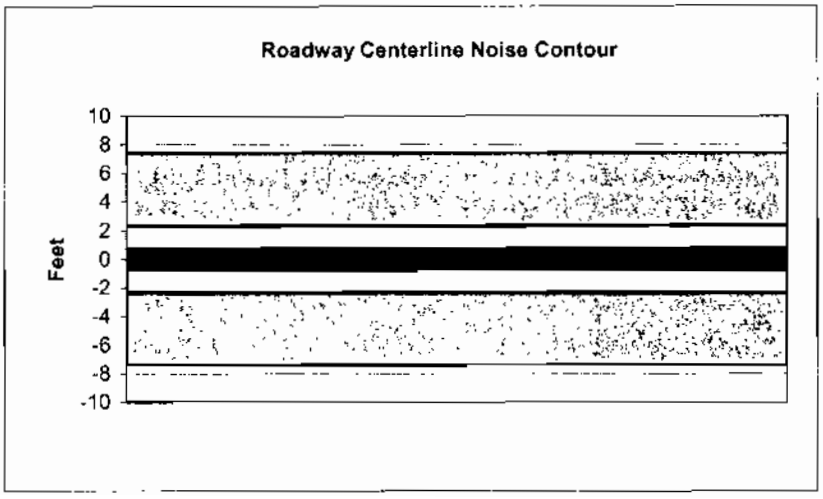
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.1	44.9	43.1	37.0	45.7	46.3
Medium Trucks:	46.7	38.6	32.2	30.7	39.2	39.4
Heavy Trucks:	52.3	40.4	31.3	32.6	42.7	42.8
Vehicle Noise:	**54.9**	**47.4**	**43.8**	**39.5**	**48.0**	**48.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue North of Ocean		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	620
Peak Hour Traffic:	62
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

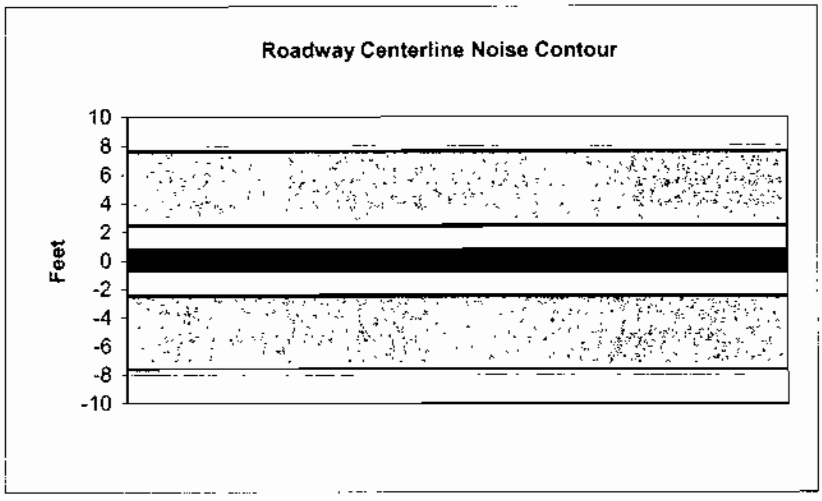
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.2	45.0	43.2	37.1	45.8	46.4
Medium Trucks:	46.8	38.8	32.4	30.8	39.3	39.5
Heavy Trucks:	52.5	40.5	31.5	32.7	42.8	43.0
Vehicle Noise:	**55.0**	**47.5**	**44.0**	**39.6**	**48.2**	**48.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	8
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue North of 4th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	2480
Receiver Barrier Dist:	0	Peak Hour Traffic:	**248**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

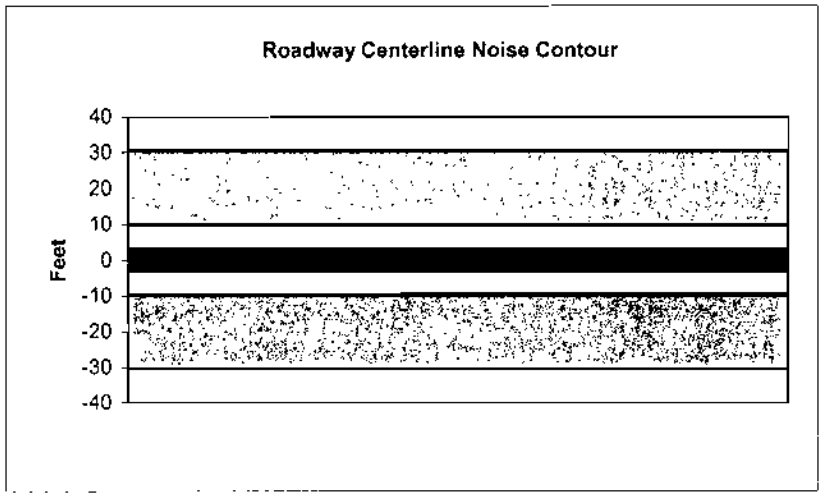
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.0	49.2	43.2	51.8	52.4
Medium Trucks:	52.9	44.8	38.4	36.8	45.3	45.6
Heavy Trucks:	58.5	46.6	37.5	38.7	48.9	49.0
Vehicle Noise:	**61.0**	**53.5**	**50.0**	**45.6**	**54.2**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2485
Peak Hour Traffic:	**248.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

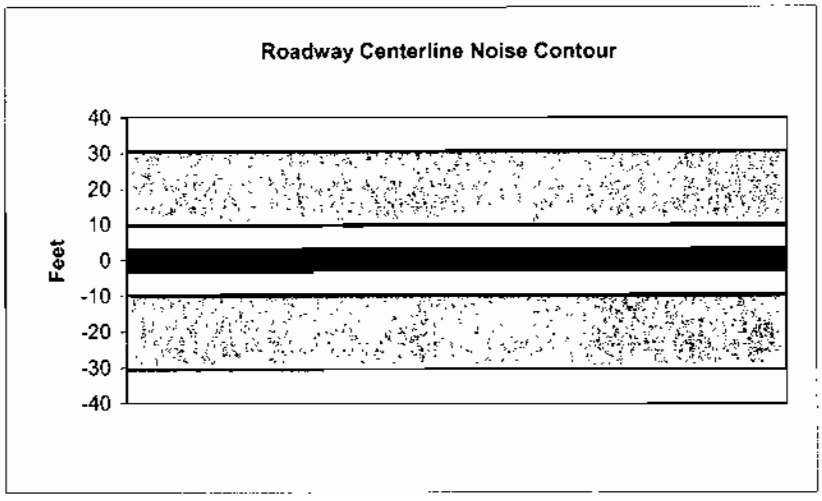
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.0	49.3	43.2	51.8	52.4
Medium Trucks:	52.9	44.8	38.4	36.8	45.3	45.6
Heavy Trucks:	58.5	46.6	37.5	38.7	48.9	49.0
Vehicle Noise:	**61.0**	**53.5**	**50.0**	**45.7**	**54.2**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2510
Peak Hour Traffic:	251
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

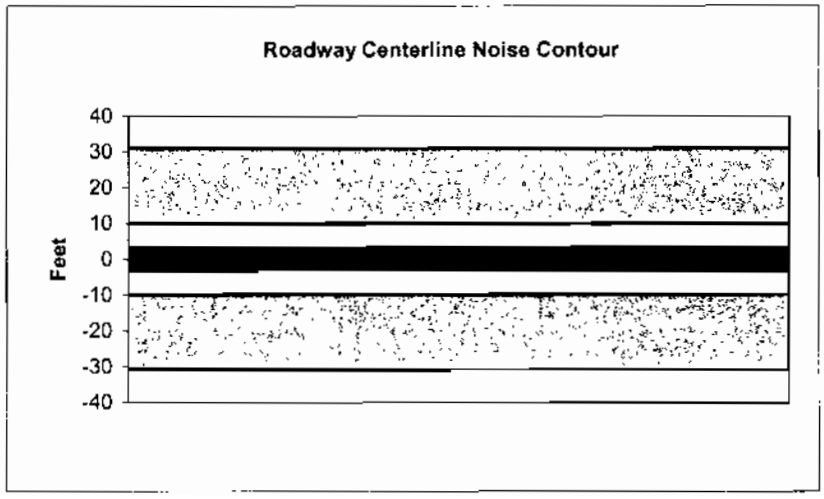
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.1	49.3	43.2	51.9	52.5
Medium Trucks:	52.9	44.8	38.5	36.9	45.4	45.6
Heavy Trucks:	58.6	46.6	37.6	38.8	48.9	49.0
Vehicle Noise:	**61.1**	**53.6**	**50.0**	**45.7**	**54.2**	**54.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	31
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue South of Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2880
Peak Hour Traffic:	288
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

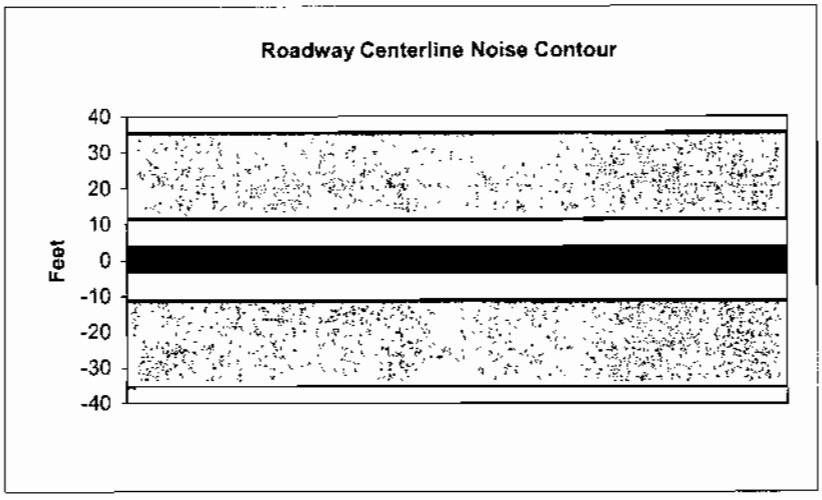
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.5	53.1
Medium Trucks:	53.5	45.4	39.1	37.5	46.0	46.2
Heavy Trucks:	59.2	47.2	38.2	39.4	49.5	49.6
Vehicle Noise:	**61.7**	**54.2**	**50.6**	**46.3**	**54.8**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	36
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue North of Ocean		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1300
Peak Hour Traffic:	130
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

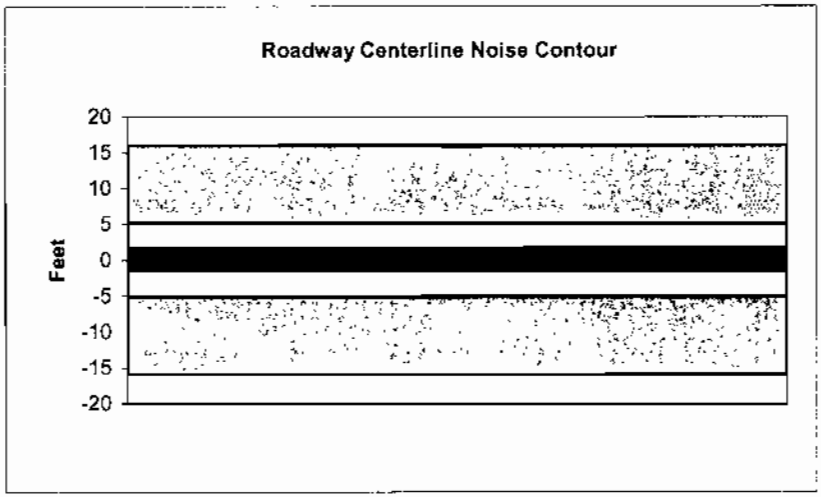
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.4	48.2	46.4	40.4	49.0	49.6
Medium Trucks:	50.1	42.0	35.6	34.0	42.5	42.7
Heavy Trucks:	55.7	43.8	34.7	35.9	46.1	46.2
Vehicle Noise:	**58.2**	**50.7**	**47.2**	**42.8**	**51.4**	**51.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Magnolia		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13240
Peak Hour Traffic:	1324
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

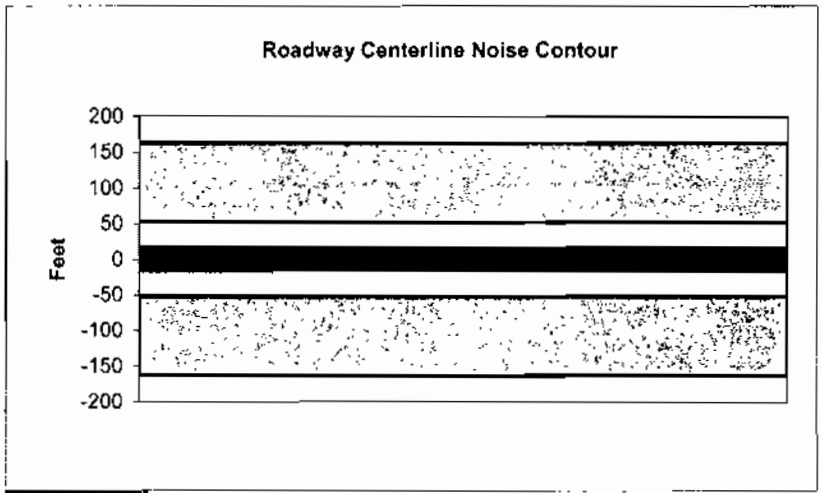
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	59.9	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	65.6	53.6	44.6	45.8	55.9	56.0
Vehicle Noise:	**68.1**	**60.6**	**57.0**	**52.7**	**61.2**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	164
65 dBA	52
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Magnolia		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14870
Peak Hour Traffic:	**1487**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

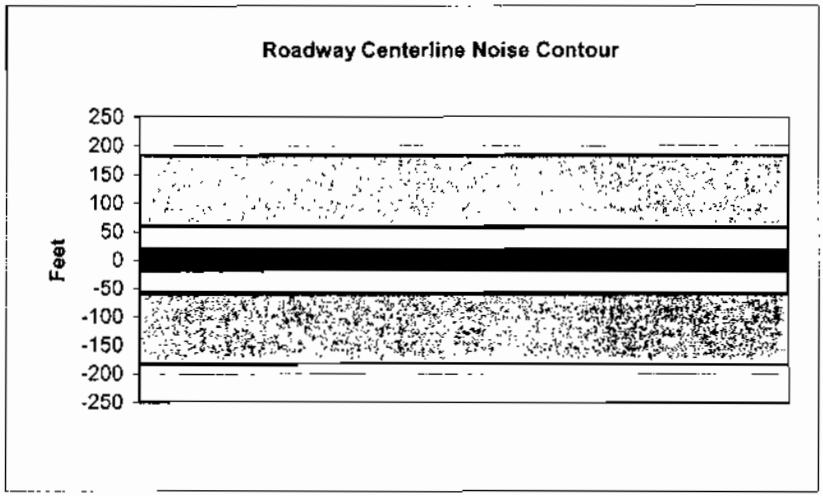
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	60.4	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	66.1	54.1	45.1	46.3	56.4	56.5
Vehicle Noise:	**68.6**	**61.1**	**57.5**	**53.2**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	184
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Pacific		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14950
Peak Hour Traffic:	**1495**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

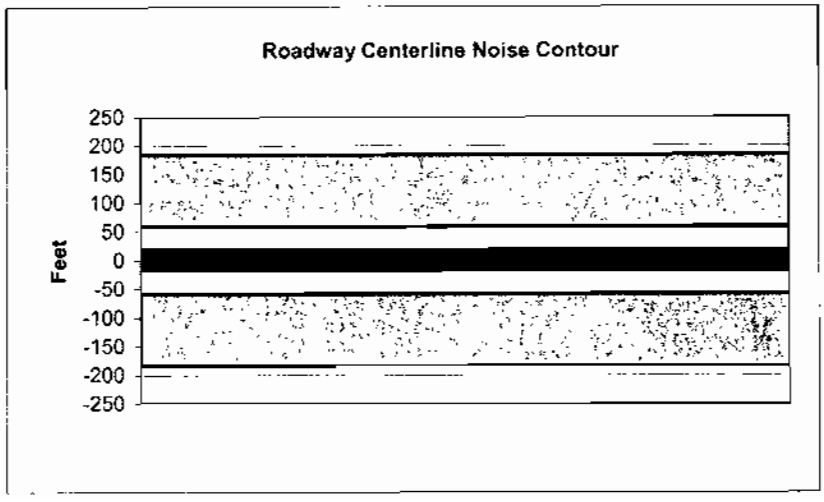
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	60.4	52.4	46.0	44.4	52.9	53.1
Heavy Trucks:	66.1	54.1	45.1	46.3	56.4	56.6
Vehicle Noise:	**68.6**	**61.1**	**57.6**	**53.2**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	184
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Pacific and Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16165
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1616.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

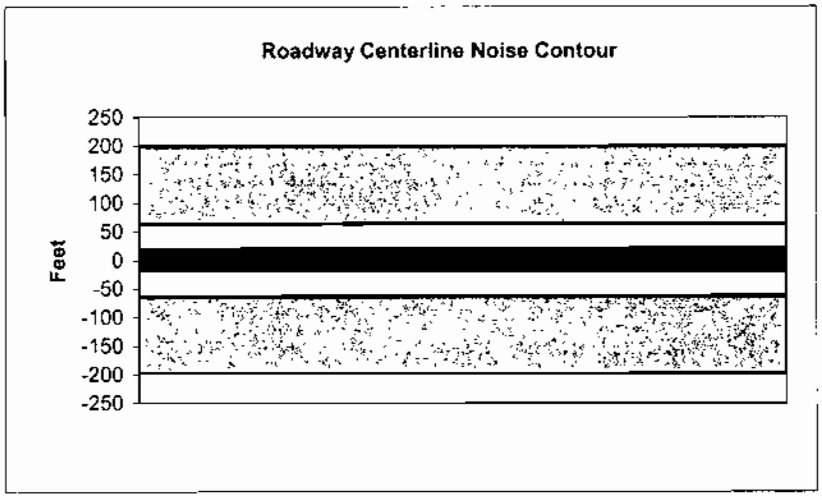
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16260
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1626**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

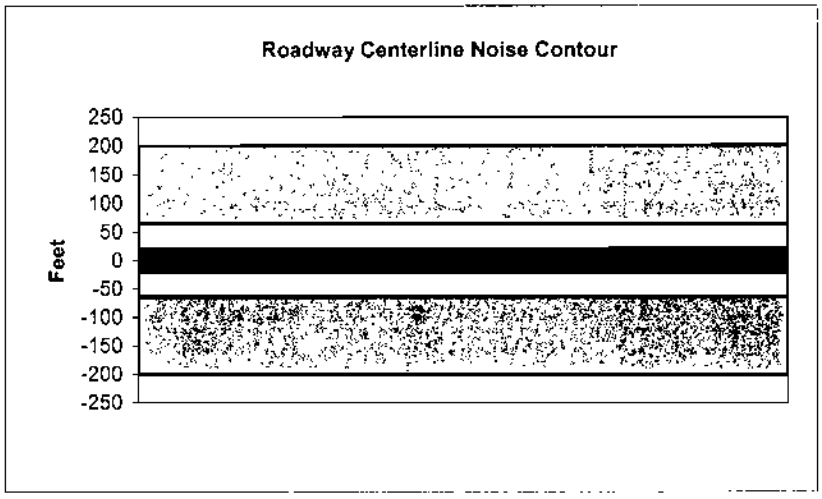
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	60.8	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	66.4	54.5	45.5	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.5**	**57.9**	**53.6**	**62.1**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	201
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16115
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1611.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

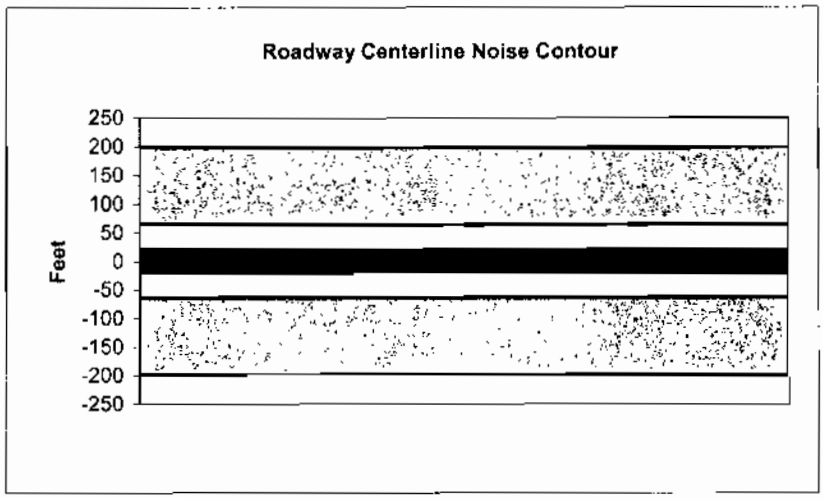
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**68.9**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16360
Peak Hour Traffic:	**1636**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

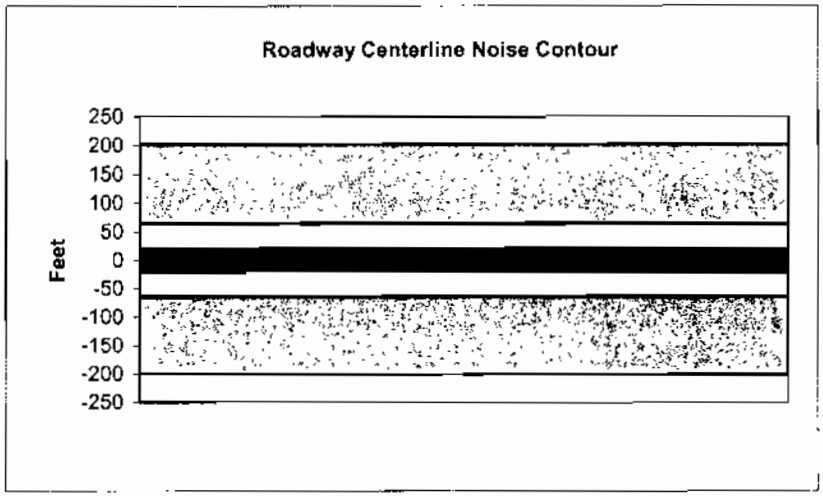
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	60.8	52.8	46.4	44.8	53.3	53.5
Heavy Trucks:	66.5	54.5	45.5	46.7	56.8	57.0
Vehicle Noise:	**69.0**	**61.5**	**57.9**	**53.6**	**62.2**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	202
65 dBA	64
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Atlantic		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	17400
Peak Hour Traffic:	1740
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

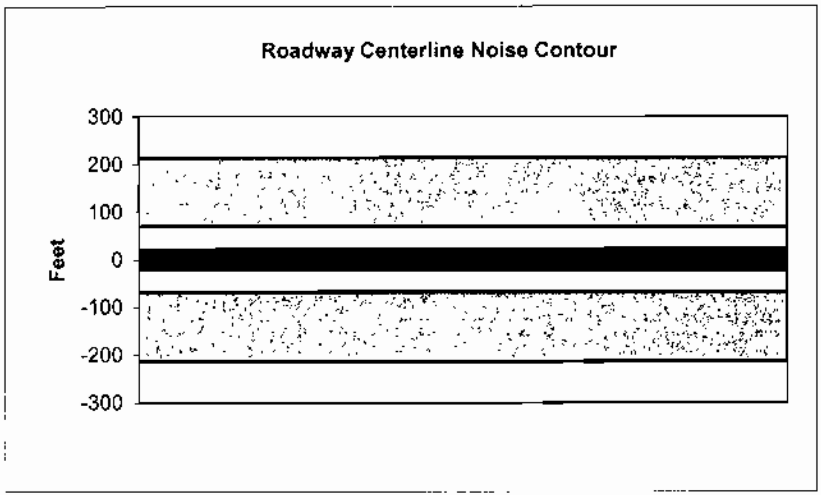
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	61.1	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	66.7	54.8	45.7	47.0	57.1	57.2
Vehicle Noise:	**69.3**	**61.8**	**58.2**	**53.9**	**62.4**	**62.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	215
65 dBA	68
	21
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Atlantic Avenue and Lime St.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	19370
Peak Hour Traffic:	1937
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

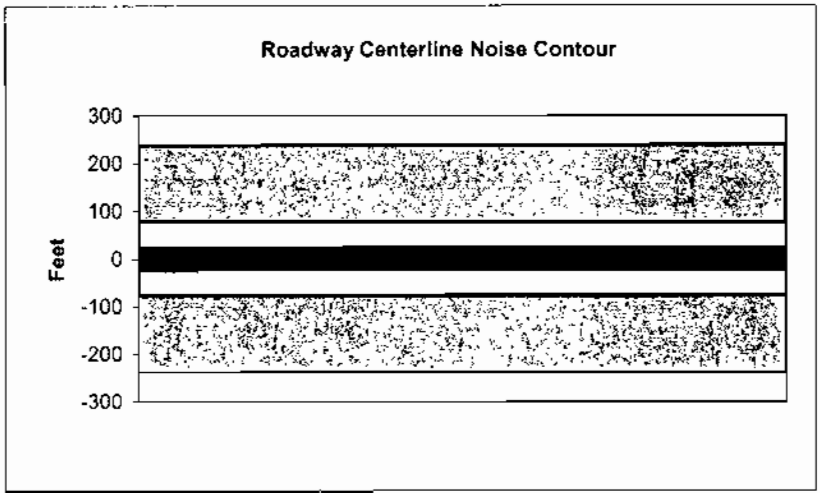
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.0	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	61.6	53.5	47.1	45.5	54.0	54.3
Heavy Trucks:	67.2	55.3	46.2	47.4	57.6	57.7
Vehicle Noise:	**69.7**	**62.2**	**58.7**	**54.4**	**62.9**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	239
65 dBA	76
	24
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Lime St. and Martin Luther King Jr. Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	17560
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1756**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

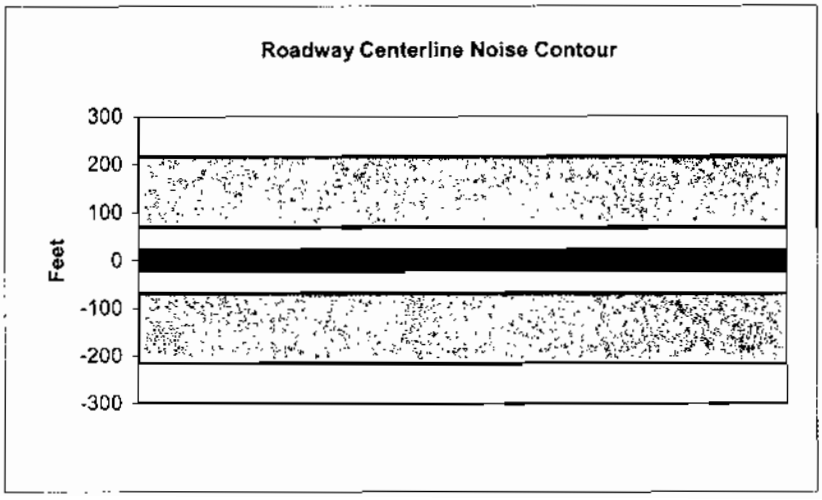
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	66.8	54.8	45.8	47.0	57.1	57.3
Vehicle Noise:	**69.3**	**61.8**	**58.3**	**53.9**	**62.5**	**62.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	217
65 dBA	69
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Martin Luther King Jr. Avenue and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	21220
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2122**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

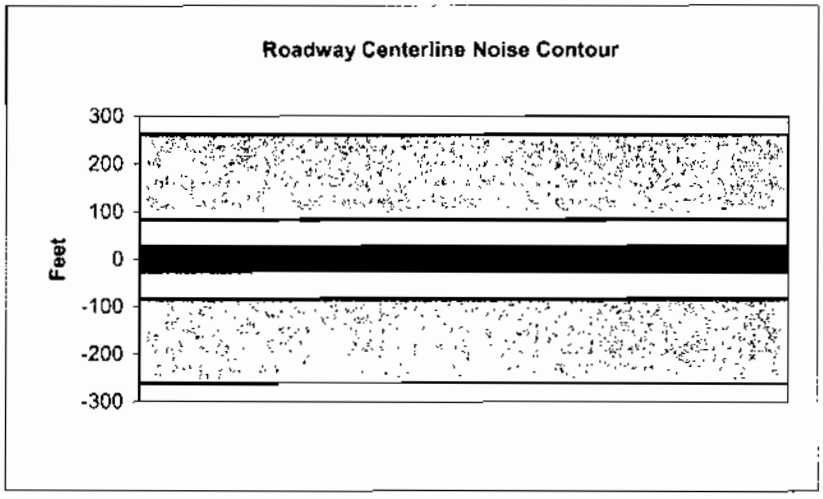
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.4	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	62.0	53.9	47.5	45.9	54.4	54.7
Heavy Trucks:	67.6	55.7	46.6	47.8	58.0	58.1
Vehicle Noise:	**70.1**	**62.6**	**59.1**	**54.7**	**63.3**	**63.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	262
65 dBA	83
	26
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	31210
Receiver Barrier Dist:	0	Peak Hour Traffic:	**3121**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

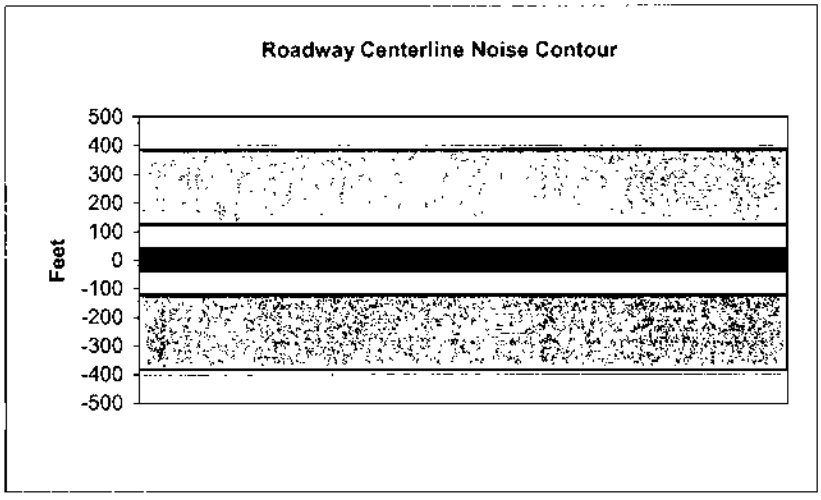
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	63.6	55.6	49.2	47.6	56.1	56.3
Heavy Trucks:	69.3	57.3	48.3	49.5	59.6	59.8
Vehicle Noise:	**71.8**	**64.3**	**60.8**	**56.4**	**65.0**	**65.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	385
65 dBA	122
	39
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13140
Peak Hour Traffic:	1314
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

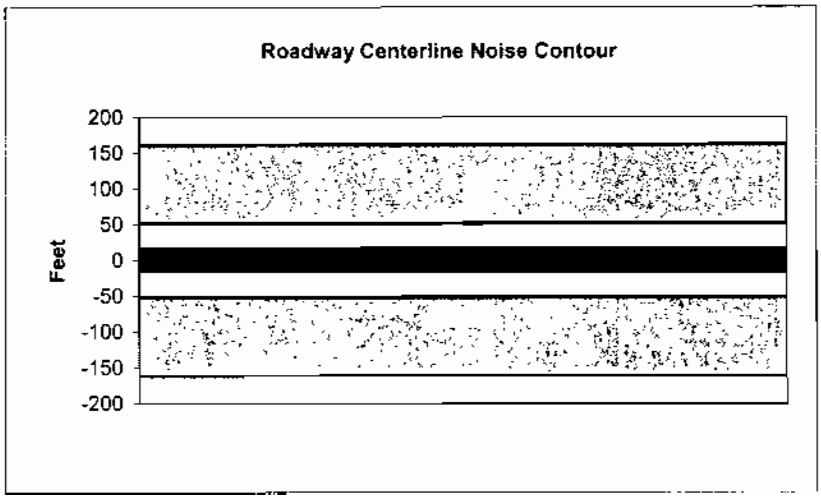
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.8	59.4
Medium Trucks:	59.9	51.8	45.4	43.9	52.3	52.6
Heavy Trucks:	65.5	53.6	44.5	45.8	55.9	56.0
Vehicle Noise:	**68.1**	**60.5**	**57.0**	**52.7**	**61.2**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	162
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street East of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13280
Peak Hour Traffic:	**1328**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

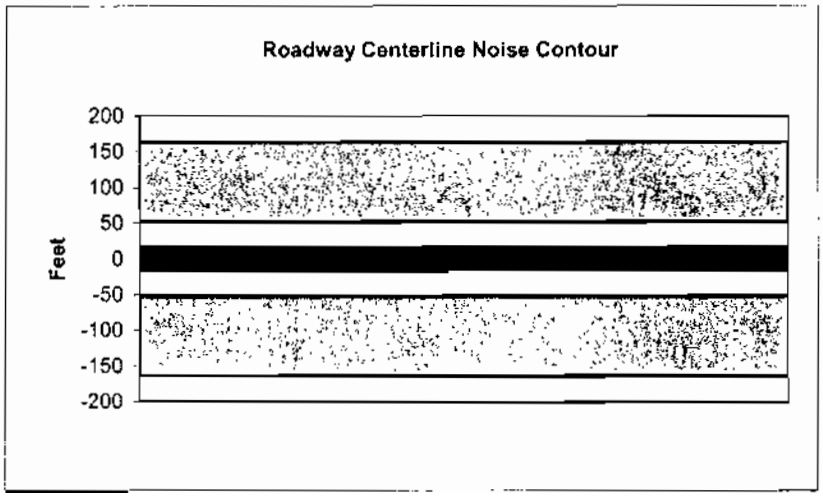
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	59.9	51.9	45.5	43.9	52.4	52.6
Heavy Trucks:	65.6	53.6	44.6	45.8	55.9	56.0
Vehicle Noise:	**68.1**	**60.6**	**57.0**	**52.7**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	164
65 dBA	52
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Pacific Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11860
Peak Hour Traffic:	1186
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

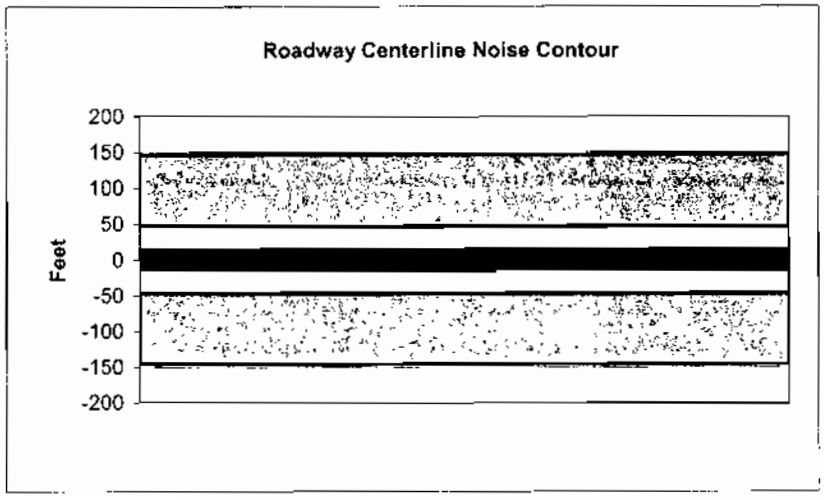
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.8	57.6	55.8	49.7	58.4	59.0
Medium Trucks:	59.4	51.4	45.0	43.4	51.9	52.1
Heavy Trucks:	65.1	53.1	44.1	45.3	55.4	55.6
Vehicle Noise:	**67.6**	**60.1**	**56.6**	**52.2**	**60.8**	**61.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	146
65 dBA	46
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13645
Peak Hour Traffic:	**1364.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

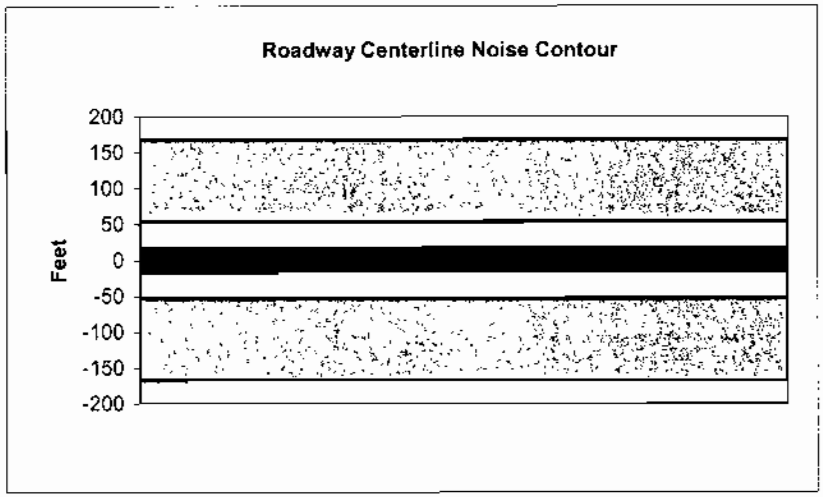
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	60.0	52.0	45.6	44.0	52.5	52.7
Heavy Trucks:	65.7	53.7	44.7	45.9	56.0	56.2
Vehicle Noise:	**68.2**	**60.7**	**57.2**	**52.8**	**61.4**	**61.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	169
65 dBA	53
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14450
Peak Hour Traffic:	**1445**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

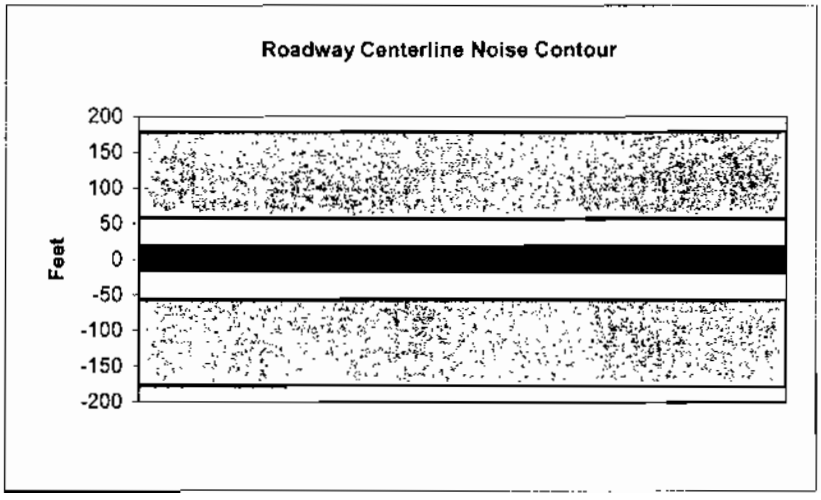
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.2	59.9
Medium Trucks:	60.3	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	65.9	54.0	44.9	46.2	56.3	56.4
Vehicle Noise:	**68.5**	**61.0**	**57.4**	**53.1**	**61.6**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	179
65 dBA	56
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12240
Peak Hour Traffic:	**1224**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

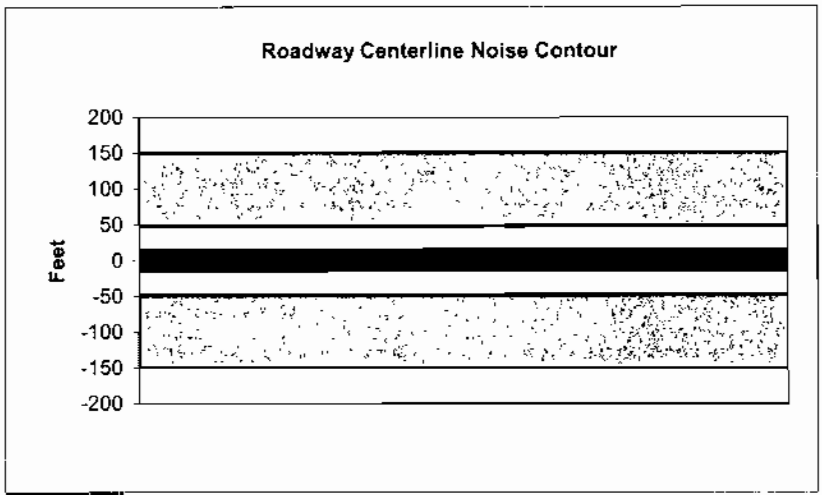
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	59.6	51.5	45.1	43.5	52.0	52.3
Heavy Trucks:	65.2	53.3	44.2	45.4	55.6	55.7
Vehicle Noise:	**67.7**	**60.2**	**56.7**	**52.4**	**60.9**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	151
65 dBA	48
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street East of Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10840
Peak Hour Traffic:	**1084**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

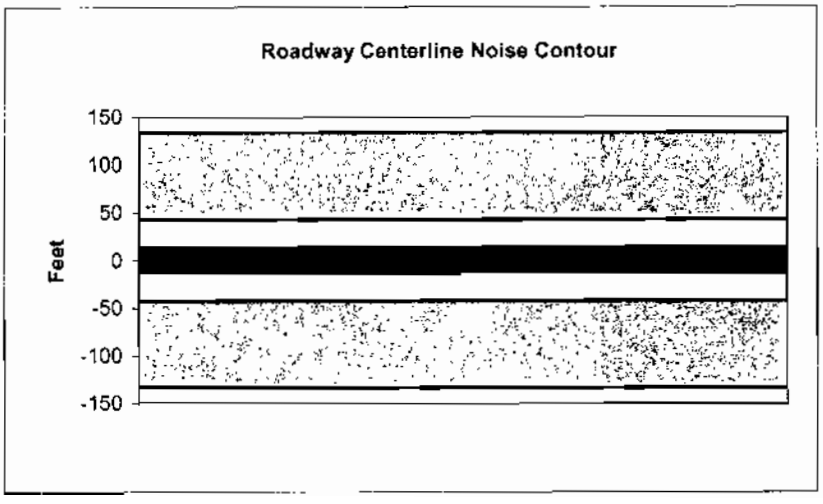
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	59.0	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	64.7	52.8	43.7	44.9	55.0	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.8**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	134
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11040
Peak Hour Traffic:	1104
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

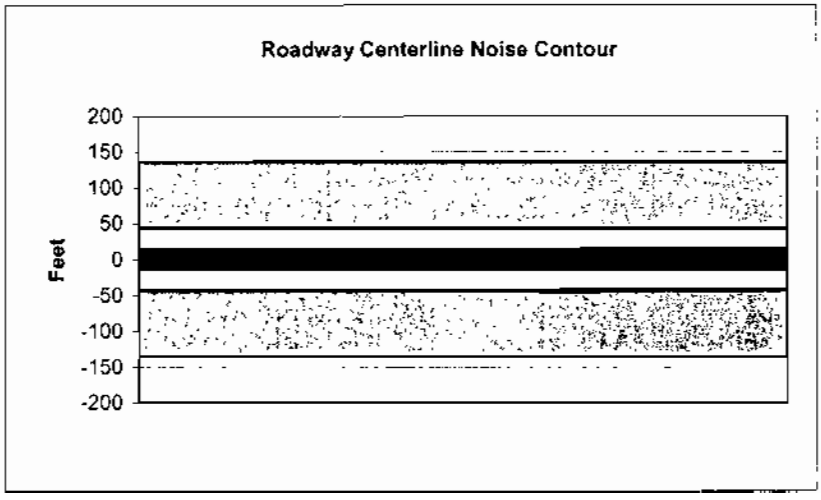
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.8	43.8	45.0	55.1	55.2
Vehicle Noise:	**67.3**	**59.8**	**56.2**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	136
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10620
Peak Hour Traffic:	1062
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

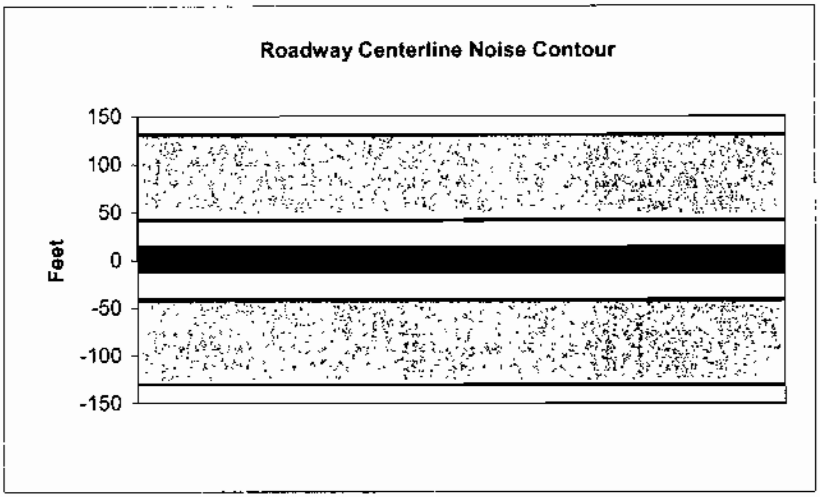
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	59.0	50.9	44.5	42.9	51.4	51.7
Heavy Trucks:	64.6	52.7	43.6	44.8	55.0	55.1
Vehicle Noise:	**67.1**	**59.6**	**56.1**	**51.7**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	131
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Lime Street and Martin Luther King Jr/Alamitos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11165
Peak Hour Traffic:	**1116.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

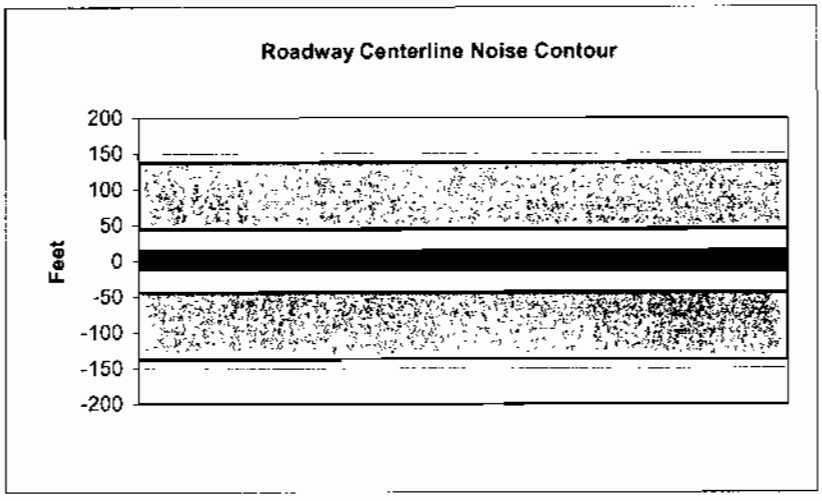
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.3	55.6	49.5	58.1	58.7
Medium Trucks:	59.2	51.1	44.7	43.1	51.6	51.9
Heavy Trucks:	64.8	52.9	43.8	45.0	55.2	55.3
Vehicle Noise:	**67.3**	**59.8**	**56.3**	**52.0**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	138
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between East of Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1270
Receiver Barrier Dist:	0	Peak Hour Traffic:	**127**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

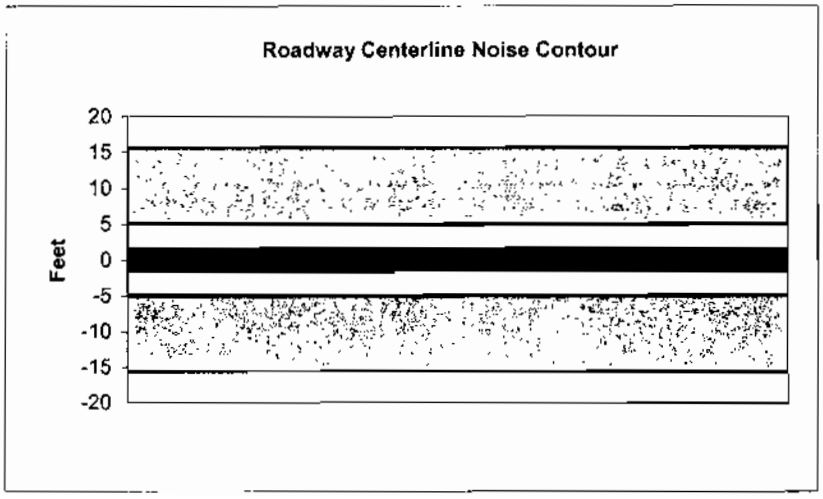
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.1	47.9	46.1	40.0	48.7	49.3
Medium Trucks:	49.7	41.7	35.3	33.7	42.2	42.4
Heavy Trucks:	55.4	43.4	34.4	35.6	45.7	45.9
Vehicle Noise:	**57.9**	**50.4**	**46.8**	**42.5**	**51.1**	**51.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street West of Chestnut Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1280
Peak Hour Traffic:	128
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

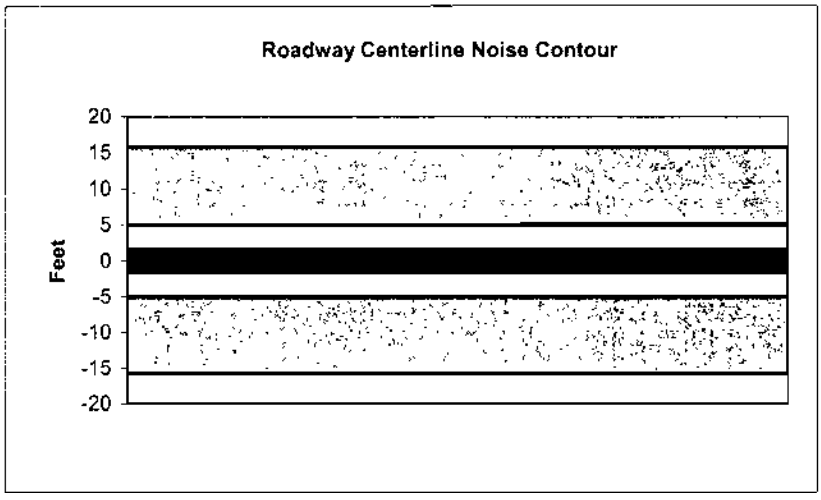
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.4	48.2	46.4	40.3	48.9	49.5
Medium Trucks:	50.0	41.9	35.5	34.0	42.4	42.7
Heavy Trucks:	55.6	43.7	34.6	35.9	46.0	46.1
Vehicle Noise:	**58.2**	**50.6**	**47.1**	**42.8**	**51.3**	**51.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Chestnut Avenue and Cedar Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1640
Peak Hour Traffic:	164
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

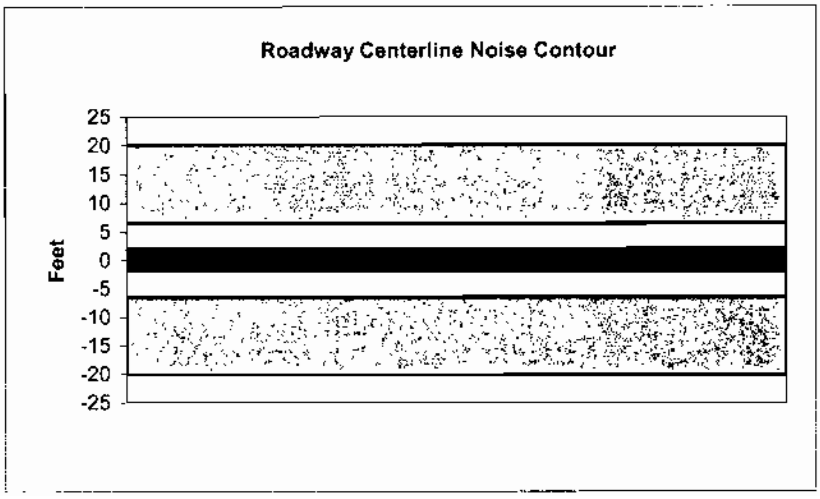
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.5	49.2	47.5	41.4	50.0	50.6
Medium Trucks:	51.1	43.0	36.6	35.0	43.5	43.8
Heavy Trucks:	56.7	44.8	35.7	36.9	47.1	47.2
Vehicle Noise:	**59.2**	**51.7**	**48.2**	**43.8**	**52.4**	**52.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	20
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Cedar Avenue and Pacific Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	5800
Receiver Barrier Dist:	0	Peak Hour Traffic:	**580**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

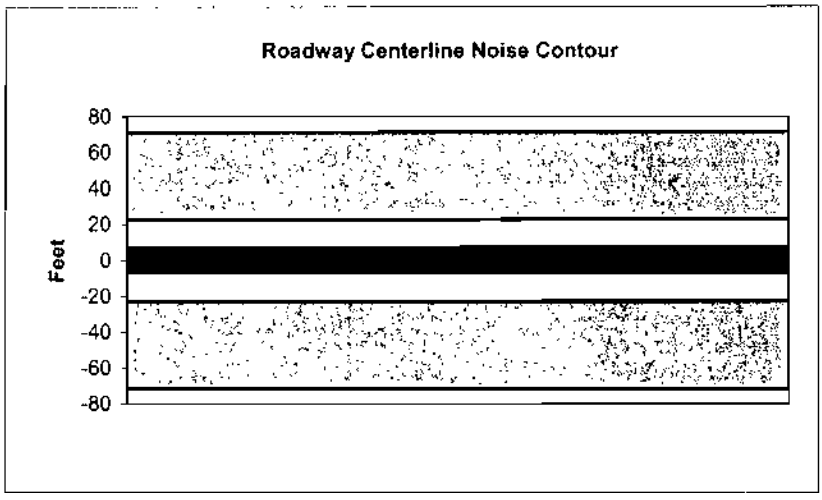
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.9	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	56.5	48.5	42.1	40.5	49.0	49.2
Heavy Trucks:	62.2	50.3	41.2	42.4	52.5	52.7
Vehicle Noise:	**64.7**	**57.2**	**53.7**	**49.3**	**57.9**	**58.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	72
65 dBA	23
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Pacific Avenue & Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4875
Peak Hour Traffic:	487.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

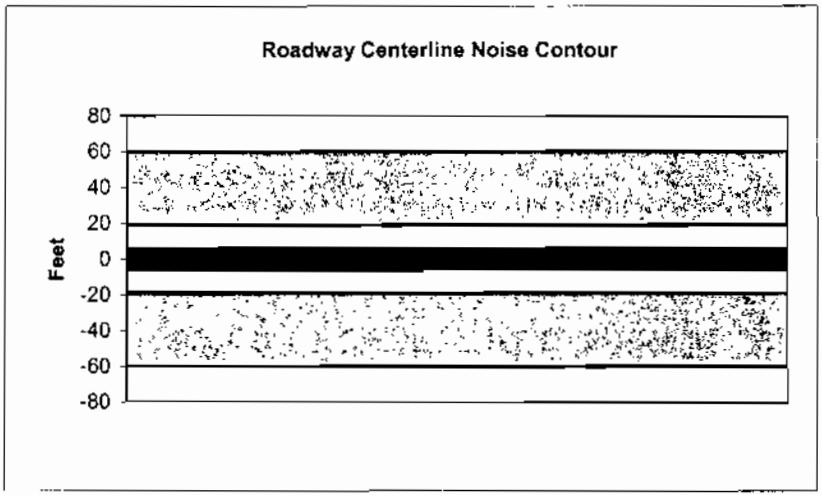
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.2	54.0	52.2	46.1	54.7	55.4
Medium Trucks:	55.8	47.7	41.3	39.8	48.3	48.5
Heavy Trucks:	61.4	49.5	40.4	41.7	51.8	51.9
Vehicle Noise:	**64.0**	**56.5**	**52.9**	**48.6**	**57.1**	**57.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	60
65 dBA	19
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Pine Street & Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1810
Peak Hour Traffic:	**181**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

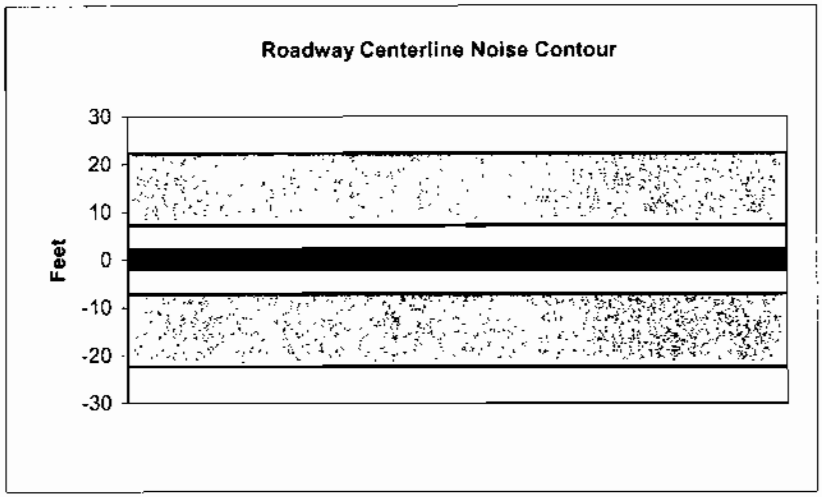
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.9	49.7	47.9	41.8	50.4	51.1
Medium Trucks:	51.5	43.4	37.0	35.5	44.0	44.2
Heavy Trucks:	57.1	45.2	36.1	37.4	47.5	47.6
Vehicle Noise:	**59.7**	**52.1**	**48.6**	**44.3**	**52.8**	**53.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	22
65 dBA	7
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street East of Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1400
Peak Hour Traffic:	140
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

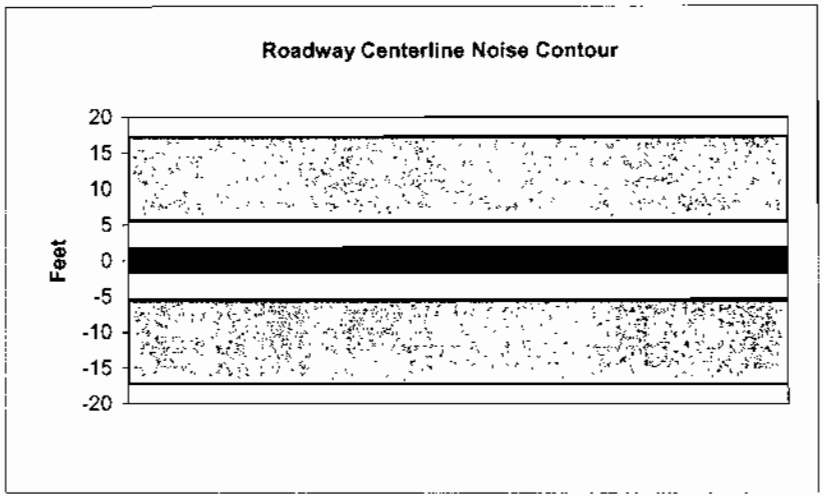
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.8	48.6	46.8	40.7	49.3	49.9
Medium Trucks:	50.4	42.3	35.9	34.4	42.8	43.1
Heavy Trucks:	56.0	44.1	35.0	36.2	46.4	46.5
Vehicle Noise:	**58.5**	**51.0**	**47.5**	**43.2**	**51.7**	**52.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	17
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2140
Peak Hour Traffic:	**214**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

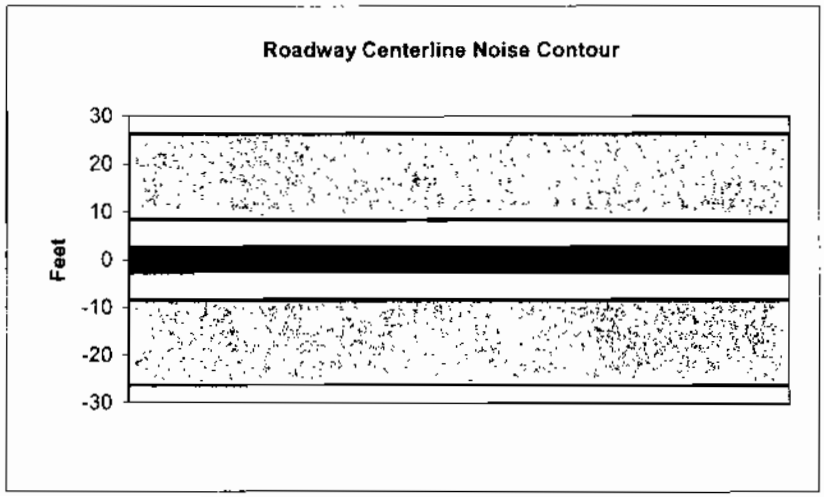
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.6	50.4	48.6	42.5	51.2	51.8
Medium Trucks:	52.2	44.1	37.8	36.2	44.7	44.9
Heavy Trucks:	57.9	45.9	36.9	38.1	48.2	48.3
Vehicle Noise:	**60.4**	**52.9**	**49.3**	**45.0**	**53.6**	**54.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	26
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	2130
Receiver Barrier Dist:	0	Peak Hour Traffic:	**213**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

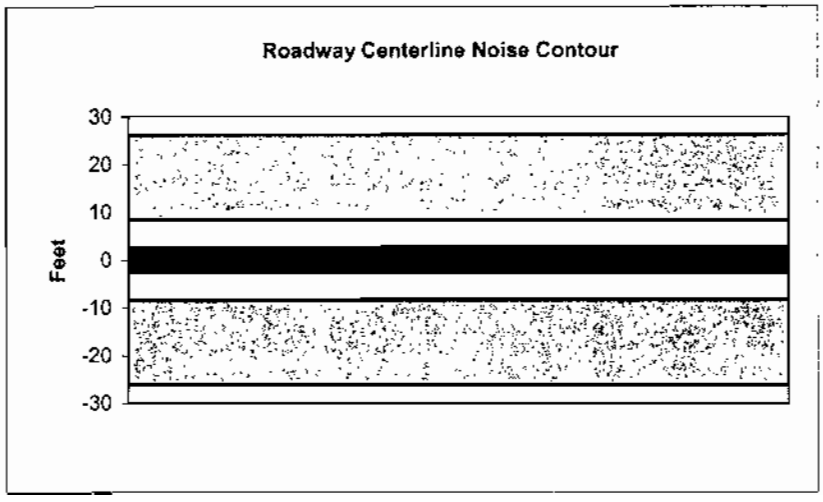
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.6	50.4	48.6	42.5	51.2	51.8
Medium Trucks:	52.2	44.1	37.7	36.2	44.7	44.9
Heavy Trucks:	57.8	45.9	36.8	38.1	48.2	48.3
Vehicle Noise:	**60.4**	**52.9**	**49.3**	**45.0**	**53.5**	**54.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	26
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street East of Lime Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	2100
Receiver Barrier Dist:	0	Peak Hour Traffic:	**210**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

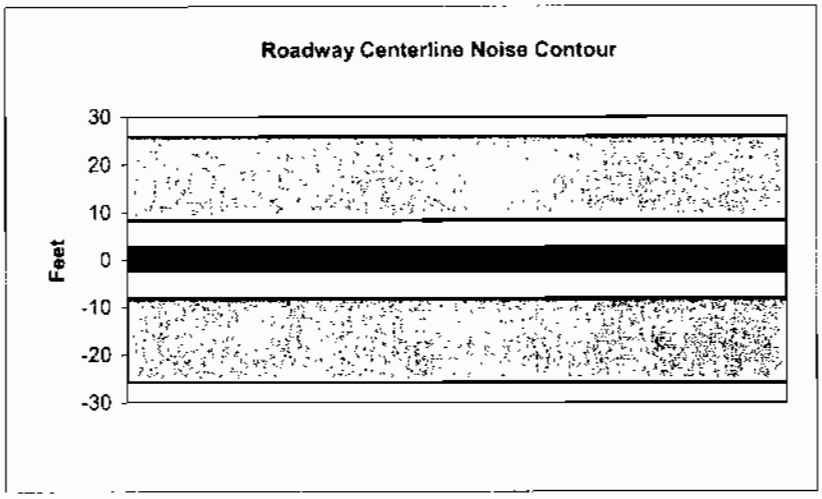
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.5	50.3	48.5	42.4	51.1	51.7
Medium Trucks:	52.1	44.1	37.7	36.1	44.6	44.8
Heavy Trucks:	57.8	45.8	36.8	38.0	48.1	48.3
Vehicle Noise:	**60.3**	**52.8**	**49.3**	**44.9**	**53.5**	**53.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	26
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Cedar Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2630
Peak Hour Traffic:	263
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

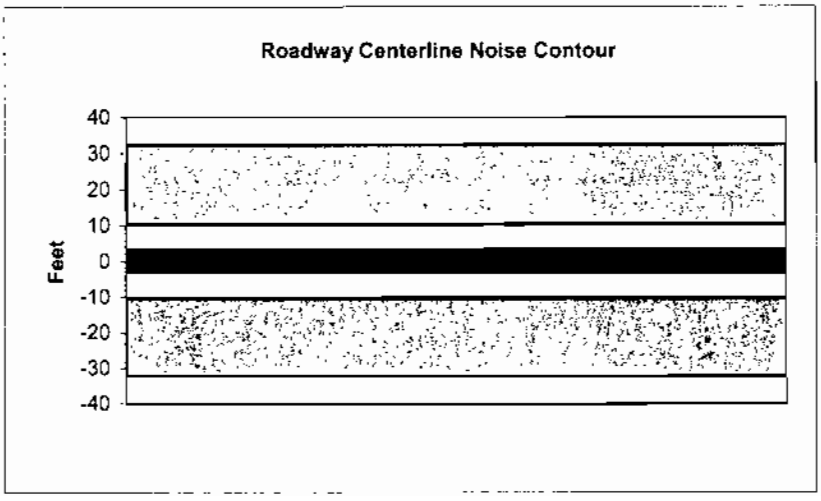
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.1	52.7
Medium Trucks:	53.1	45.0	38.7	37.1	45.6	45.8
Heavy Trucks:	58.8	46.8	37.8	39.0	49.1	49.2
Vehicle Noise:	**61.3**	**53.8**	**50.2**	**45.9**	**54.4**	**54.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	32
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Cedar Avenue and Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2890
Peak Hour Traffic:	289
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

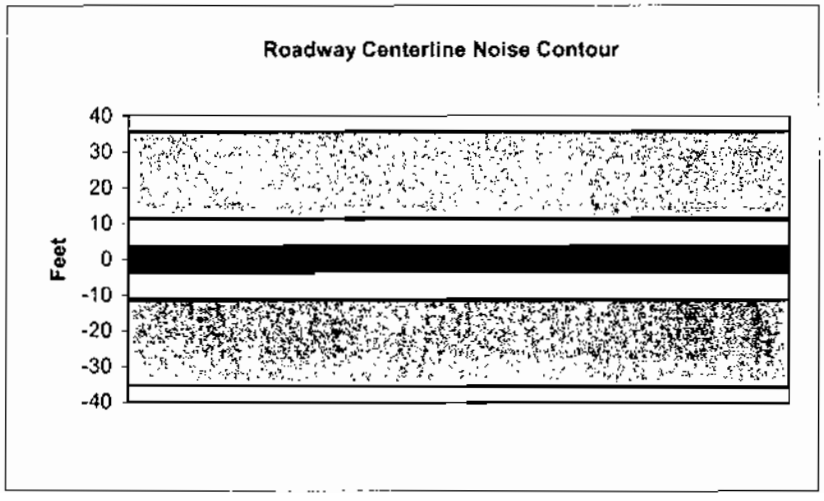
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.5	53.1
Medium Trucks:	53.5	45.5	39.1	37.5	46.0	46.2
Heavy Trucks:	59.2	47.2	38.2	39.4	49.5	49.6
Vehicle Noise:	**61.7**	**54.2**	**50.6**	**46.3**	**54.9**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	36
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Pacific Avenue and Pine St.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3220
Peak Hour Traffic:	322
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

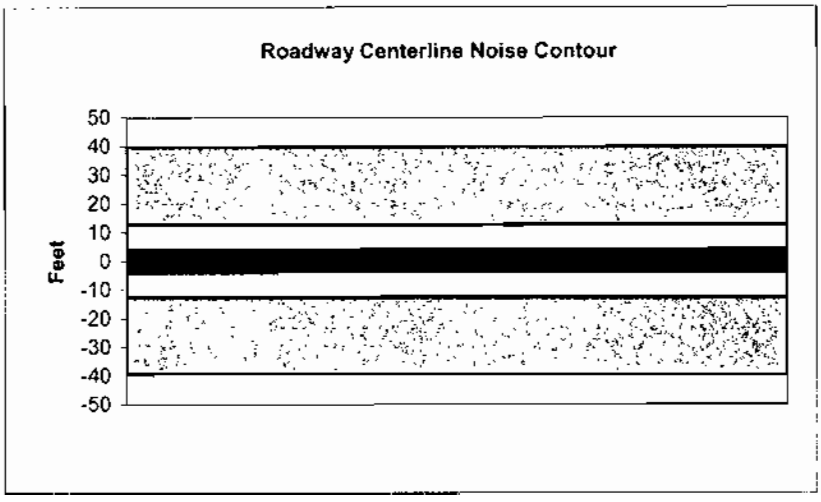
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.4	52.2	50.4	44.3	52.9	53.6
Medium Trucks:	54.0	45.9	39.5	38.0	46.5	46.7
Heavy Trucks:	59.6	47.7	38.6	39.9	50.0	50.1
Vehicle Noise:	**62.2**	**54.7**	**51.1**	**46.8**	**55.3**	**55.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	40
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Pine St and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4345
Peak Hour Traffic:	**434.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

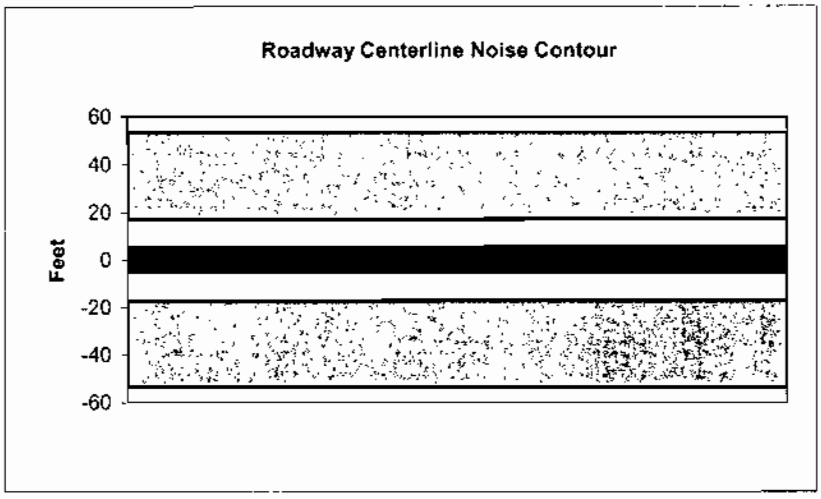
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.5	51.7	45.6	54.2	54.9
Medium Trucks:	55.3	47.2	40.8	39.3	47.8	48.0
Heavy Trucks:	60.9	49.0	39.9	41.2	51.3	51.4
Vehicle Noise:	**63.5**	**56.0**	**52.4**	**48.1**	**56.6**	**57.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	54
65 dBA	17
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7080
Peak Hour Traffic:	708
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

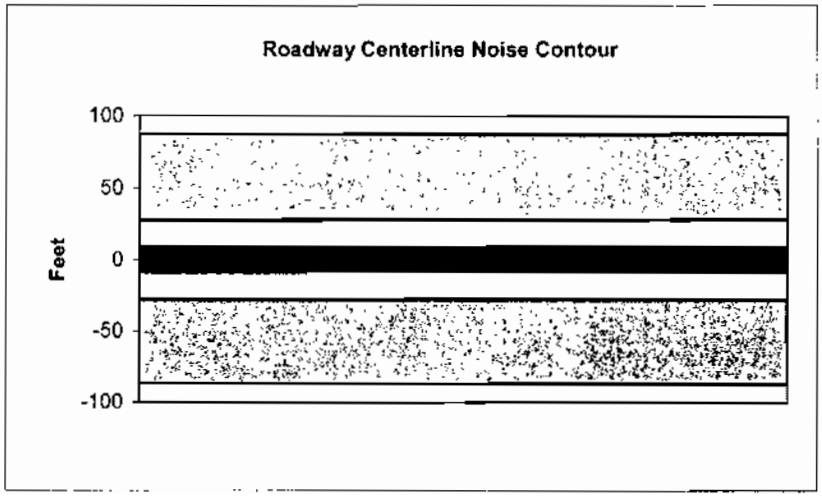
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.8	55.6	53.8	47.7	56.4	57.0
Medium Trucks:	57.4	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	63.1	51.1	42.1	43.3	53.4	53.5
Vehicle Noise:	**65.6**	**58.1**	**54.5**	**50.2**	**58.8**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	87
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Atlantic Avenue.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8080
Peak Hour Traffic:	**808**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

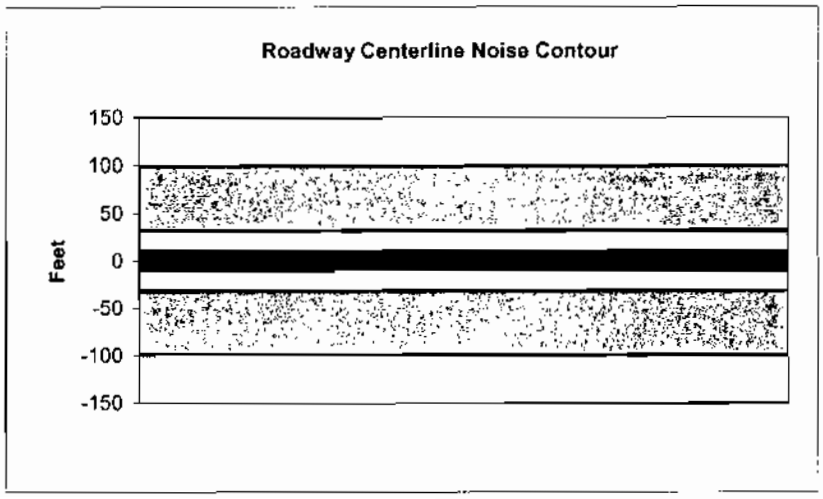
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	56.9	57.5
Medium Trucks:	58.0	49.9	43.5	42.0	50.5	50.7
Heavy Trucks:	63.6	51.7	42.6	43.9	54.0	54.1
Vehicle Noise:	**66.2**	**58.6**	**55.1**	**50.8**	**59.3**	**59.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	100
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8880
Peak Hour Traffic:	888
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

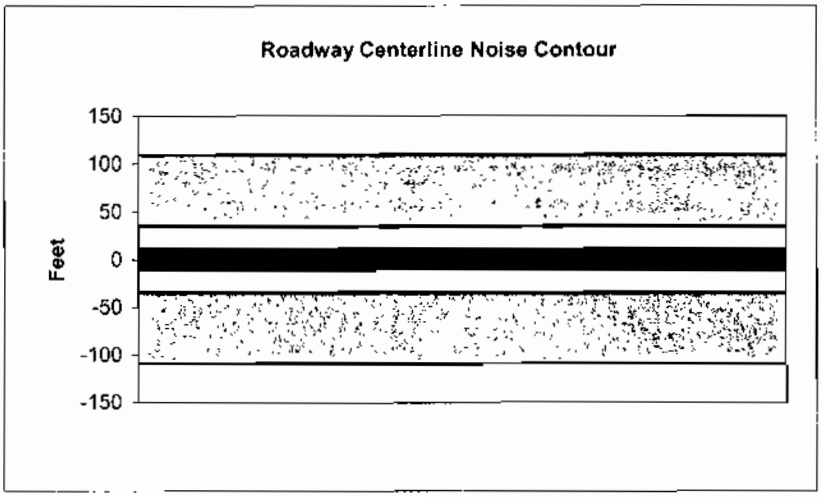
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.6	54.8	48.7	57.4	58.0
Medium Trucks:	58.4	50.3	43.9	42.4	50.9	51.1
Heavy Trucks:	64.0	52.1	43.0	44.3	54.4	54.5
Vehicle Noise:	**66.6**	**59.1**	**55.5**	**51.2**	**59.7**	**60.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	110
65 dBA	35
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9510
Peak Hour Traffic:	951
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

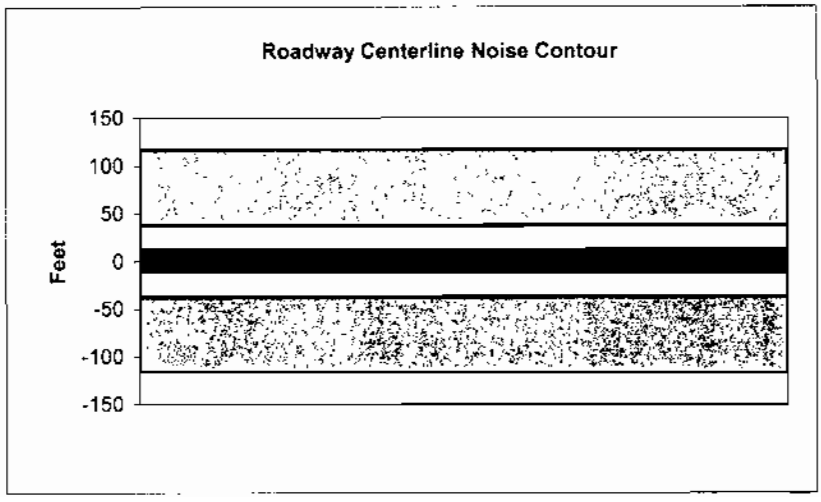
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.1	56.9	55.1	49.0	57.7	58.3
Medium Trucks:	58.7	50.6	44.2	42.7	51.2	51.4
Heavy Trucks:	64.3	52.4	43.3	44.6	54.7	54.8
Vehicle Noise:	**66.9**	**59.4**	**55.8**	**51.5**	**60.0**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	117
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12730
Peak Hour Traffic:	1273
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

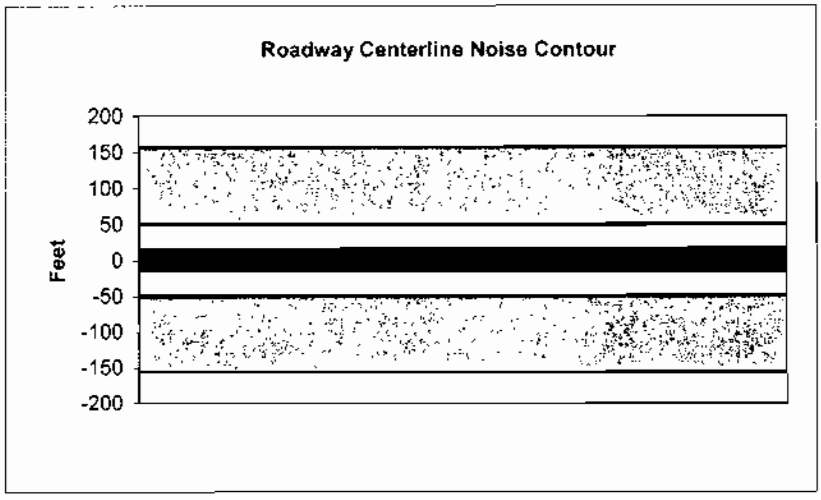
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.1	56.4	50.3	58.9	59.5
Medium Trucks:	60.0	51.9	45.5	43.9	52.4	52.7
Heavy Trucks:	65.6	53.7	44.6	45.8	56.0	56.1
Vehicle Noise:	**68.1**	**60.6**	**57.1**	**52.7**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	157
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12890
Peak Hour Traffic:	**1289**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

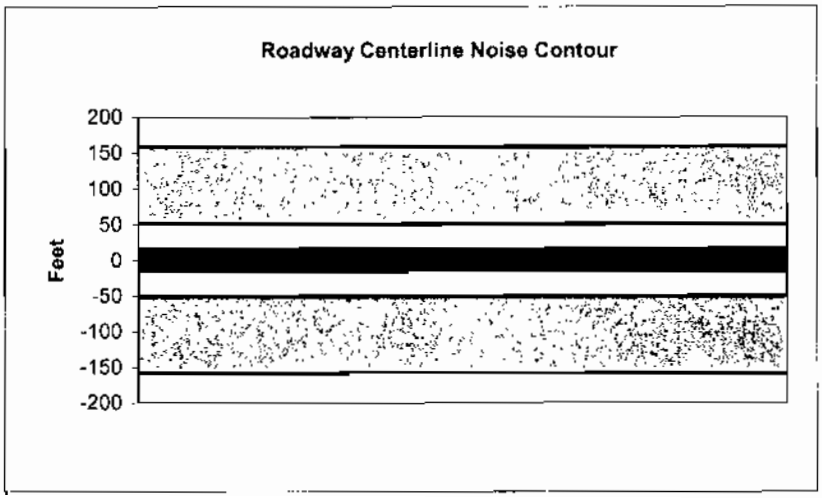
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	60.0	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	65.7	53.7	44.7	45.9	56.0	56.1
Vehicle Noise:	**68.2**	**60.7**	**57.1**	**52.8**	**61.4**	**61.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	159
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Magnolia Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14580
Peak Hour Traffic:	1458
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

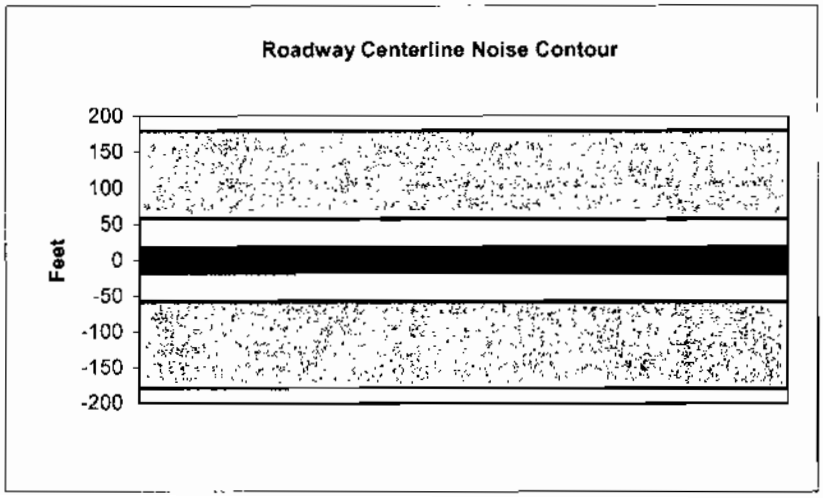
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.3	59.9
Medium Trucks:	60.3	52.3	45.9	44.3	52.8	53.0
Heavy Trucks:	66.0	54.0	45.0	46.2	56.3	56.5
Vehicle Noise:	**68.5**	**61.0**	**57.4**	**53.1**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	180
65 dBA	57
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Magnolia Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	14860
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1486**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

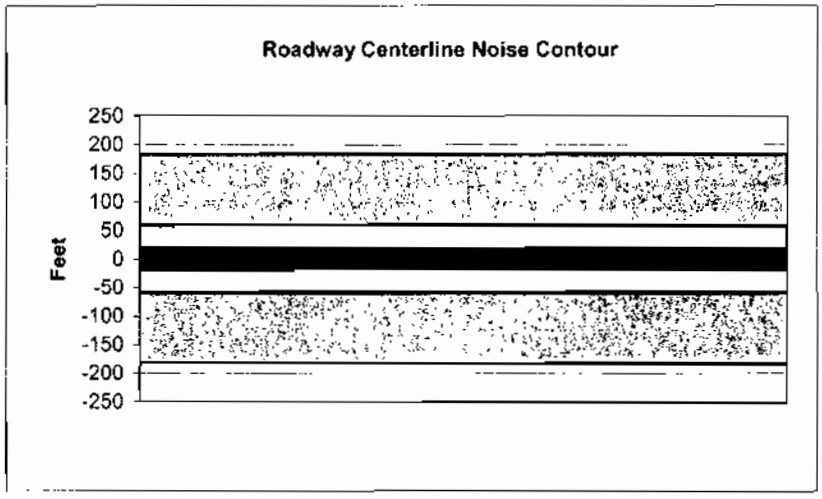
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	60.4	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	66.1	54.1	45.1	46.3	56.4	56.5
Vehicle Noise:	**68.6**	**61.1**	**57.5**	**53.2**	**61.7**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	184
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16280
Peak Hour Traffic:	**1628**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

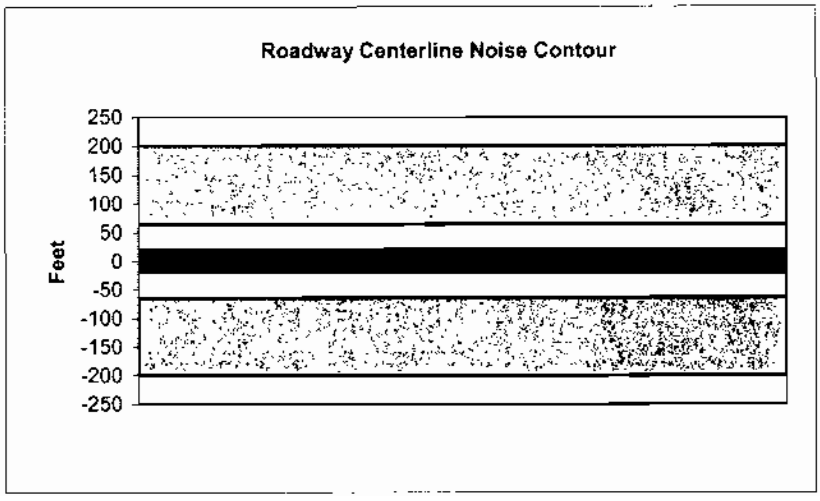
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	60.8	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	66.5	54.5	45.5	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.5**	**57.9**	**53.6**	**62.1**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	201
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15345
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1534.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

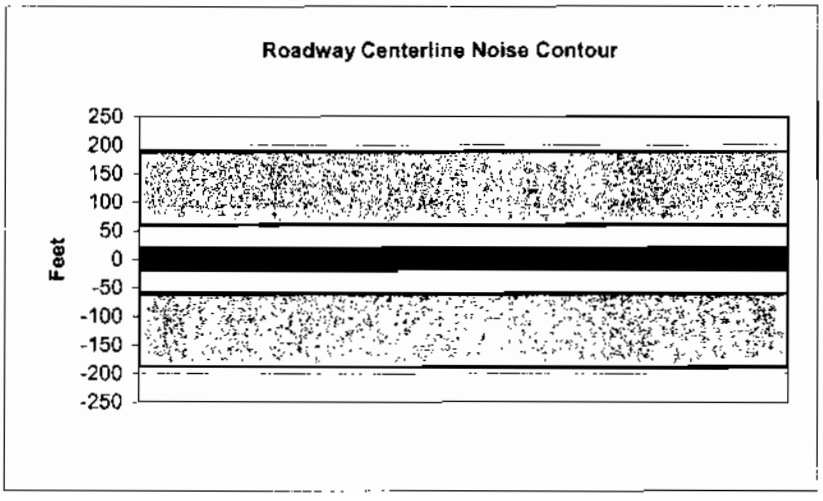
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.3	45.2	46.4	56.5	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.3**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	190
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16945
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1694.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

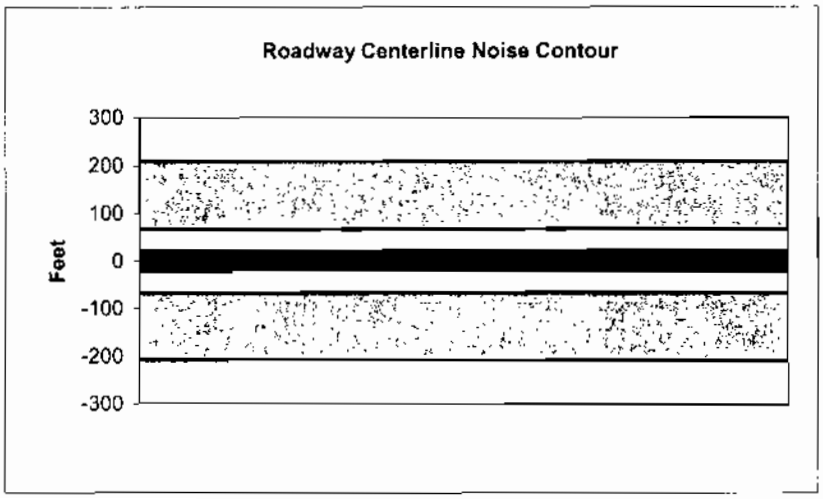
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.4	59.2	57.4	51.3	59.9	60.5
Medium Trucks:	61.0	52.9	46.5	45.0	53.4	53.7
Heavy Trucks:	66.6	54.7	45.6	46.9	57.0	57.1
Vehicle Noise:	**69.2**	**61.6**	**58.1**	**53.8**	**62.3**	**62.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	209
65 dBA	66
	21
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Long Beach Blvd and Elm		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15350
Peak Hour Traffic:	**1535**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

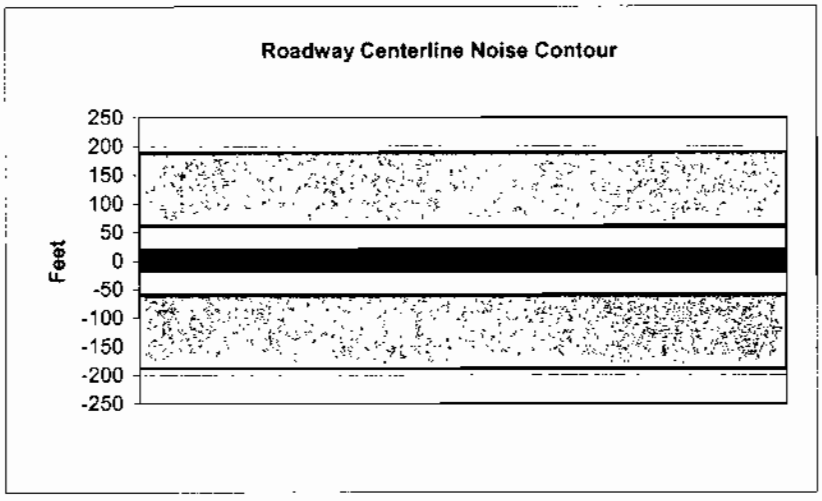
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.3	45.2	46.4	56.6	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.3**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	190
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	14440
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1444**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

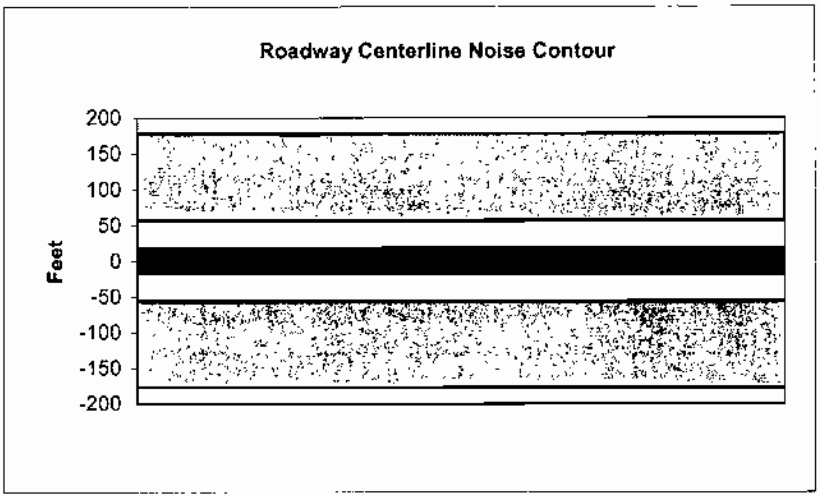
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.2	59.9
Medium Trucks:	60.3	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	65.9	54.0	44.9	46.2	56.3	56.4
Vehicle Noise:	**68.5**	**60.9**	**57.4**	**53.1**	**61.6**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	178
65 dBA	56
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14200
Peak Hour Traffic:	**1420**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

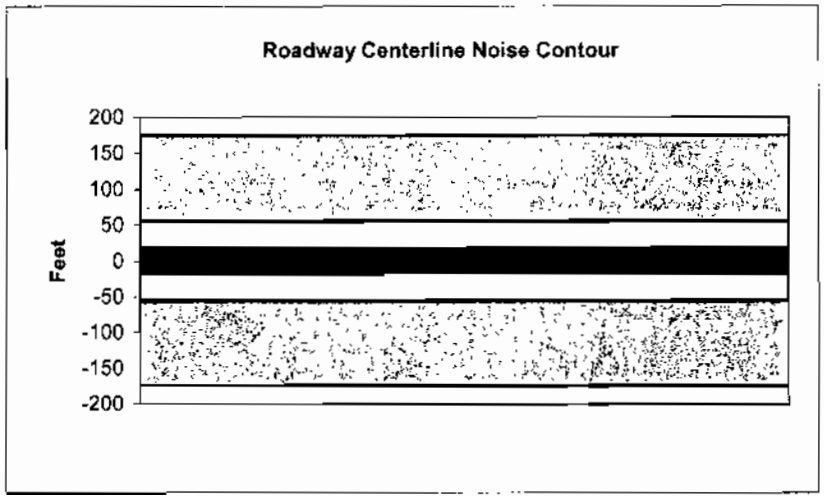
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.4	56.6	50.5	59.2	59.8
Medium Trucks:	60.2	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	65.9	53.9	44.9	46.1	56.2	56.3
Vehicle Noise:	**68.4**	**60.9**	**57.3**	**53.0**	**61.6**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	175
65 dBA	55
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Atlantic Ave and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14005
Peak Hour Traffic:	**1400.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

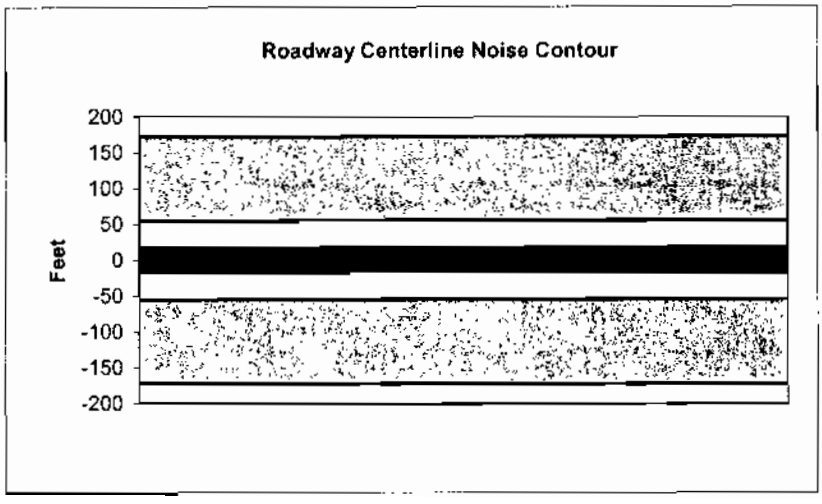
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.3	56.5	50.5	59.1	59.7
Medium Trucks:	60.2	52.1	45.7	44.1	52.6	52.9
Heavy Trucks:	65.8	53.9	44.8	46.0	56.2	56.3
Vehicle Noise:	**68.3**	**60.8**	**57.3**	**52.9**	**61.5**	**61.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	173
65 dBA	55
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Lime Street and Alamitos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13480
Peak Hour Traffic:	1348
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

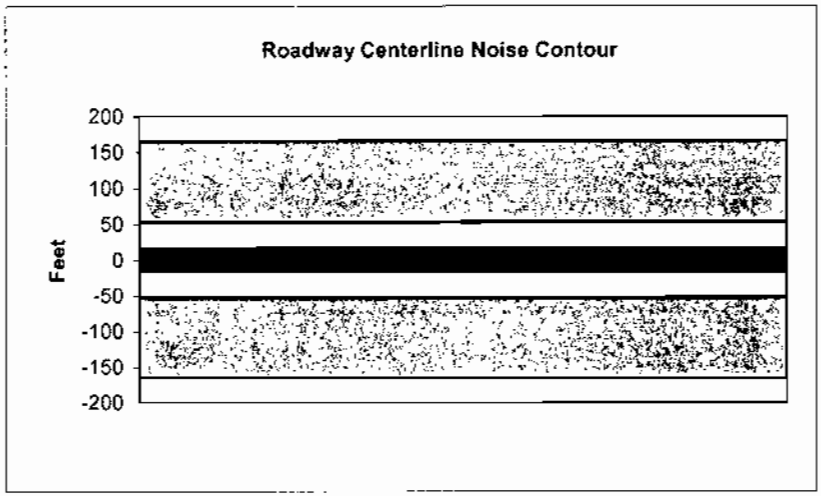
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	58.9	59.6
Medium Trucks:	60.0	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	65.6	53.7	44.6	45.9	56.0	56.1
Vehicle Noise:	**68.2**	**60.6**	**57.1**	**52.8**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	166
65 dBA	53
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8740
Peak Hour Traffic:	874
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

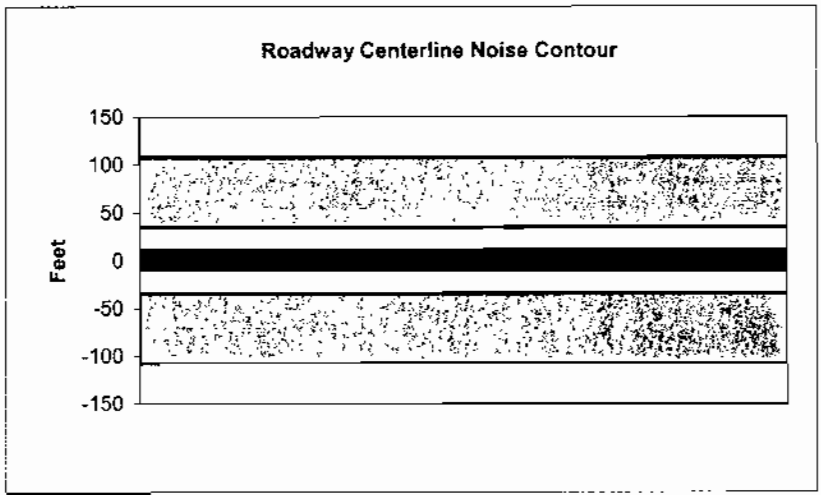
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.5	56.3	54.5	48.4	57.1	57.7
Medium Trucks:	58.1	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	63.8	51.8	42.8	44.0	54.1	54.2
Vehicle Noise:	**66.3**	**58.8**	**55.2**	**50.9**	**59.4**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	108
65 dBA	34
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8600
Peak Hour Traffic:	860
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

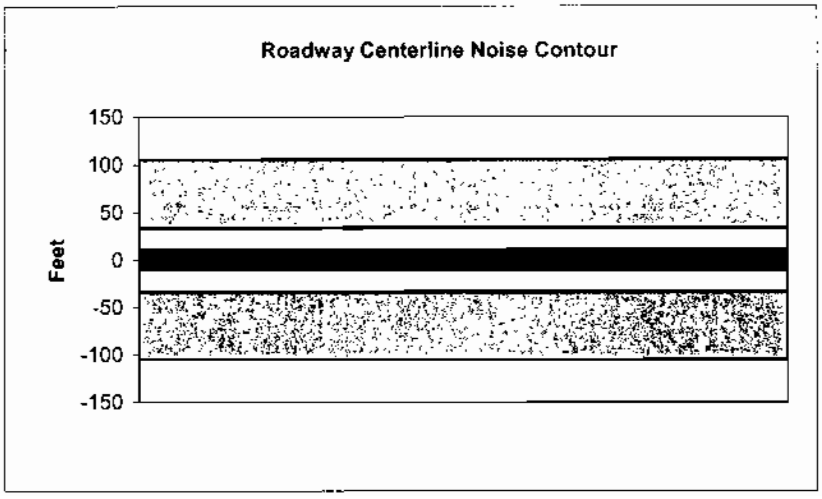
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	58.0	50.0	43.6	42.0	50.5	50.7
Heavy Trucks:	63.7	51.7	42.7	43.9	54.0	54.2
Vehicle Noise:	**66.2**	**58.7**	**55.2**	**50.8**	**59.4**	**59.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	106
65 dBA	34
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Alamitos		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8570
Peak Hour Traffic:	857
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

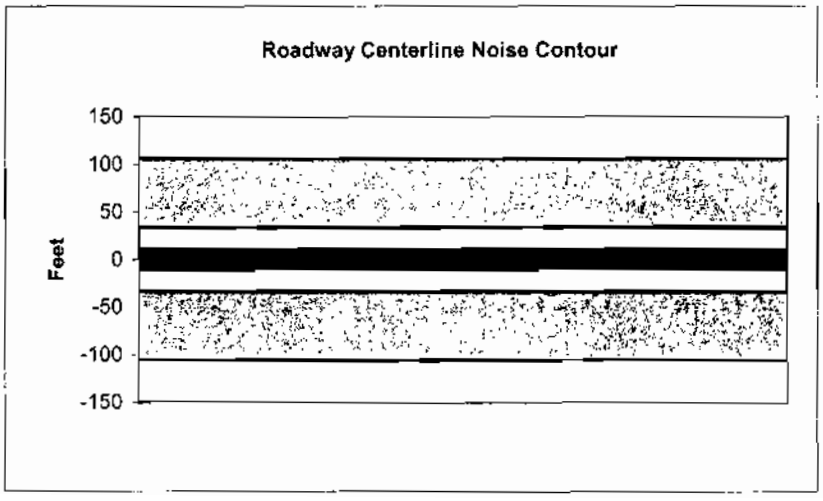
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	58.0	50.0	43.6	42.0	50.5	50.7
Heavy Trucks:	63.7	51.7	42.7	43.9	54.0	54.1
Vehicle Noise:	**66.2**	**58.7**	**55.1**	**50.8**	**59.4**	**59.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	106
65 dBA	33
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Magnolia		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	20730
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2073**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

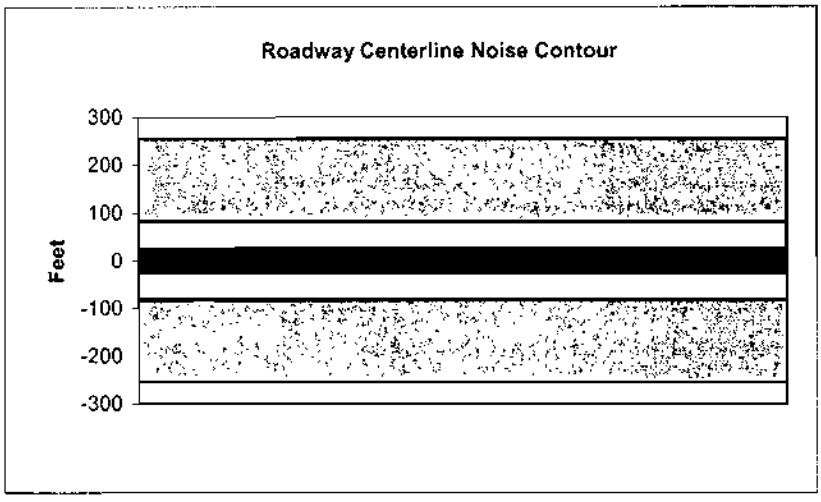
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.3	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	61.9	53.8	47.4	45.8	54.3	54.6
Heavy Trucks:	67.5	55.6	46.5	47.7	57.9	58.0
Vehicle Noise:	**70.0**	**62.5**	**59.0**	**54.6**	**63.2**	**63.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	256
65 dBA	81
	26
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Magnolia		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	18160
Peak Hour Traffic:	1816
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

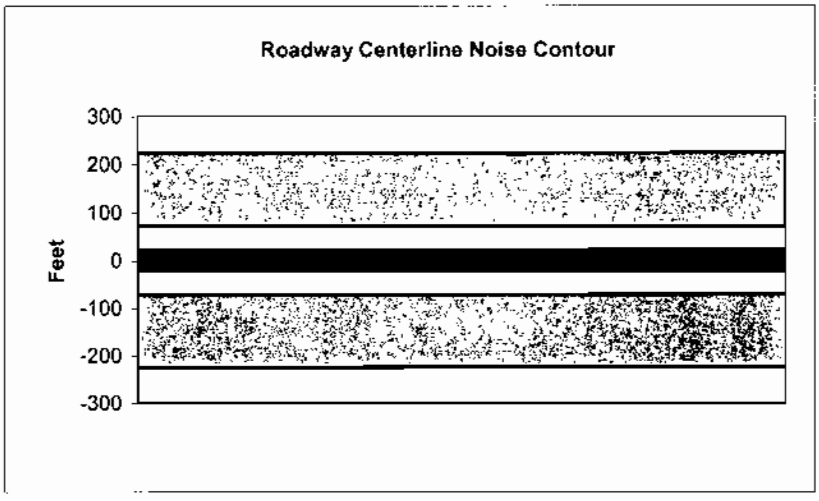
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.7	59.5	57.7	51.6	60.2	60.8
Medium Trucks:	61.3	53.2	46.8	45.3	53.7	54.0
Heavy Trucks:	66.9	55.0	45.9	47.2	57.3	57.4
Vehicle Noise:	**69.5**	**61.9**	**58.4**	**54.1**	**62.6**	**63.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	224
65 dBA	71
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Pacific Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	19340
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1934**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

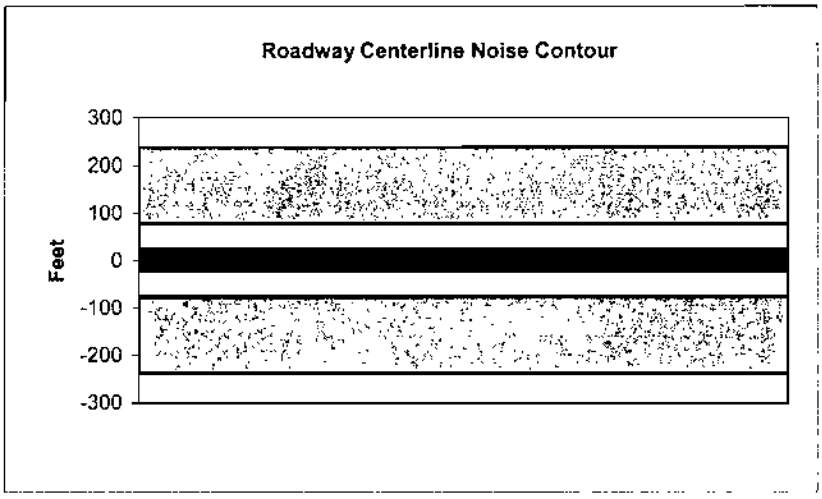
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.0	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	61.6	53.5	47.1	45.5	54.0	54.3
Heavy Trucks:	67.2	55.3	46.2	47.4	57.6	57.7
Vehicle Noise:	**69.7**	**62.2**	**58.7**	**54.3**	**62.9**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	239
65 dBA	75
	24
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Pacific Avenue & Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	19970
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1997**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

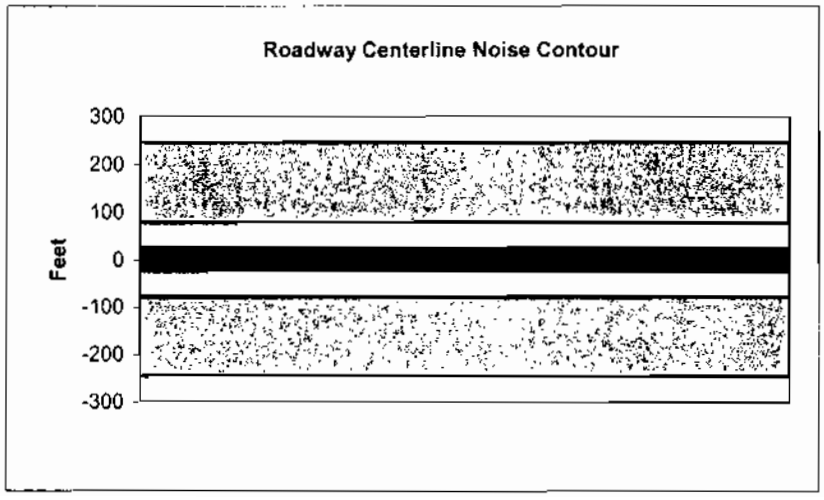
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	61.7	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	67.3	55.4	46.3	47.6	57.7	57.8
Vehicle Noise:	**69.9**	**62.4**	**58.8**	**54.5**	**63.0**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	246
65 dBA	78
	25
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Pine Street & Long Beach Blvd		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	20130
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2013**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

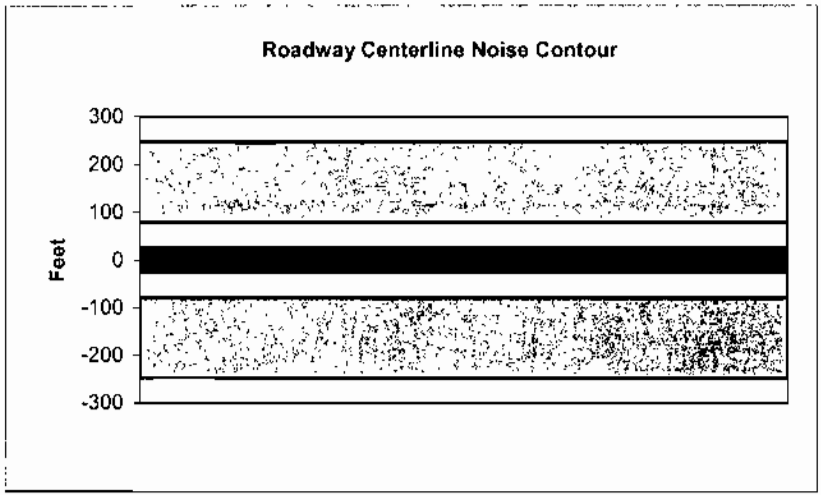
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	61.7	53.7	47.3	45.7	54.2	54.4
Heavy Trucks:	67.4	55.4	46.4	47.6	57.7	57.9
Vehicle Noise:	**69.9**	**62.4**	**58.8**	**54.5**	**63.1**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	249
65 dBA	79
	25
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	16160
Peak Hour Traffic:	1616
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

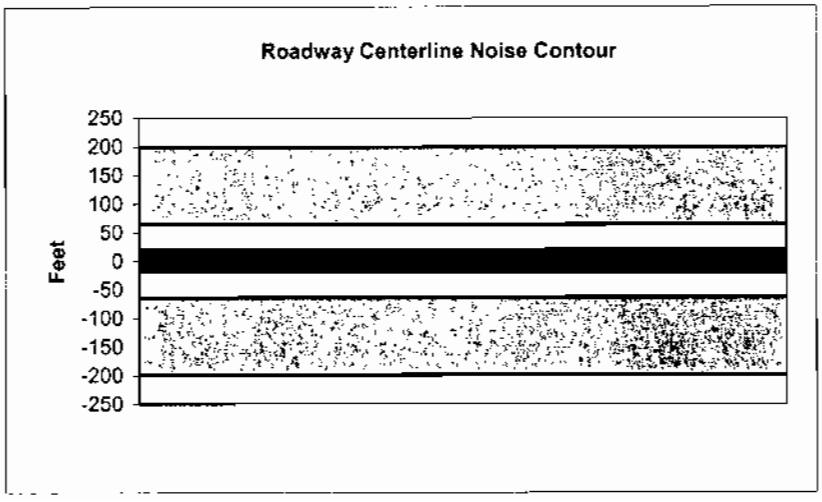
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15380
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1538**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

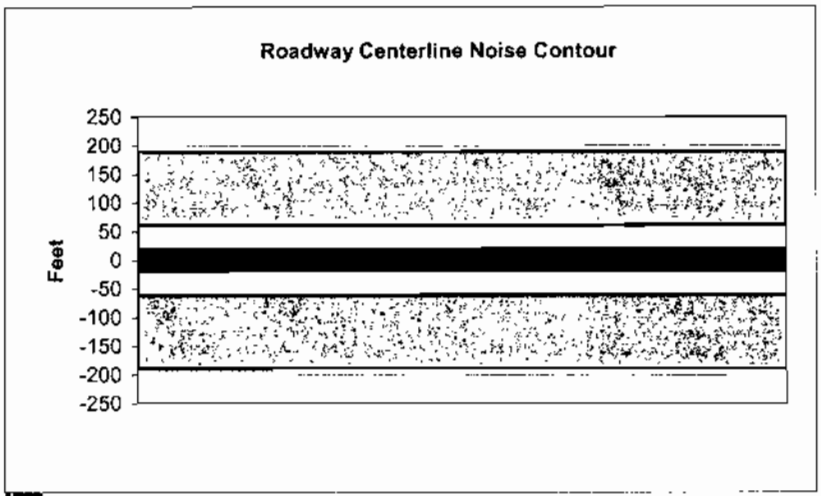
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.7	57.0	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.5	53.0	53.3
Heavy Trucks:	66.2	54.3	45.2	46.4	56.6	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.4**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	190
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Atlantic Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15440
Peak Hour Traffic:	**1544**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

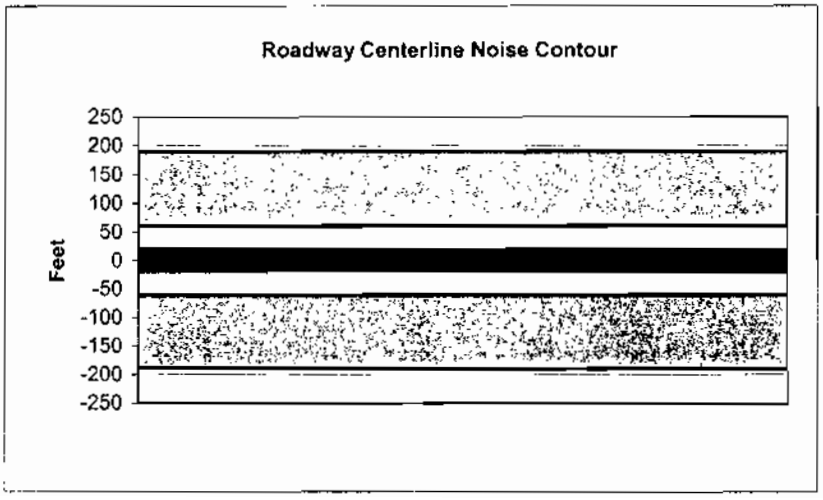
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	66.2	54.3	45.2	46.5	56.6	56.7
Vehicle Noise:	**68.8**	**61.2**	**57.7**	**53.4**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	190
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Atlantic Avenue and Lime Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15030
Peak Hour Traffic:	1503
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

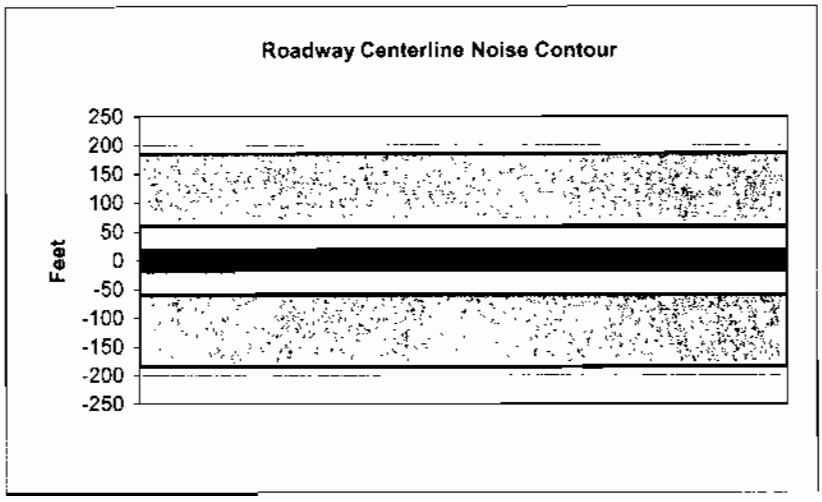
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	60.5	52.4	46.0	44.4	52.9	53.2
Heavy Trucks:	66.1	54.2	45.1	46.3	56.5	56.6
Vehicle Noise:	**68.6**	**61.1**	**57.6**	**53.3**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	186
65 dBA	59
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Lime Street and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15145
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1514.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

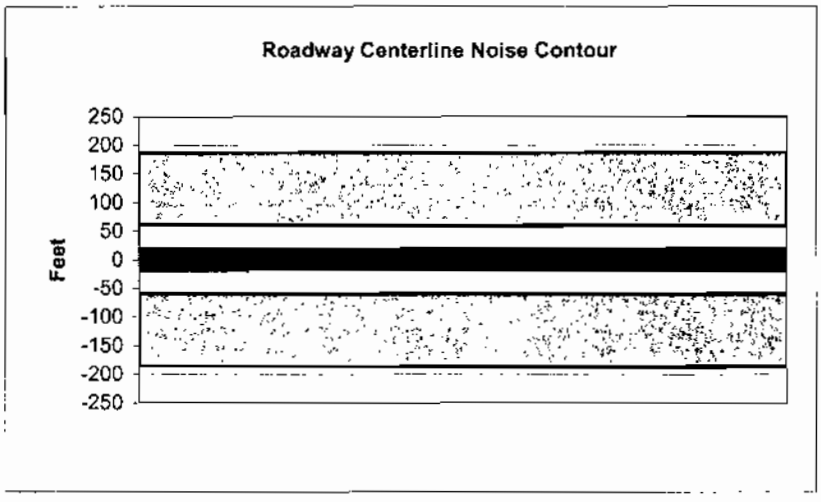
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	60.5	52.4	46.0	44.5	53.0	53.2
Heavy Trucks:	66.1	54.2	45.1	46.4	56.5	56.6
Vehicle Noise:	**68.7**	**61.2**	**57.6**	**53.3**	**61.8**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	187
65 dBA	59
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Alamitos Avenue and Bonita Avenue		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15450
Peak Hour Traffic:	**1545**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

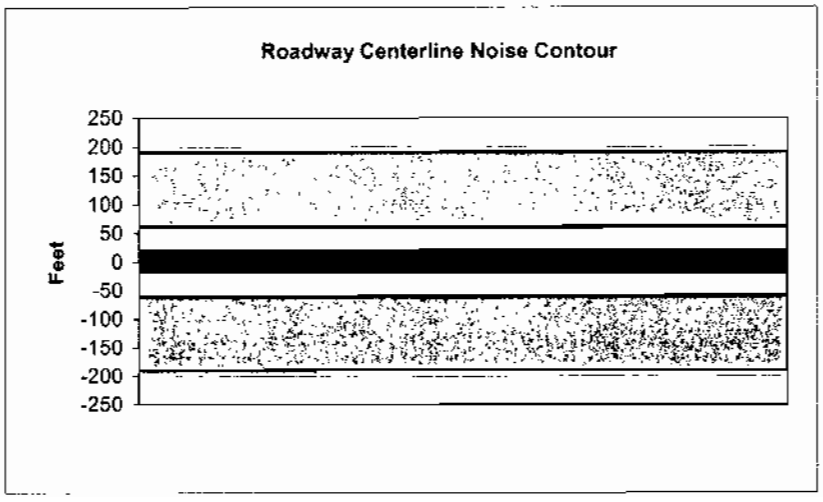
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	66.2	54.3	45.2	46.5	56.6	56.7
Vehicle Noise:	**68.8**	**61.2**	**57.7**	**53.4**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	191
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Bonita Avenue and Orange Avenue		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15545
Peak Hour Traffic:	**1554.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

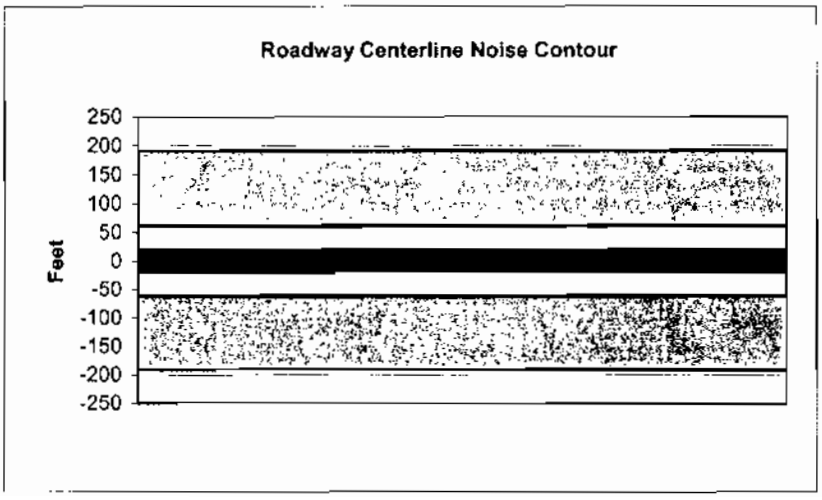
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.6	60.2
Medium Trucks:	60.6	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	66.3	54.3	45.3	46.5	56.6	56.7
Vehicle Noise:	**68.8**	**61.3**	**57.7**	**53.4**	**61.9**	**62.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	192
65 dBA	61
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Orange Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16180
Receiver Barrier Dist:	0	Peak Hour Traffic:	1618
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

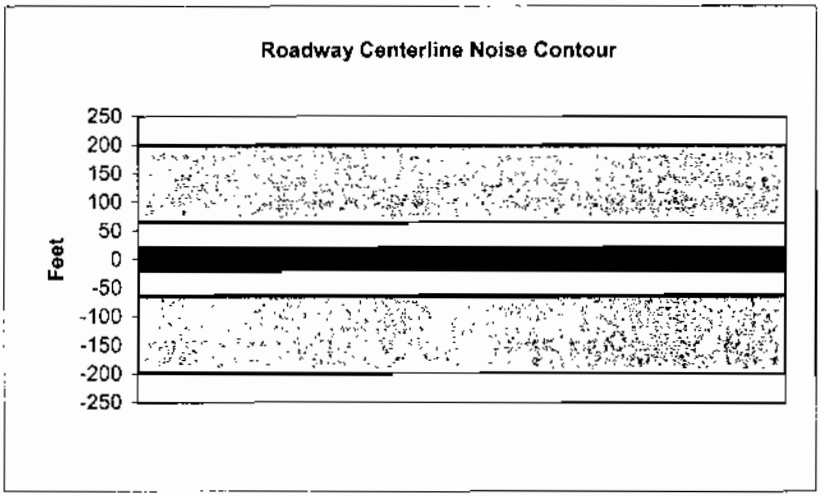
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	200
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1080
Peak Hour Traffic:	108
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

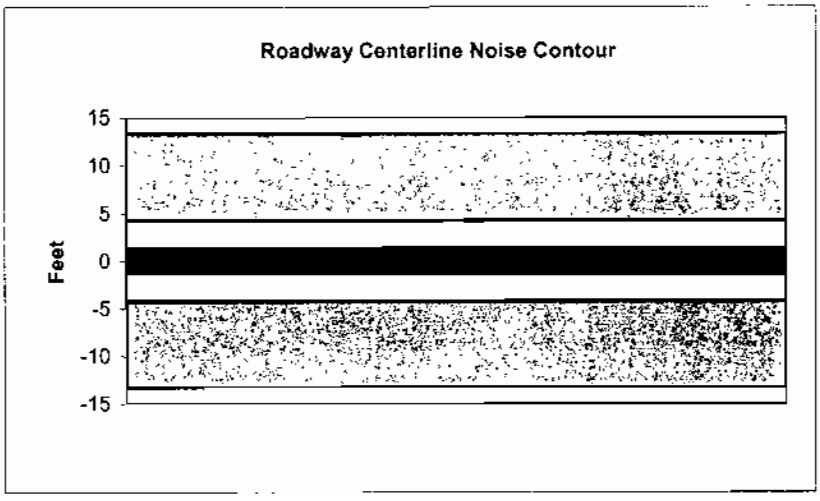
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.4	47.2	45.4	39.3	48.0	48.6
Medium Trucks:	49.0	41.0	34.6	33.0	41.5	41.7
Heavy Trucks:	54.7	42.7	33.7	34.9	45.0	45.2
Vehicle Noise:	**57.2**	**49.7**	**46.1**	**41.8**	**50.4**	**50.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	13
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street East of Elm		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4500
Receiver Barrier Dist:	0	Peak Hour Traffic:	450
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

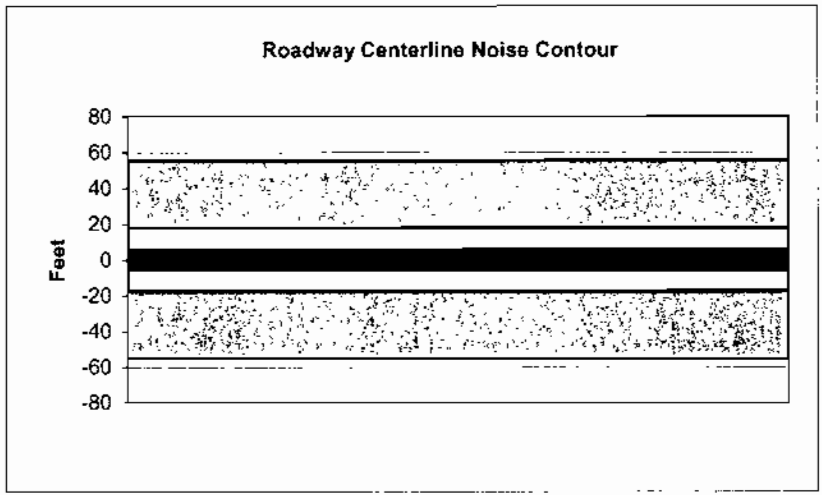
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.6	53.4	51.6	45.5	54.2	54.8
Medium Trucks:	55.2	47.2	40.8	39.2	47.7	47.9
Heavy Trucks:	60.9	48.9	39.9	41.1	51.2	51.3
Vehicle Noise:	**63.4**	**55.9**	**52.3**	**48.0**	**56.6**	**57.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	56
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4080
Peak Hour Traffic:	408
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

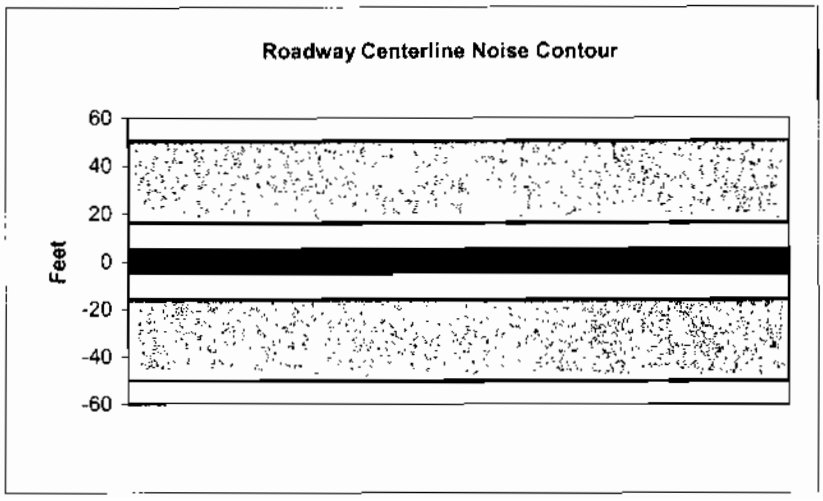
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.2	53.0	51.2	45.1	53.8	54.4
Medium Trucks:	54.8	46.7	40.3	38.8	47.3	47.5
Heavy Trucks:	60.4	48.5	39.5	40.7	50.8	50.9
Vehicle Noise:	**63.0**	**55.5**	**51.9**	**47.6**	**56.1**	**56.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	50
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street West of Atlantic Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4110
Receiver Barrier Dist:	0	Peak Hour Traffic:	**411**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

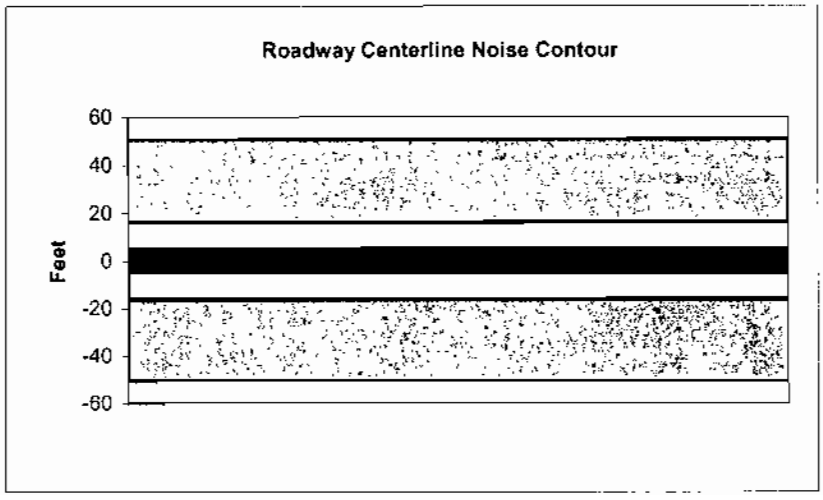
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.2	53.0	51.2	45.1	53.8	54.4
Medium Trucks:	54.8	46.8	40.4	38.8	47.3	47.5
Heavy Trucks:	60.5	48.5	39.5	40.7	50.8	51.0
Vehicle Noise:	**63.0**	**55.5**	**51.9**	**47.6**	**56.2**	**56.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	51
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Bewteen Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3645
Peak Hour Traffic:	364.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

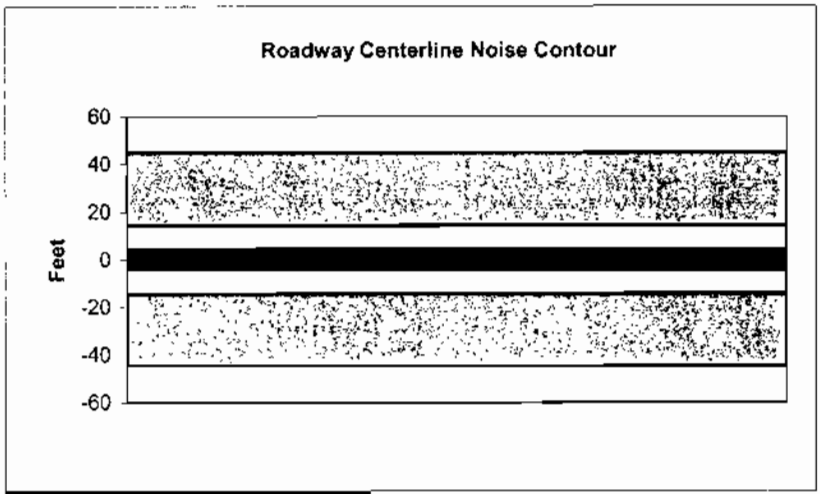
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.7	52.5	50.7	44.6	53.3	53.9
Medium Trucks:	54.3	46.2	39.9	38.3	46.8	47.0
Heavy Trucks:	60.0	48.0	39.0	40.2	50.3	50.4
Vehicle Noise:	**62.5**	**55.0**	**51.4**	**47.1**	**55.6**	**56.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	45
65 dBA	14
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Bewteen Lime Street and Alamitos		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3470
Peak Hour Traffic:	347
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

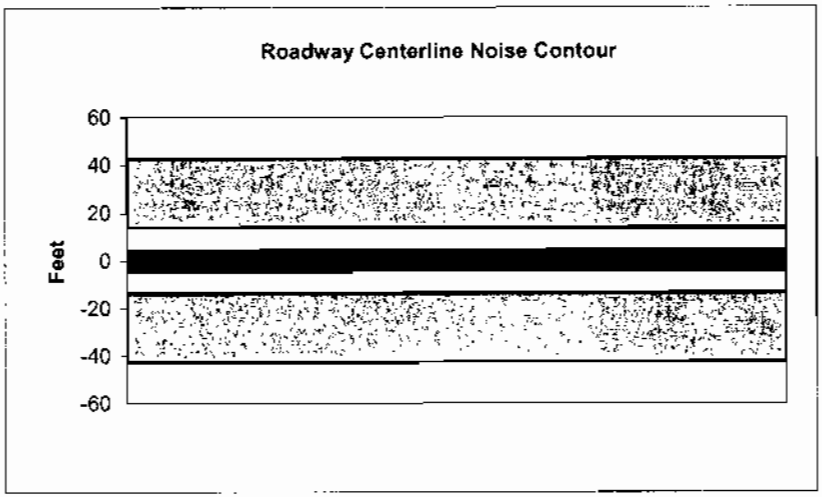
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.5	52.3	50.5	44.4	53.1	53.7
Medium Trucks:	54.1	46.0	39.6	38.1	46.6	46.8
Heavy Trucks:	59.7	47.8	38.7	40.0	50.1	50.2
Vehicle Noise:	**62.3**	**54.8**	**51.2**	**46.9**	**55.4**	**55.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	43
65 dBA	14
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	East 1st Street		
Road Segment:	East 1st Street East of Alamitas Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	700
Receiver Barrier Dist:	0	Peak Hour Traffic:	70
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

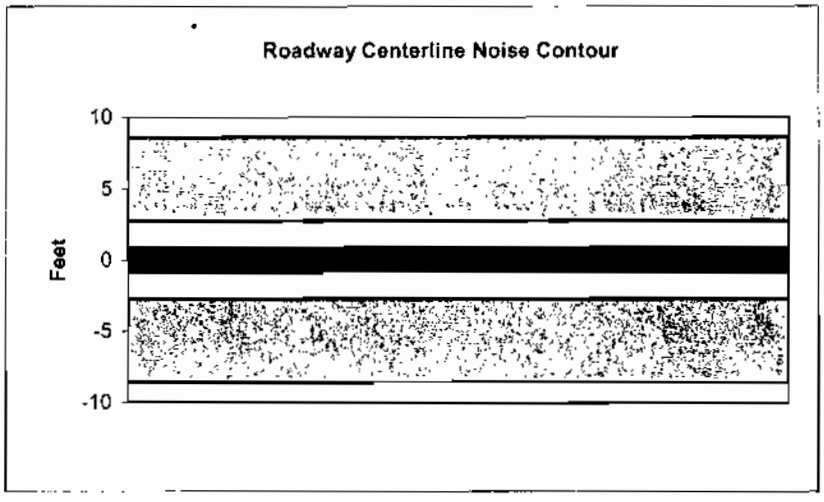
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.5	45.3	43.5	37.4	46.1	46.7
Medium Trucks:	47.1	39.1	32.7	31.1	39.6	39.8
Heavy Trucks:	52.8	40.9	31.8	33.0	43.1	43.3
Vehicle Noise:	**55.3**	**47.8**	**44.3**	**39.9**	**48.5**	**48.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	9
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Medio Street		
Road Segment:	Medio Street West of Alamitos		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	280
Peak Hour Traffic:	28
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

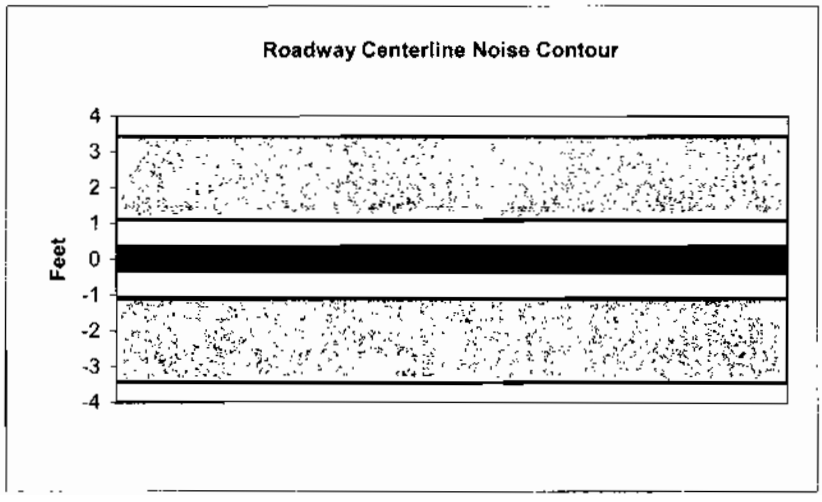
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	32.8	41.6	39.8	33.7	42.3	42.9
Medium Trucks:	43.4	35.3	28.9	27.4	35.8	36.1
Heavy Trucks:	49.0	37.1	28.0	29.3	39.4	39.5
Vehicle Noise:	**51.6**	**44.0**	**40.5**	**36.2**	**44.7**	**45.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	3
65 dBA	1
	0
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Magnolia Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	35860
Receiver Barrier Dist:	0	Peak Hour Traffic:	**3586**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

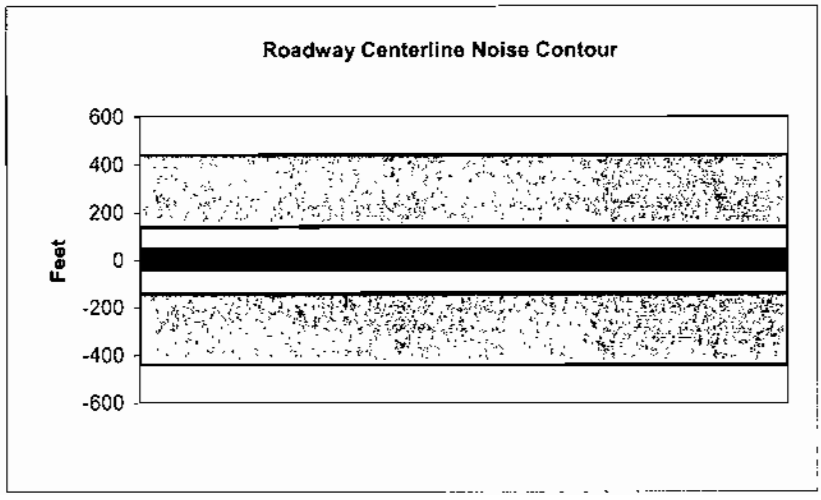
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	63.9	55.8	49.4	47.8	56.3	56.6
Heavy Trucks:	69.5	57.6	48.5	49.7	59.9	60.0
Vehicle Noise:	**72.0**	**64.5**	**61.0**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	443
65 dBA	140
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Magnolia Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	37040
Peak Hour Traffic:	**3704**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

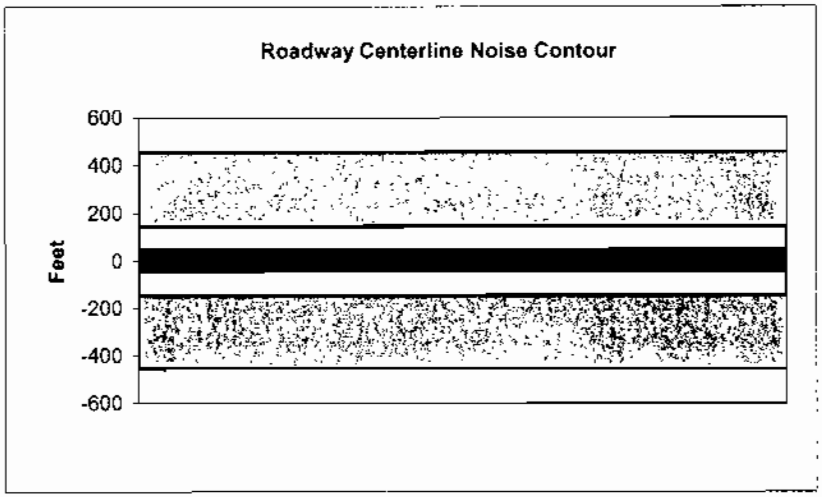
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	64.0	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	69.6	57.7	48.6	49.9	60.0	60.1
Vehicle Noise:	**72.2**	**64.7**	**61.1**	**56.8**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	457
65 dBA	145
	46
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	38860
Peak Hour Traffic:	3886
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

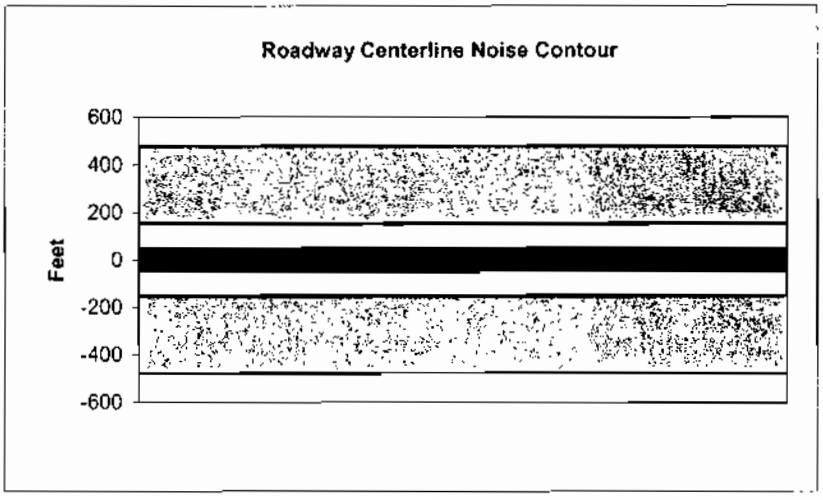
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	64.2	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	69.8	57.9	48.9	50.1	60.2	60.3
Vehicle Noise:	**72.4**	**64.9**	**61.3**	**57.0**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	480
65 dBA	152
	48
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	37550
Peak Hour Traffic:	3755
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

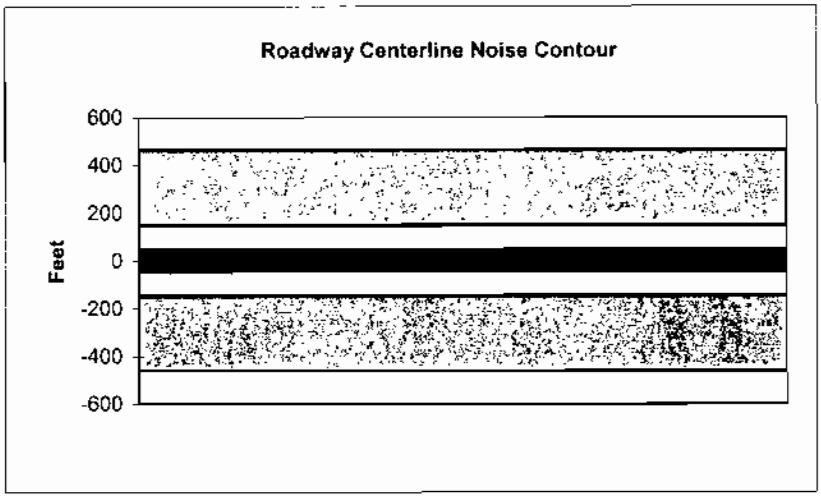
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	64.1	56.0	49.6	48.0	56.5	56.8
Heavy Trucks:	69.7	57.8	48.7	49.9	60.1	60.2
Vehicle Noise:	**72.2**	**64.7**	**61.2**	**56.8**	**65.4**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	464
65 dBA	147
	46
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	39420
Peak Hour Traffic:	**3942**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

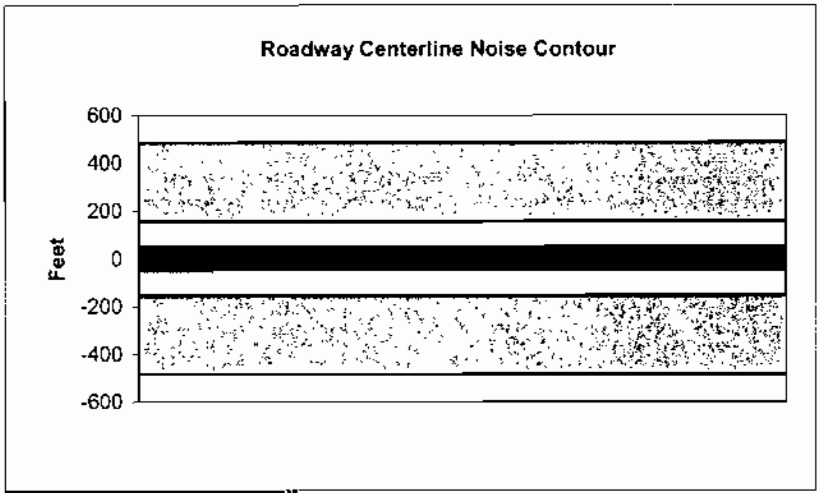
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.7	62.4	60.7	54.6	63.2	63.8
Medium Trucks:	64.3	56.2	49.8	48.2	56.7	57.0
Heavy Trucks:	69.9	58.0	48.9	50.1	60.3	60.4
Vehicle Noise:	**72.4**	**64.9**	**61.4**	**57.1**	**65.6**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	487
65 dBA	154
	49
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Long Beach Blvd.		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	37920
Peak Hour Traffic:	3792
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

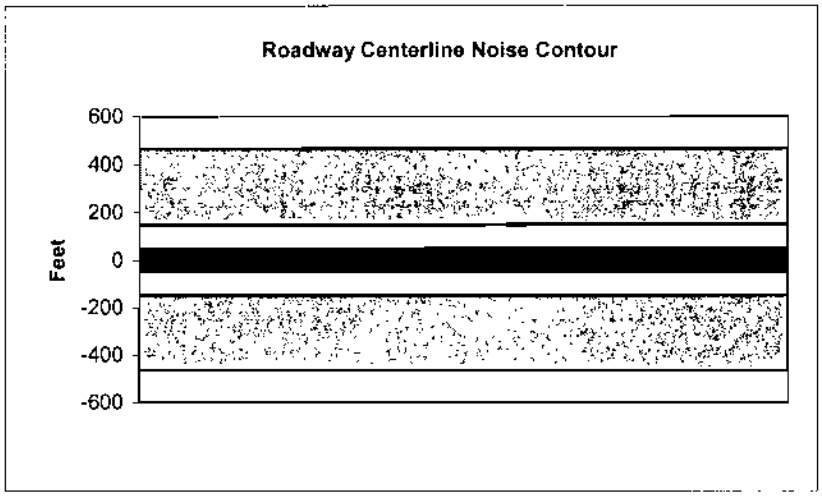
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	64.1	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	69.7	57.8	48.7	50.0	60.1	60.2
Vehicle Noise:	**72.3**	**64.8**	**61.2**	**56.9**	**65.4**	**65.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	468
65 dBA	148
	47
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Atlanic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	36340
Peak Hour Traffic:	3634
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

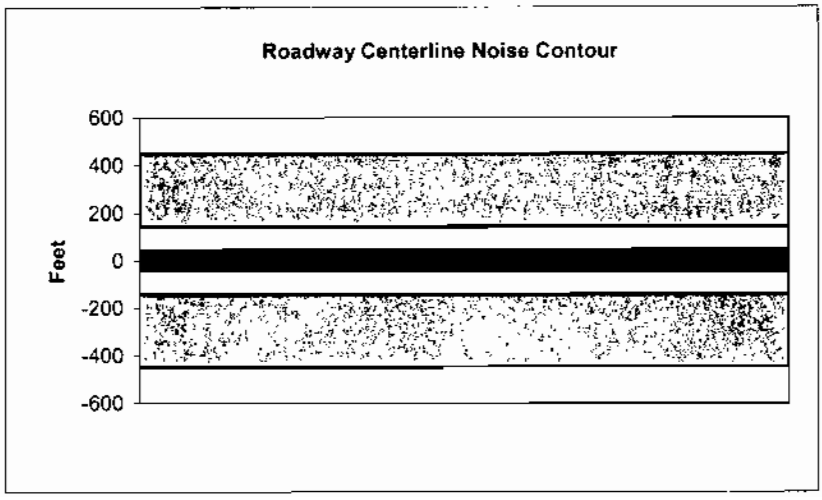
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.9	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	69.6	57.6	48.6	49.8	59.9	60.0
Vehicle Noise:	**72.1**	**64.6**	**61.0**	**56.7**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	449
65 dBA	142
	45
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Atlanic Avenue and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	36200
Peak Hour Traffic:	3620
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

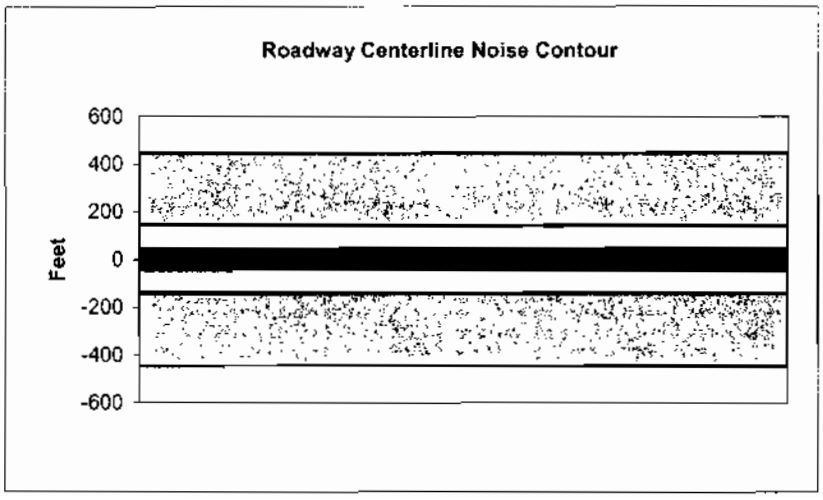
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.9	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	69.5	57.6	48.5	49.8	59.9	60.0
Vehicle Noise:	**72.1**	**64.6**	**61.0**	**56.7**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	447
65 dBA	141
	45
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Lime Street and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	35720
Receiver Barrier Dist:	0	Peak Hour Traffic:	**3572**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

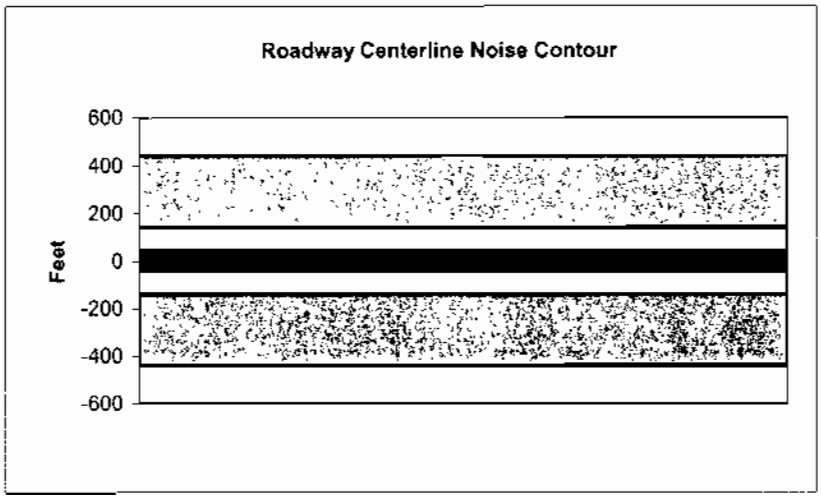
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	63.8	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	69.5	57.5	48.5	49.7	59.8	60.0
Vehicle Noise:	**72.0**	**64.5**	**61.0**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	441
65 dBA	139
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Alamitos Avenue and Bonita Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	35540
Peak Hour Traffic:	**3554**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

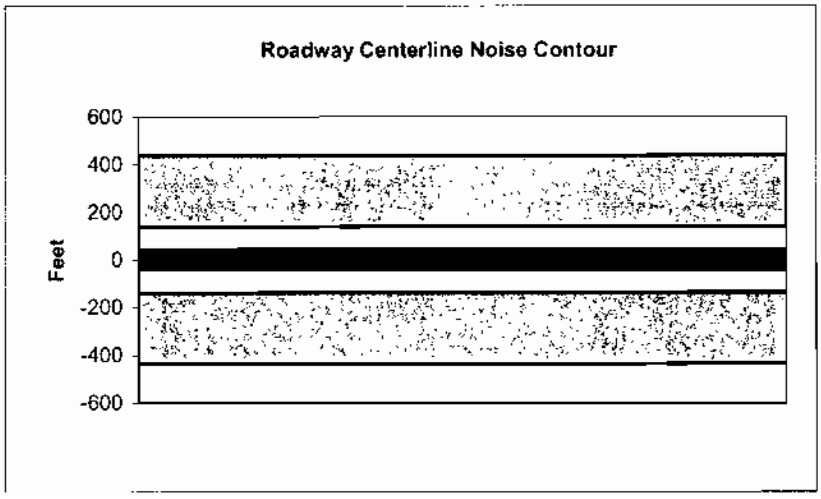
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	63.8	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	69.5	57.5	48.5	49.7	59.8	59.9
Vehicle Noise:	**72.0**	**64.5**	**60.9**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	439
65 dBA	139
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Bonita Avenue and Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	35430
Peak Hour Traffic:	**3543**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

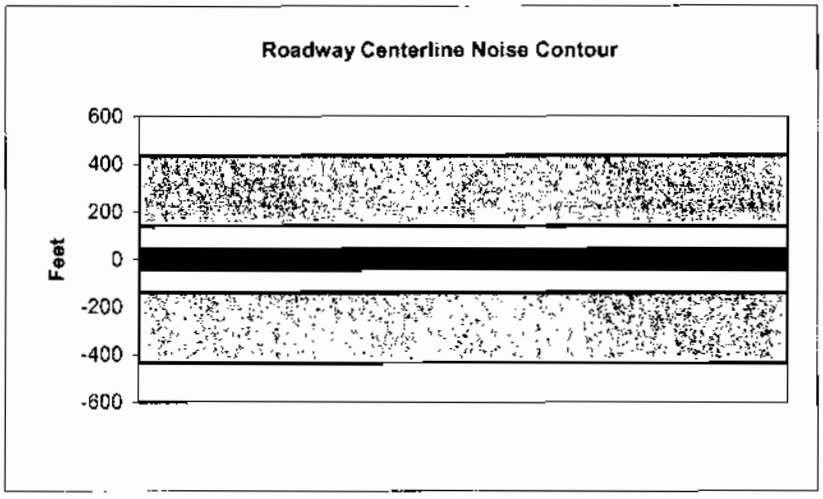
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	63.8	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	69.4	57.5	48.5	49.7	59.8	59.9
Vehicle Noise:	**72.0**	**64.5**	**60.9**	**56.6**	**65.1**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	438
65 dBA	138
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	36180
Peak Hour Traffic:	3618
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

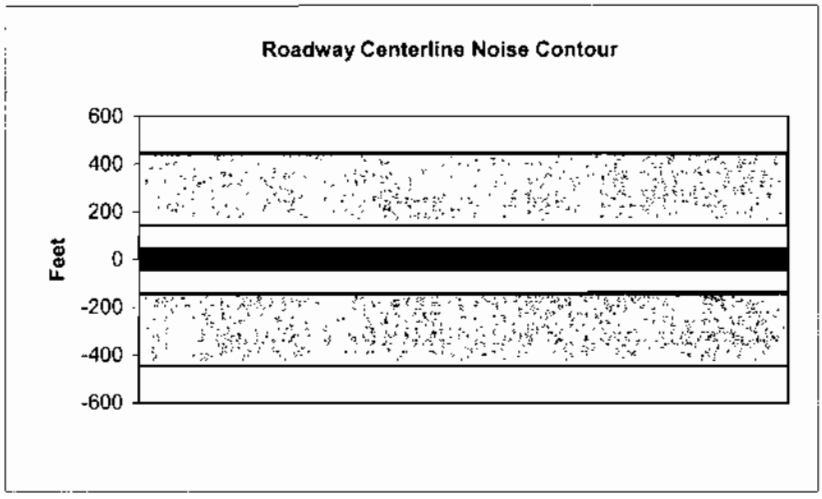
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.8	63.5
Medium Trucks:	63.9	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	69.5	57.6	48.5	49.8	59.9	60.0
Vehicle Noise:	**72.1**	**64.6**	**61.0**	**56.7**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	447
65 dBA	141
	45
Mitigated	
60 dBA	
65 dBA	



SCENARIO:
FUTURE PLUS PROJECT

Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Bewteen Atlantic Avenue and Lime Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3850
Receiver Barrier Dist:	0	Peak Hour Traffic:	**385**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

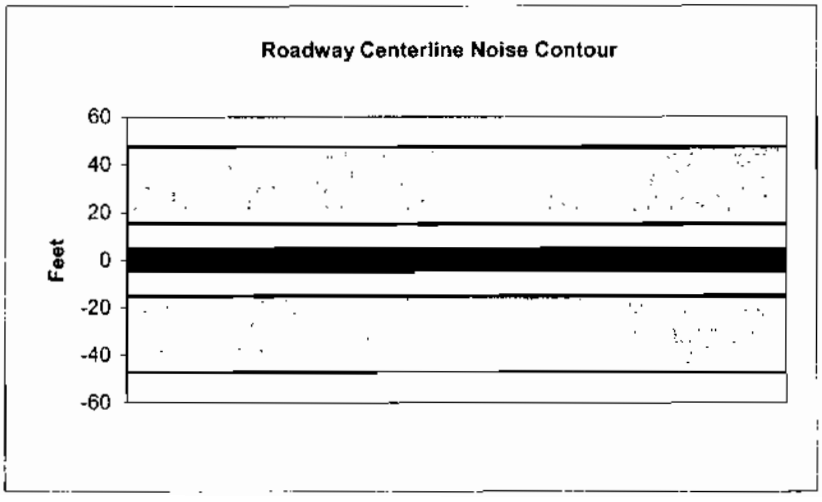
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.9	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	54.5	46.5	40.1	38.5	47.0	47.2
Heavy Trucks:	60.2	48.3	39.2	40.4	50.5	50.7
Vehicle Noise:	**62.7**	**55.2**	**51.7**	**47.3**	**55.9**	**56.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	48
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street East of Elm		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	4540
Peak Hour Traffic:	**454**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

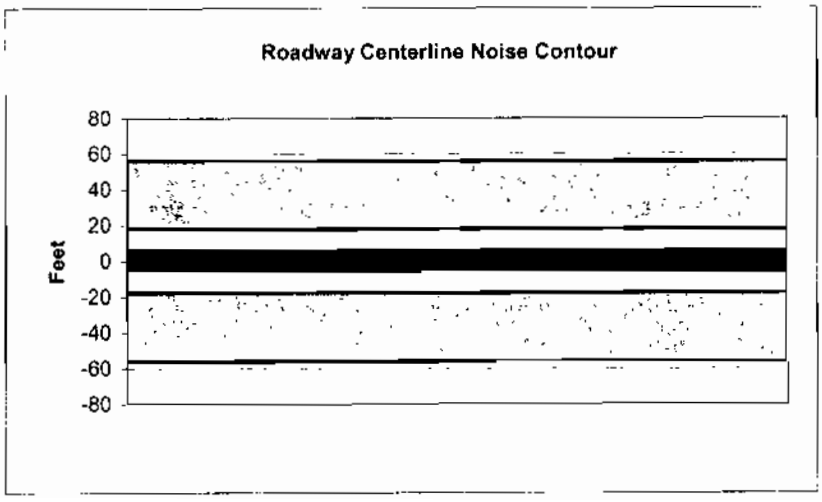
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.4	51.7	45.6	54.2	54.8
Medium Trucks:	55.3	47.2	40.8	39.2	47.7	48.0
Heavy Trucks:	60.9	49.0	39.9	41.1	51.3	51.4
Vehicle Noise:	**63.4**	**55.9**	**52.4**	**48.1**	**56.6**	**57.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	56
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	4130
Peak Hour Traffic:	413
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

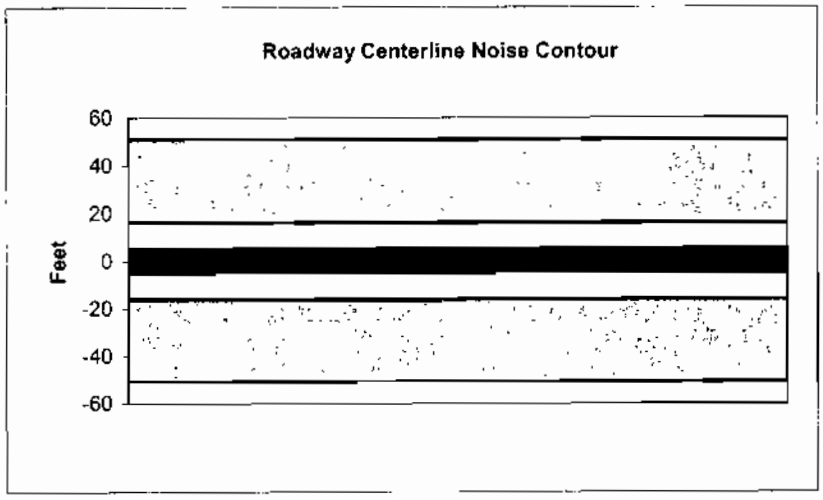
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.2	53.0	51.2	45.2	53.8	54.4
Medium Trucks:	54.9	46.8	40.4	38.8	47.3	47.5
Heavy Trucks:	60.5	48.6	39.5	40.7	50.8	51.0
Vehicle Noise:	**63.0**	**55.5**	**52.0**	**47.6**	**56.2**	**56.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	51
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	Bewteen Lime Street and Alamitos		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3785
Peak Hour Traffic:	378.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

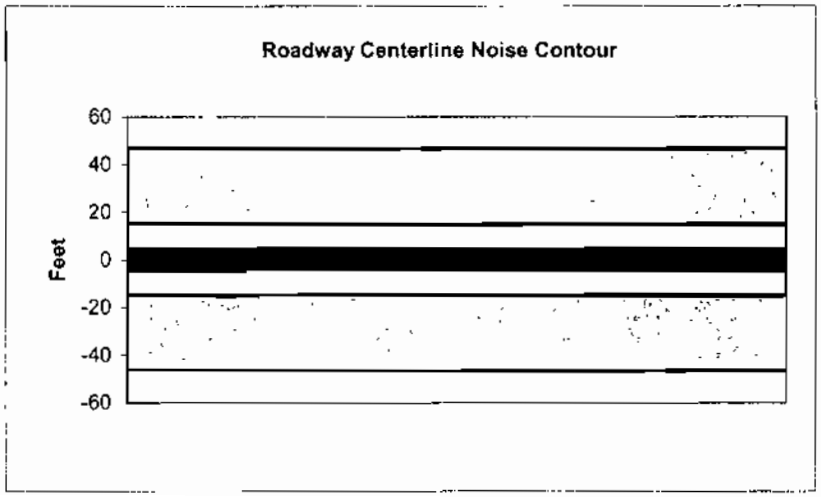
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.9	52.6	50.9	44.8	53.4	54.0
Medium Trucks:	54.5	46.4	40.0	38.4	46.9	47.2
Heavy Trucks:	60.1	48.2	39.1	40.3	50.5	50.6
Vehicle Noise:	**62.6**	**55.1**	**51.6**	**47.3**	**55.8**	**56.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	47
65 dBA	15
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4150
Peak Hour Traffic:	415
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

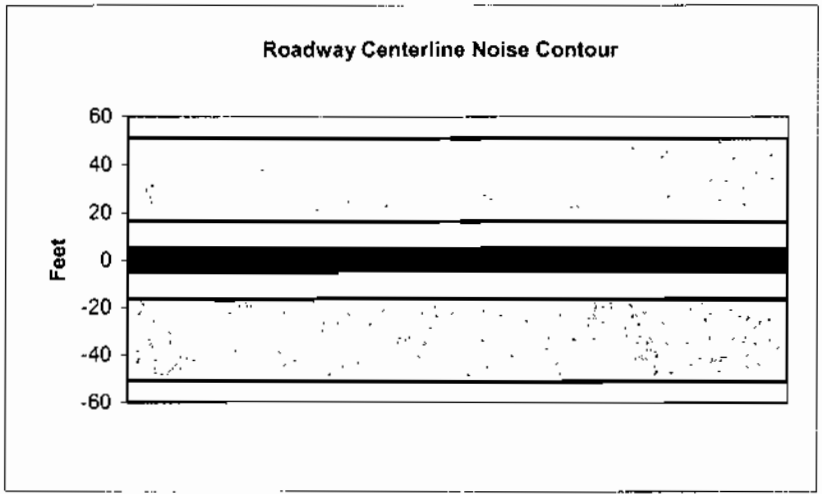
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.3	53.0	51.3	45.2	53.8	54.4
Medium Trucks:	54.9	46.8	40.4	38.8	47.3	47.6
Heavy Trucks:	60.5	48.6	39.5	40.7	50.9	51.0
Vehicle Noise:	**63.0**	**55.5**	**52.0**	**47.7**	**56.2**	**56.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	51
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	1st Street		
Road Segment:	1st Street West of Long Beach Blvd		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1080
Receiver Barrier Dist:	0	Peak Hour Traffic:	**108**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

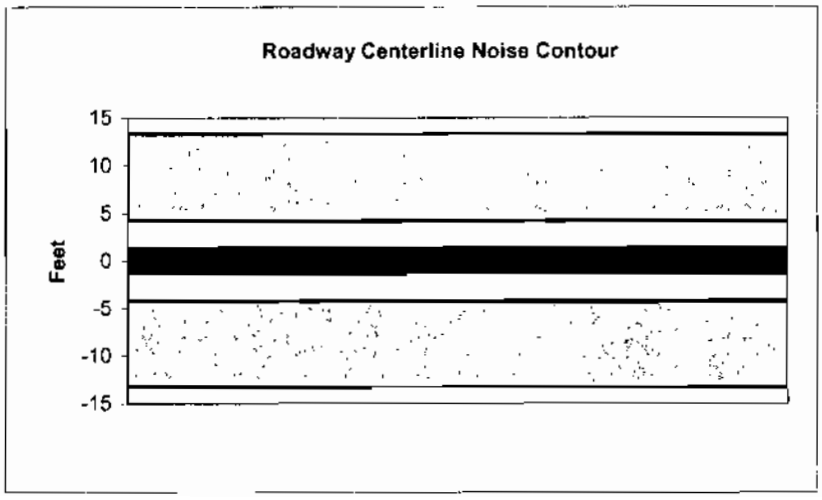
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.4	47.2	45.4	39.3	48.0	48.6
Medium Trucks:	49.0	41.0	34.6	33.0	41.5	41.7
Heavy Trucks:	54.7	42.7	33.7	34.9	45.0	45.2
Vehicle Noise:	**57.2**	**49.7**	**46.1**	**41.8**	**50.4**	**50.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	13
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Atlantic Ave and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13950
Peak Hour Traffic:	**1395**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

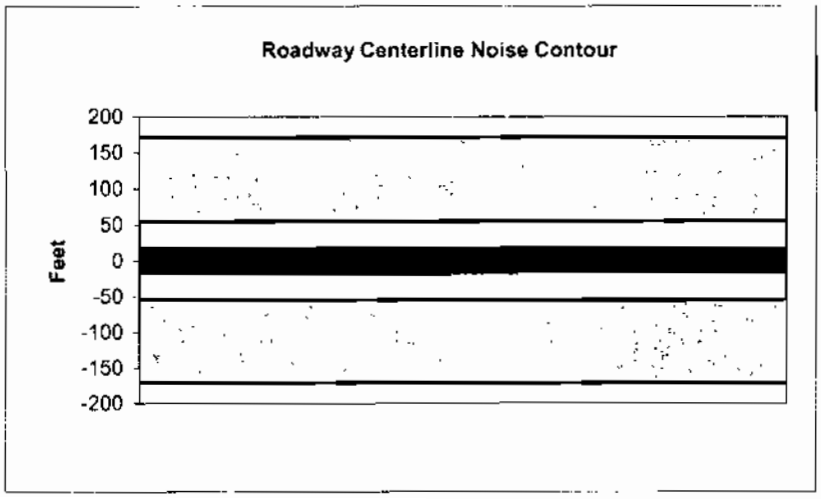
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.5	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	60.1	52.1	45.7	44.1	52.6	52.8
Heavy Trucks:	65.8	53.8	44.8	46.0	56.1	56.3
Vehicle Noise:	**68.3**	**60.8**	**57.3**	**52.9**	**61.5**	**61.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	172
65 dBA	54
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Alamitos		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8570
Peak Hour Traffic:	857
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

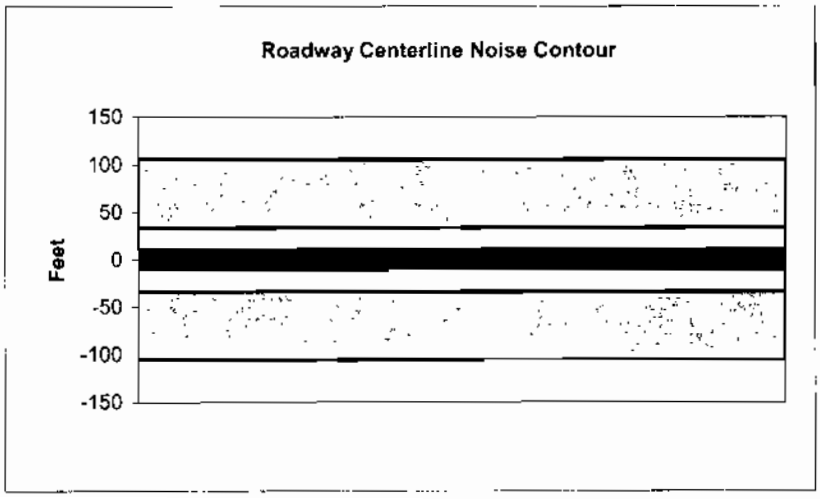
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	58.0	50.0	43.6	42.0	50.5	50.7
Heavy Trucks:	63.7	51.7	42.7	43.9	54.0	54.1
Vehicle Noise:	**66.2**	**58.7**	**55.1**	**50.8**	**59.4**	**59.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	106
65 dBA	33
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Elm Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14360
Peak Hour Traffic:	1436
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

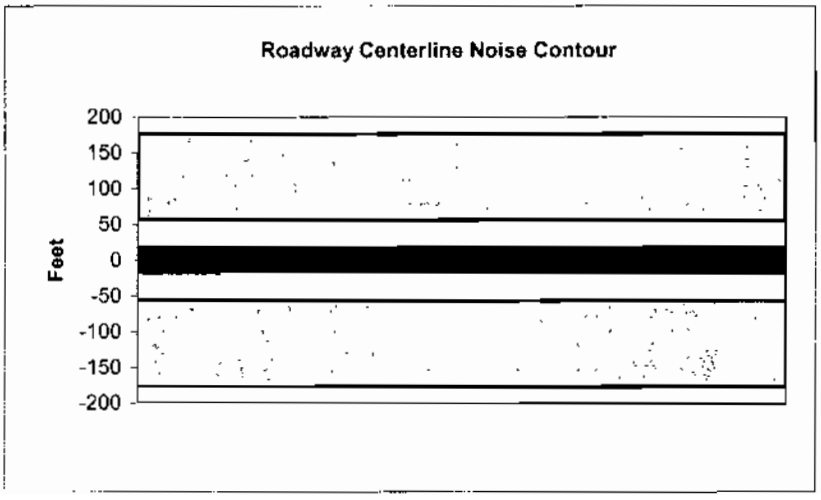
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.4	56.7	50.6	59.2	59.8
Medium Trucks:	60.3	52.2	45.8	44.2	52.7	53.0
Heavy Trucks:	65.9	54.0	44.9	46.1	56.3	56.4
Vehicle Noise:	**68.4**	**60.9**	**57.4**	**53.1**	**61.6**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	177
65 dBA	56
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8600
Peak Hour Traffic:	860
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

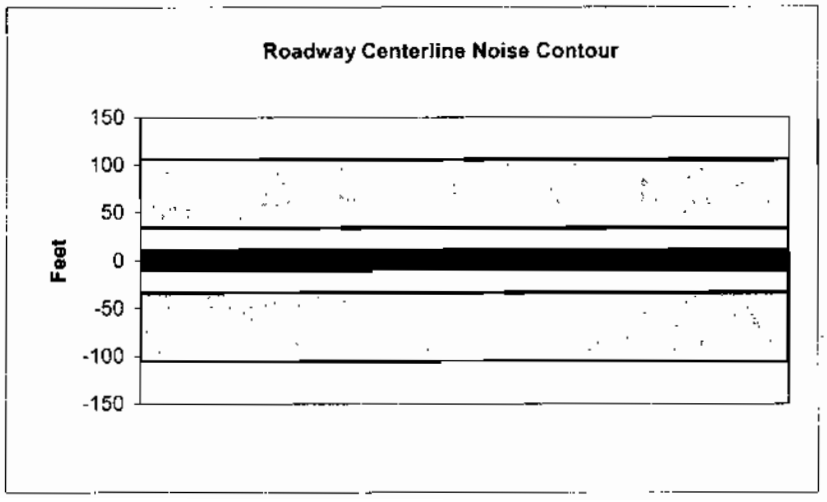
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	58.0	50.0	43.6	42.0	50.5	50.7
Heavy Trucks:	63.7	51.7	42.7	43.9	54.0	54.2
Vehicle Noise:	**66.2**	**58.7**	**55.2**	**50.8**	**59.4**	**59.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	106
65 dBA	34
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street East of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14680
Peak Hour Traffic:	**1468**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

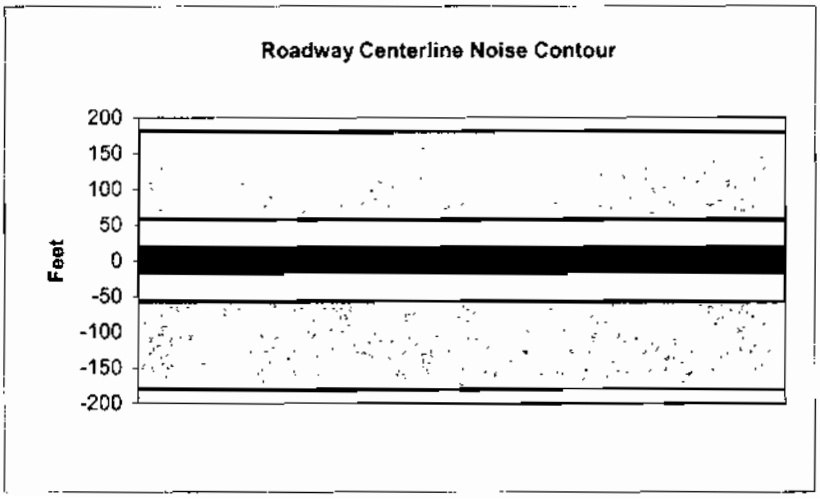
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	60.4	52.3	45.9	44.3	52.8	53.1
Heavy Trucks:	66.0	54.1	45.0	46.2	56.4	56.5
Vehicle Noise:	**68.5**	**61.0**	**57.5**	**53.1**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	181
65 dBA	57
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Long Beach Blvd and Elm		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15330
Peak Hour Traffic:	1533
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

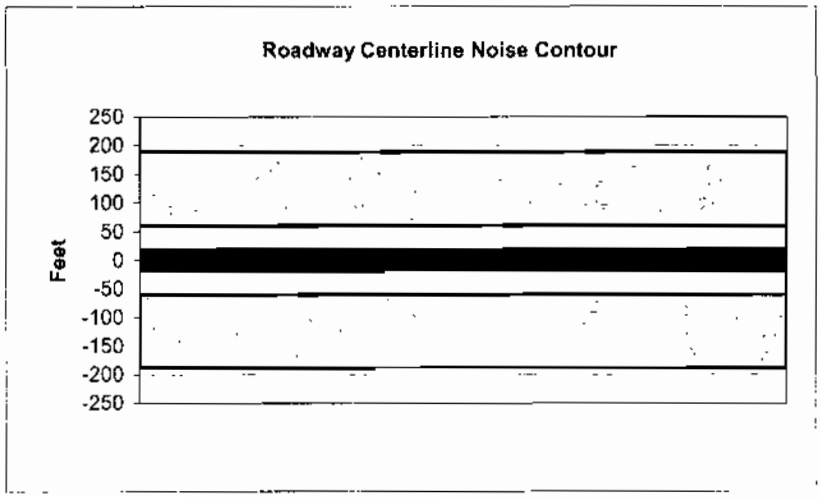
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	60.5	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.3	45.2	46.4	56.5	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.3**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	189
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Lime Street and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	13425
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1342.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

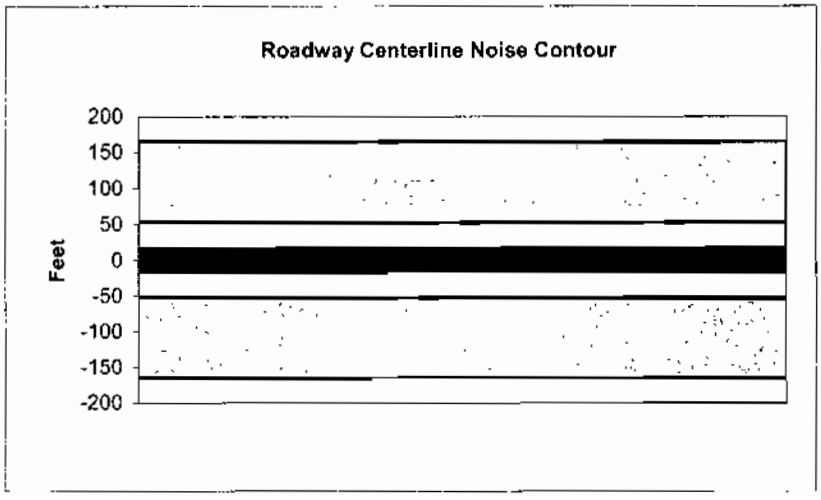
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.1	56.4	50.3	58.9	59.5
Medium Trucks:	60.0	51.9	45.5	43.9	52.4	52.7
Heavy Trucks:	65.6	53.7	44.6	45.8	56.0	56.1
Vehicle Noise:	**68.1**	**60.6**	**57.1**	**52.8**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	166
65 dBA	52
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15185
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1518.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

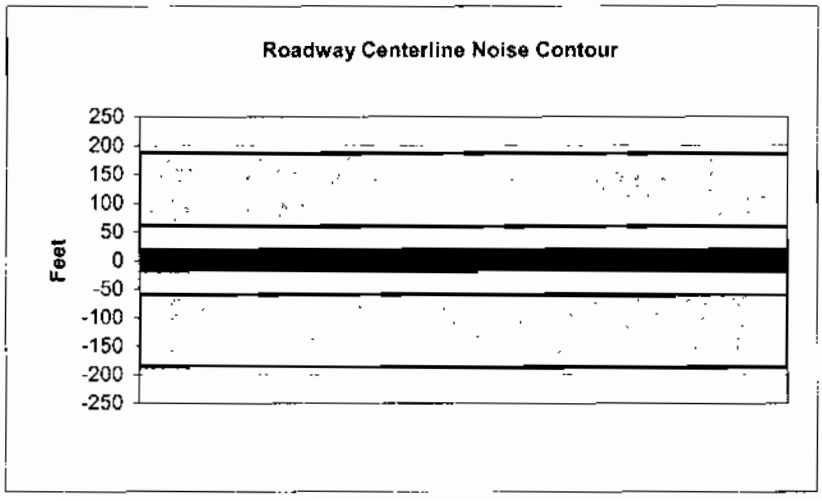
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	60.5	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.2	45.2	46.4	56.5	56.6
Vehicle Noise:	**68.7**	**61.2**	**57.6**	**53.3**	**61.8**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	187
65 dBA	59
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16785
Peak Hour Traffic:	1678.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

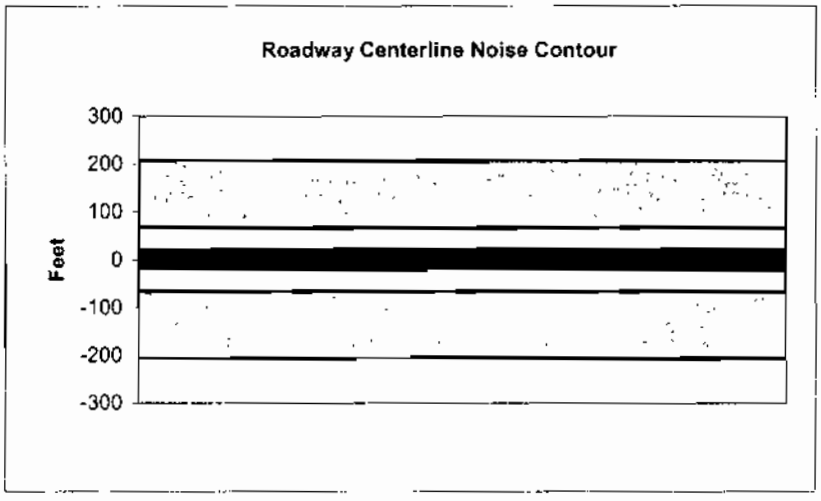
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.3	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	60.9	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	66.6	54.6	45.6	46.8	56.9	57.1
Vehicle Noise:	**69.1**	**61.6**	**58.1**	**53.7**	**62.3**	**62.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	207
65 dBA	66
	21
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14320
Peak Hour Traffic:	1432
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

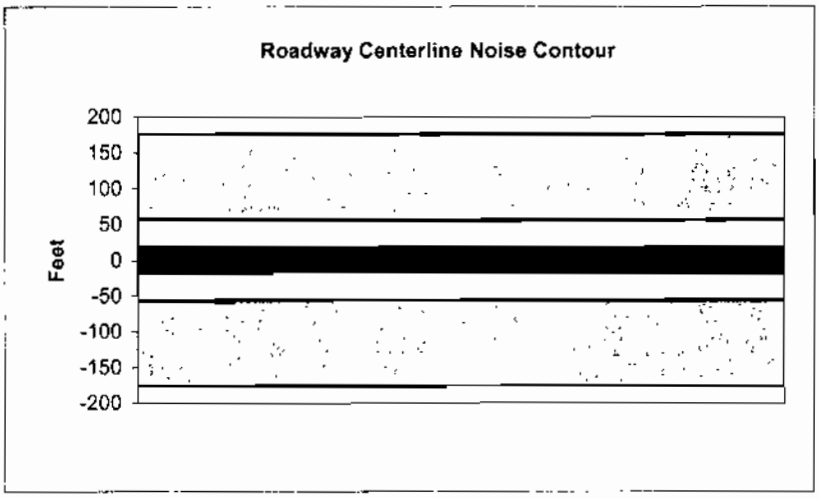
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	60.3	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	65.9	54.0	44.9	46.1	56.2	56.4
Vehicle Noise:	**68.4**	**60.9**	**57.4**	**53.0**	**61.6**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	177
65 dBA	56
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Atlantic Avenue		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14110
Peak Hour Traffic:	1411
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

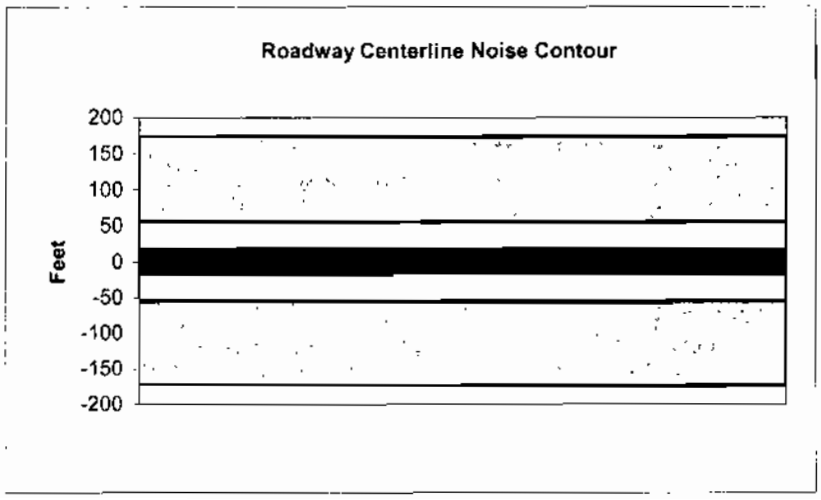
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.4	56.6	50.5	59.1	59.7
Medium Trucks:	60.2	52.1	45.7	44.2	52.7	52.9
Heavy Trucks:	65.8	53.9	44.8	46.1	56.2	56.3
Vehicle Noise:	**68.4**	**60.8**	**57.3**	**53.0**	**61.5**	**61.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	174
65 dBA	55
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8740
Peak Hour Traffic:	**874**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

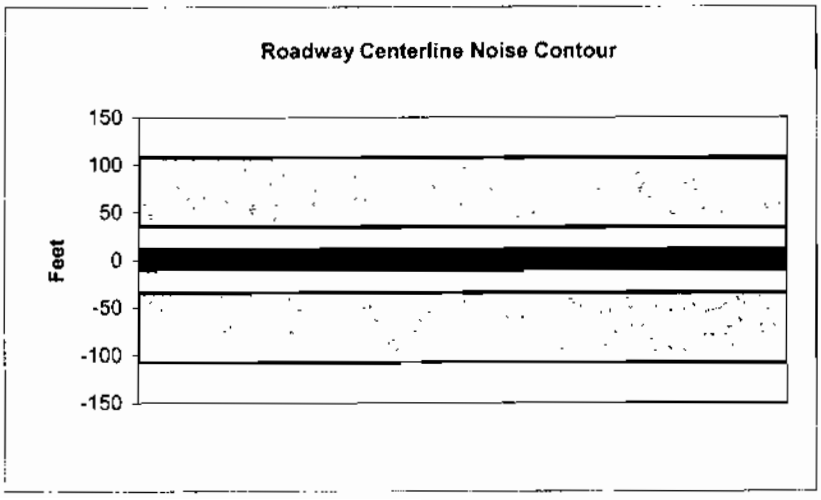
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.5	56.3	54.5	48.4	57.1	57.7
Medium Trucks:	58.1	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	63.8	51.8	42.8	44.0	54.1	54.2
Vehicle Noise:	**66.3**	**58.8**	**55.2**	**50.9**	**59.4**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	108
65 dBA	34
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	3rd Street		
Road Segment:	3rd Street West of Pacific Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	16110
Peak Hour Traffic:	1611
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

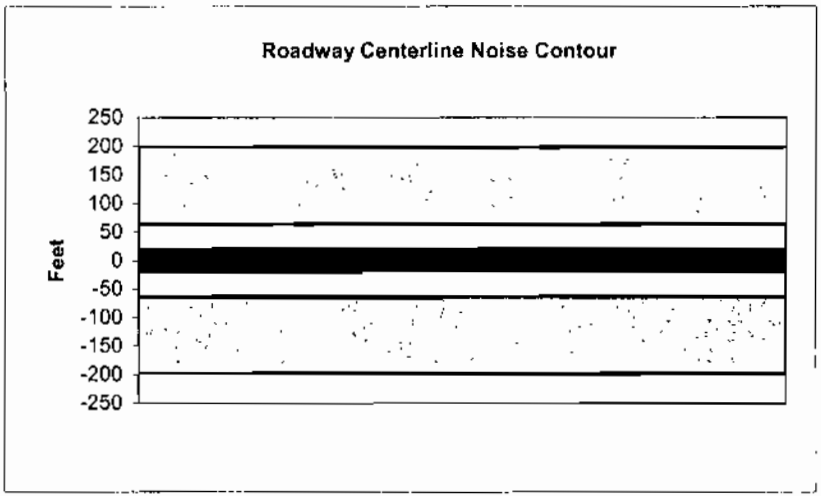
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**68.9**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	8870
Receiver Barrier Dist:	0	Peak Hour Traffic:	**887**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

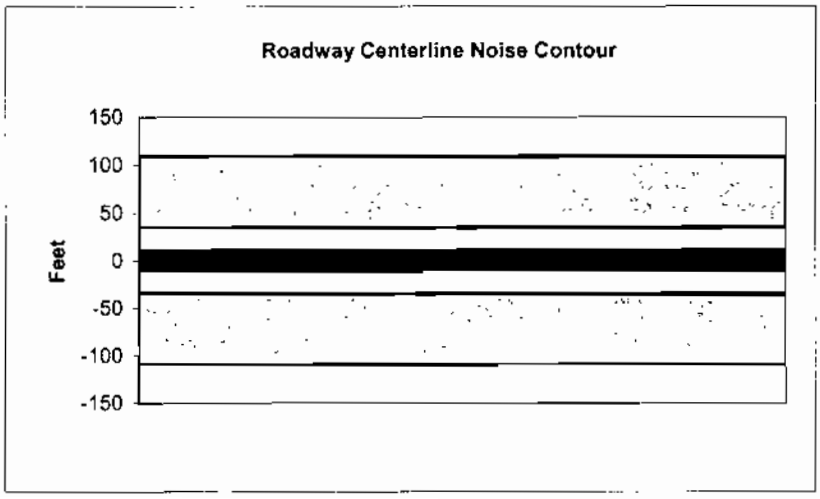
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.6	54.8	48.7	57.3	58.0
Medium Trucks:	58.4	50.3	43.9	42.4	50.9	51.1
Heavy Trucks:	64.0	52.1	43.0	44.3	54.4	54.5
Vehicle Noise:	**66.6**	**59.1**	**55.5**	**51.2**	**59.7**	**60.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	110
65 dBA	35
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Cedar Avenue and Pacific Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2870
Peak Hour Traffic:	287
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

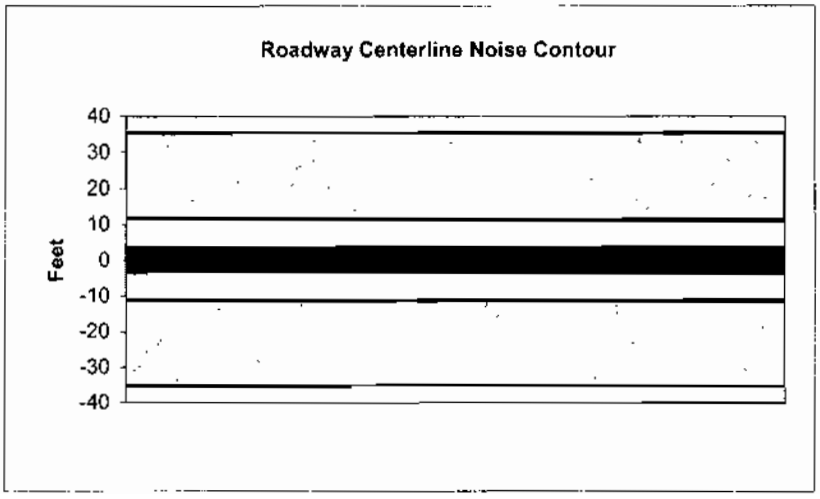
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.4	53.1
Medium Trucks:	53.5	45.4	39.0	37.5	46.0	46.2
Heavy Trucks:	59.1	47.2	38.1	39.4	49.5	49.6
Vehicle Noise:	**61.7**	**54.2**	**50.6**	**46.3**	**54.8**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	35
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12870
Peak Hour Traffic:	**1287**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

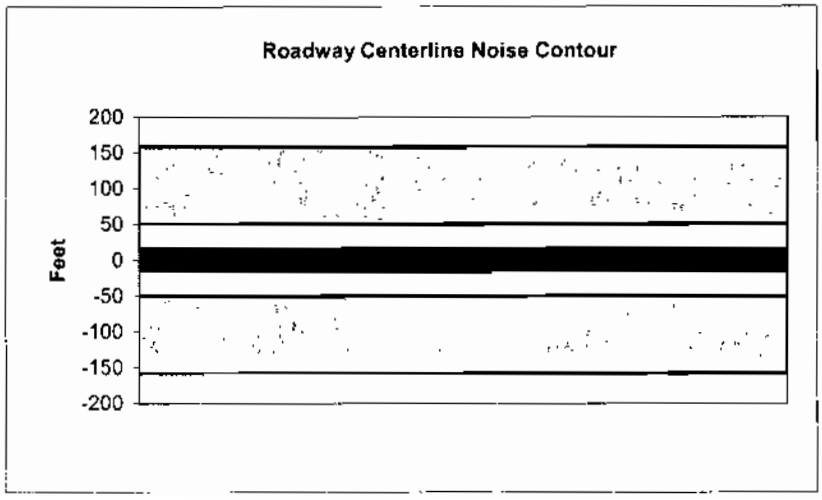
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	60.0	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	65.7	53.7	44.7	45.9	56.0	56.1
Vehicle Noise:	**68.2**	**60.7**	**57.1**	**52.8**	**61.3**	**61.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	159
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7070
Peak Hour Traffic:	707
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

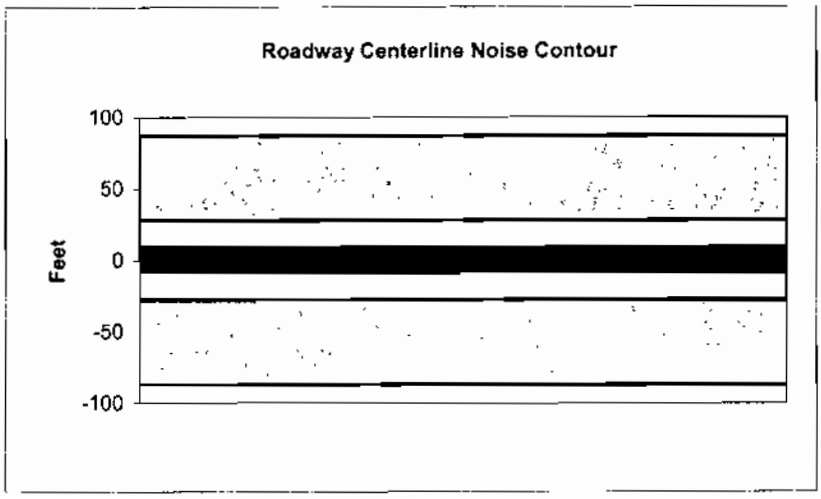
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.8	55.6	53.8	47.7	56.4	57.0
Medium Trucks:	57.4	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	63.1	51.1	42.1	43.3	53.4	53.5
Vehicle Noise:	**65.6**	**58.1**	**54.5**	**50.2**	**58.7**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	87
65 dBA	28
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street East of Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9500
Peak Hour Traffic:	950
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

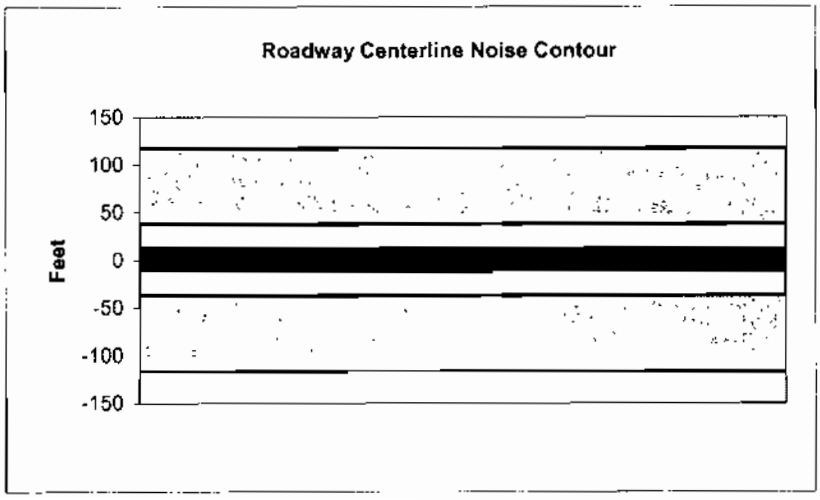
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.1	56.9	55.1	49.0	57.6	58.3
Medium Trucks:	58.7	50.6	44.2	42.7	51.2	51.4
Heavy Trucks:	64.3	52.4	43.3	44.6	54.7	54.8
Vehicle Noise:	**66.9**	**59.4**	**55.8**	**51.5**	**60.0**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	117
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Pacific Avenue and Pine St.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3200
Receiver Barrier Dist:	0	Peak Hour Traffic:	**320**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

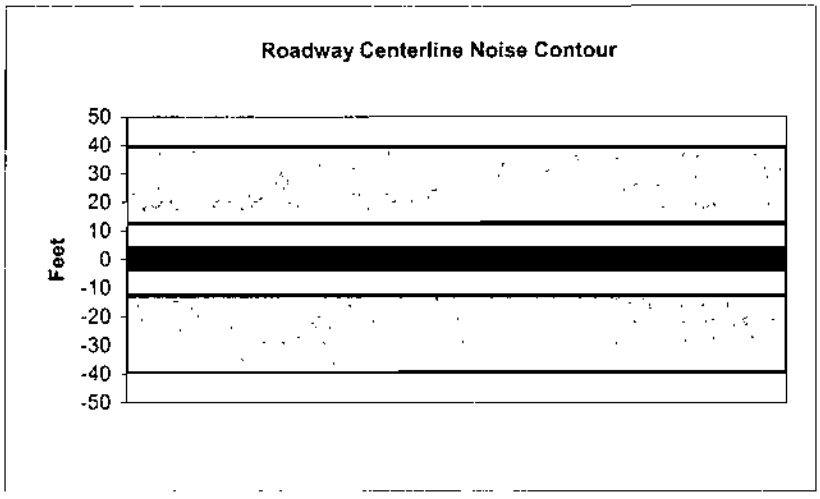
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.4	52.1	50.4	44.3	52.9	53.5
Medium Trucks:	54.0	45.9	39.5	37.9	46.4	46.7
Heavy Trucks:	59.6	47.7	38.6	39.8	50.0	50.1
Vehicle Noise:	**62.1**	**54.6**	**51.1**	**46.8**	**55.3**	**55.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	40
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	Between Pine St and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4340
Peak Hour Traffic:	434
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

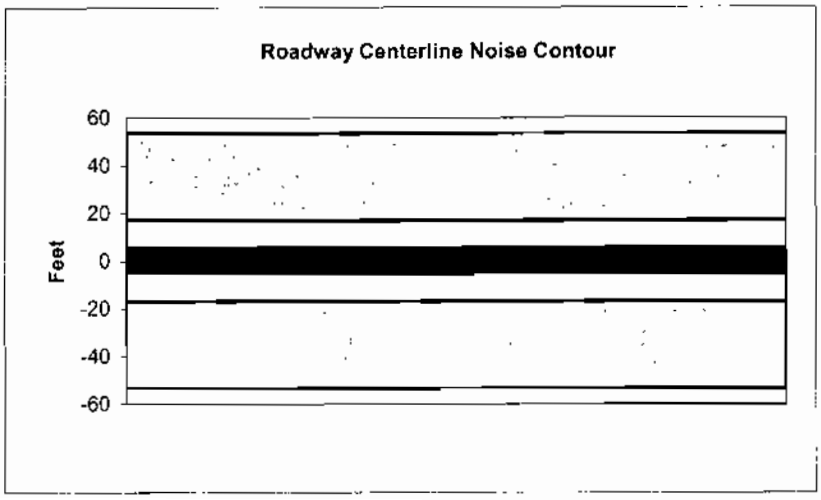
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.5	51.7	45.6	54.2	54.9
Medium Trucks:	55.3	47.2	40.8	39.3	47.8	48.0
Heavy Trucks:	60.9	49.0	39.9	41.2	51.3	51.4
Vehicle Noise:	**63.5**	**55.9**	**52.4**	**48.1**	**56.6**	**57.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	54
65 dBA	17
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12710
Peak Hour Traffic:	**1271**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

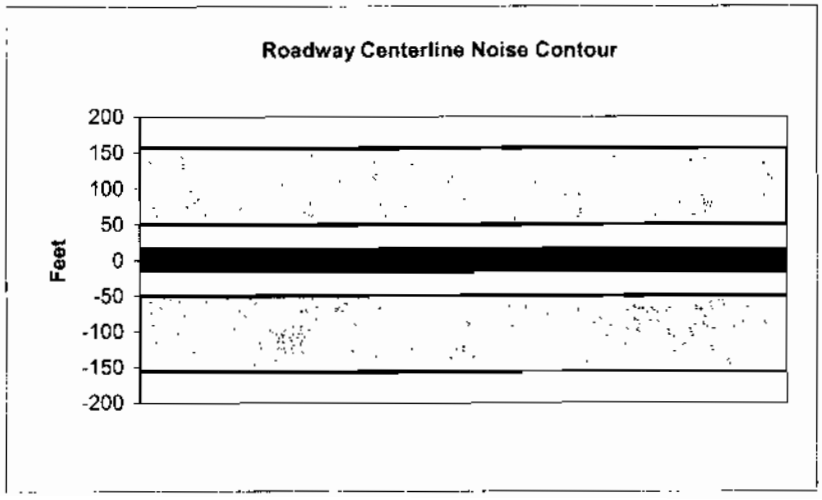
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.1	56.3	50.3	58.9	59.5
Medium Trucks:	60.0	51.9	45.5	43.9	52.4	52.7
Heavy Trucks:	65.6	53.7	44.6	45.8	56.0	56.1
Vehicle Noise:	**68.1**	**60.6**	**57.1**	**52.7**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	157
65 dBA	50
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Atlantic Avenue.		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8060
Peak Hour Traffic:	806
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

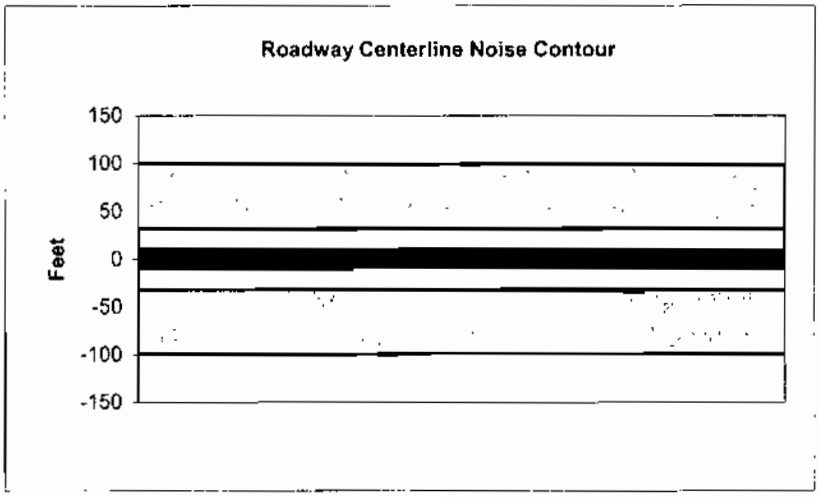
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.4	56.2	54.4	48.3	56.9	57.5
Medium Trucks:	58.0	49.9	43.5	42.0	50.4	50.7
Heavy Trucks:	63.6	51.7	42.6	43.8	54.0	54.1
Vehicle Noise:	**66.2**	**58.6**	**55.1**	**50.8**	**59.3**	**59.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	99
65 dBA	31
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	4th Street		
Road Segment:	4th Street West of Cedar Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2610
Peak Hour Traffic:	261
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

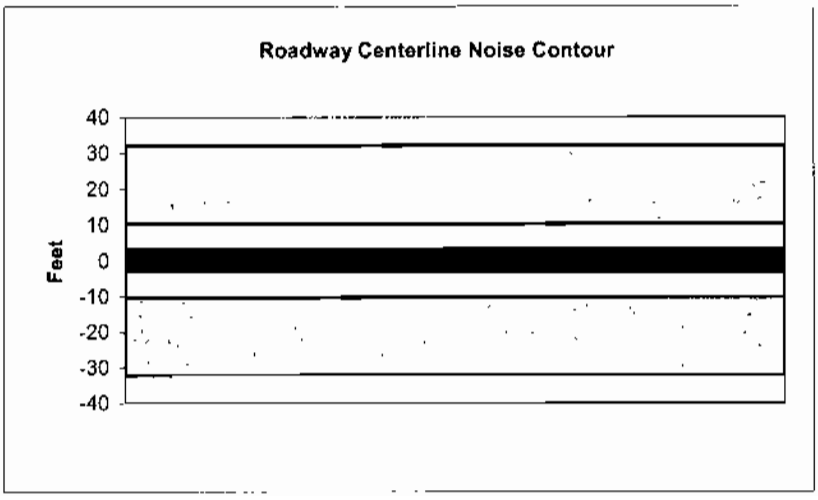
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.0	52.6
Medium Trucks:	53.1	45.0	38.6	37.1	45.5	45.8
Heavy Trucks:	58.7	46.8	37.7	39.0	49.1	49.2
Vehicle Noise:	**61.3**	**53.7**	**50.2**	**45.9**	**54.4**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	32
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2130
Peak Hour Traffic:	**213**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

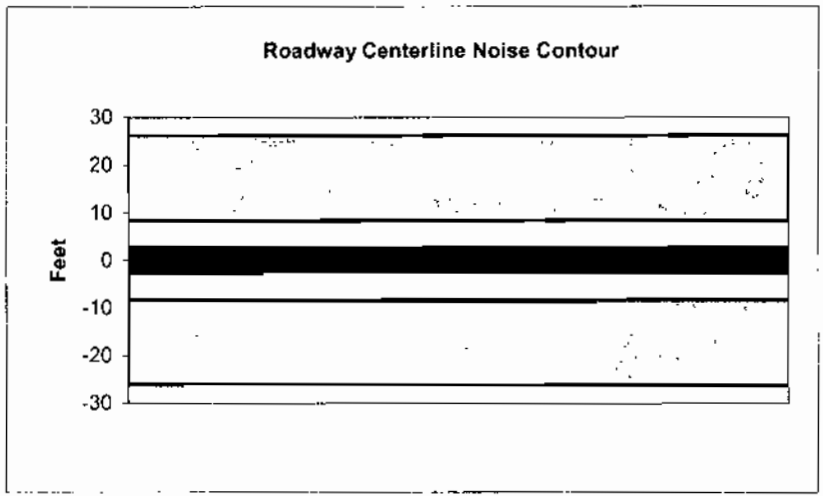
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.6	50.4	48.6	42.5	51.2	51.8
Medium Trucks:	52.2	44.1	37.7	36.2	44.7	44.9
Heavy Trucks:	57.8	45.9	36.8	38.1	48.2	48.3
Vehicle Noise:	**60.4**	**52.9**	**49.3**	**45.0**	**53.5**	**54.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	26
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Cedar Avenue and Pacific Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	5790
Receiver Barrier Dist:	0	Peak Hour Traffic:	**579**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

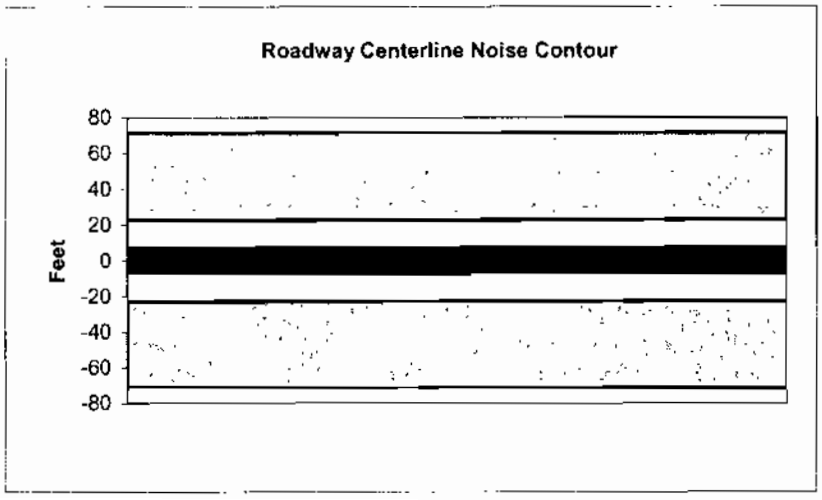
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.9	54.7	52.9	46.8	55.5	56.1
Medium Trucks:	56.5	48.5	42.1	40.5	49.0	49.2
Heavy Trucks:	62.2	50.2	41.2	42.4	52.5	52.7
Vehicle Noise:	**64.7**	**57.2**	**53.7**	**49.3**	**57.9**	**58.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	72
65 dBA	23
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Chestnut Avenue and Cedar Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1620
Peak Hour Traffic:	162
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

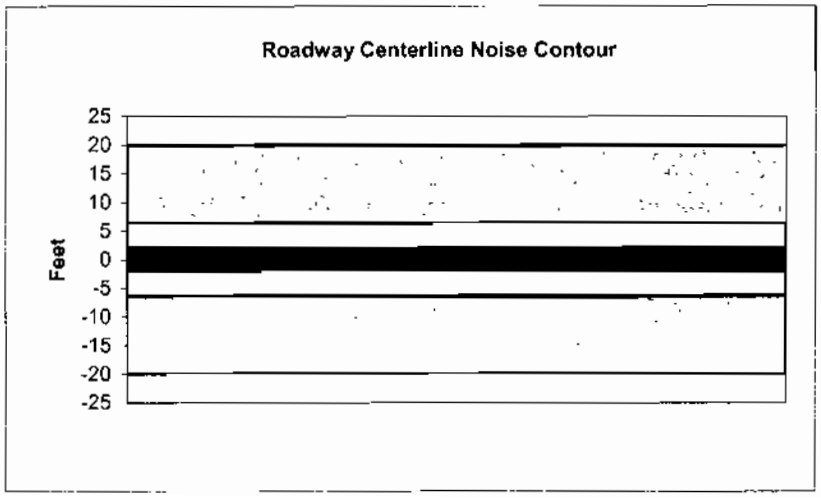
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.4	49.2	47.4	41.3	50.0	50.6
Medium Trucks:	51.0	42.9	36.6	35.0	43.5	43.7
Heavy Trucks:	56.7	44.7	35.7	36.9	47.0	47.1
Vehicle Noise:	**59.2**	**51.7**	**48.1**	**43.8**	**52.3**	**52.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	20
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street East of Long Beach Blvd.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1400
Receiver Barrier Dist:	0	Peak Hour Traffic:	**140**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

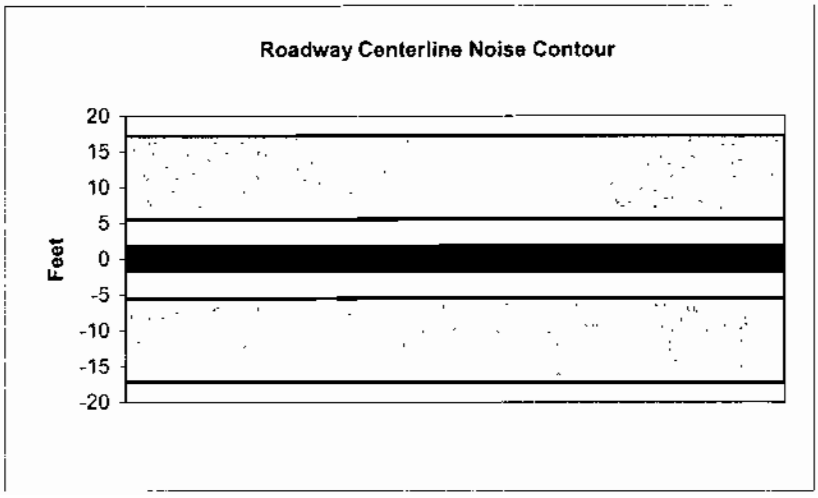
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.8	48.6	46.8	40.7	49.3	49.9
Medium Trucks:	50.4	42.3	35.9	34.4	42.8	43.1
Heavy Trucks:	56.0	44.1	35.0	36.2	46.4	46.5
Vehicle Noise:	**58.5**	**51.0**	**47.5**	**43.2**	**51.7**	**52.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	17
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street East of Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2100
Peak Hour Traffic:	210
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

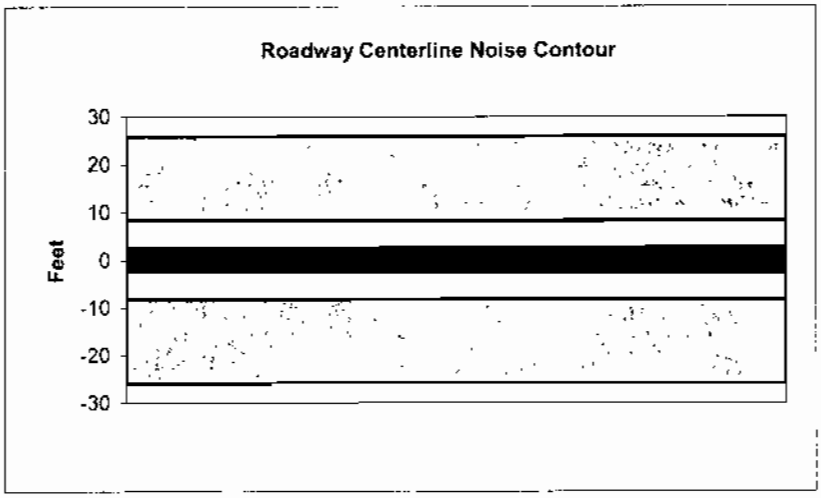
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.5	50.3	48.5	42.4	51.1	51.7
Medium Trucks:	52.1	44.1	37.7	36.1	44.6	44.8
Heavy Trucks:	57.8	45.8	36.8	38.0	48.1	48.3
Vehicle Noise:	**60.3**	**52.8**	**49.3**	**44.9**	**53.5**	**53.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	26
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Pacific Avenue & Pine Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4825
Peak Hour Traffic:	**482.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

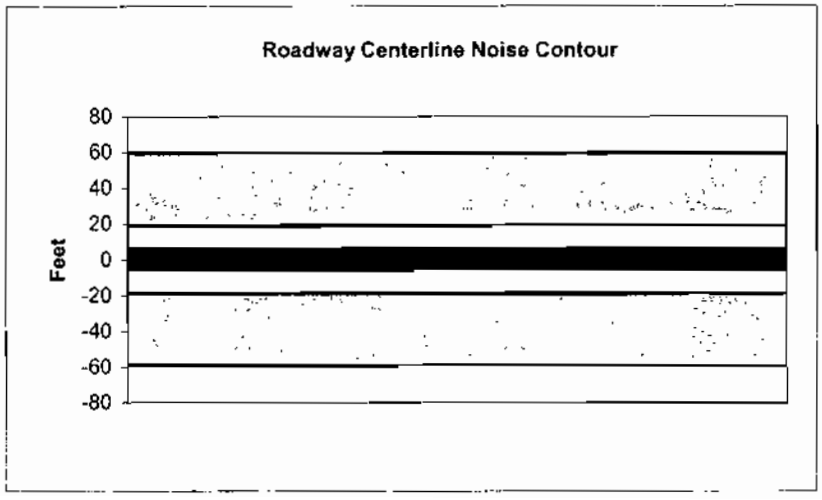
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.1	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	55.7	47.7	41.3	39.7	48.2	48.4
Heavy Trucks:	61.4	49.5	40.4	41.6	51.7	51.9
Vehicle Noise:	**63.9**	**56.4**	**52.9**	**48.5**	**57.1**	**57.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	60
65 dBA	19
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	Between Pine Street & Long Beach Blvd.		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1810
Peak Hour Traffic:	**181**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

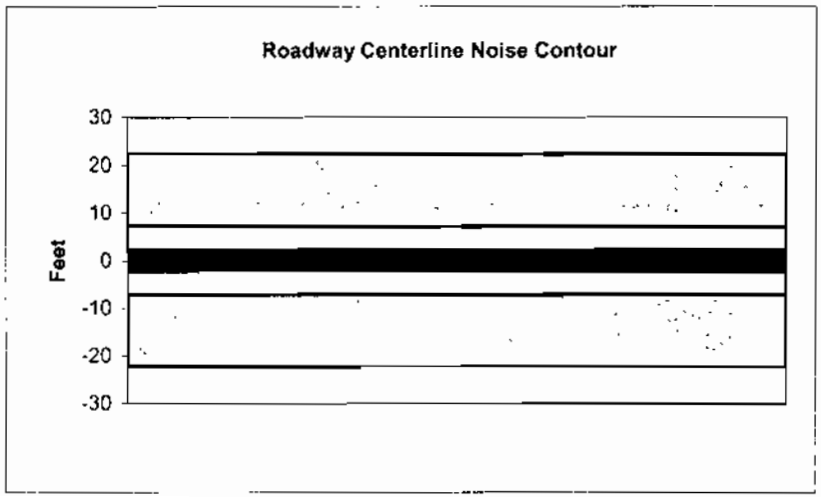
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.9	49.7	47.9	41.8	50.4	51.1
Medium Trucks:	51.5	43.4	37.0	35.5	44.0	44.2
Heavy Trucks:	57.1	45.2	36.1	37.4	47.5	47.6
Vehicle Noise:	**59.7**	**52.1**	**48.6**	**44.3**	**52.8**	**53.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	22
65 dBA	7
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	5th Street		
Road Segment:	5th Street West of Chestnut Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1270
Peak Hour Traffic:	127
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

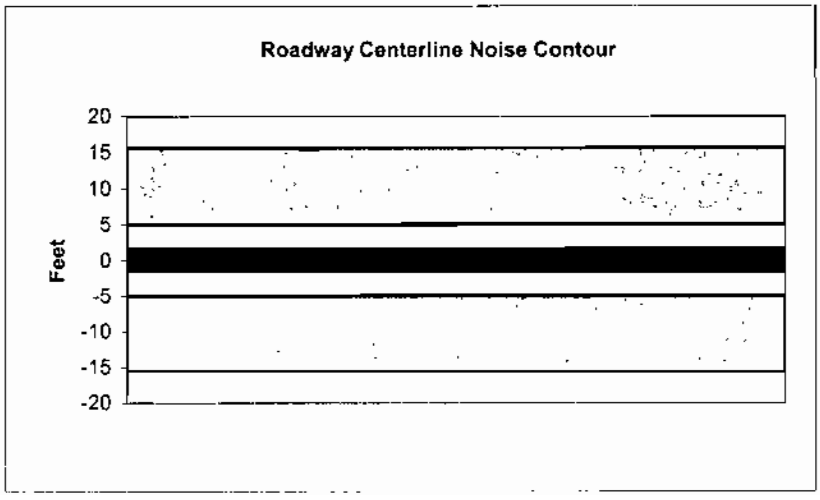
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.3	48.1	46.3	40.3	48.9	49.5
Medium Trucks:	50.0	41.9	35.5	33.9	42.4	42.6
Heavy Trucks:	55.6	43.7	34.6	35.8	45.9	46.1
Vehicle Noise:	**58.1**	**50.6**	**47.1**	**42.7**	**51.3**	**51.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Atlantic Avenue and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10620
Peak Hour Traffic:	**1062**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

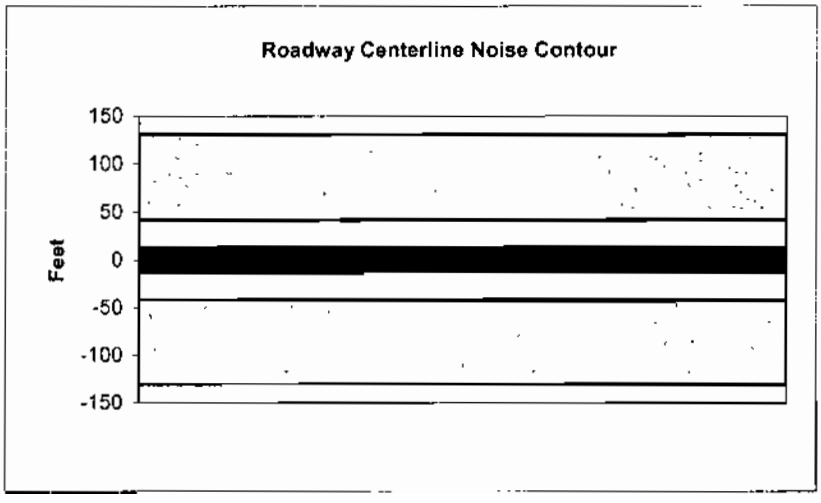
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	59.0	50.9	44.5	42.9	51.4	51.7
Heavy Trucks:	64.6	52.7	43.6	44.8	55.0	55.1
Vehicle Noise:	**67.1**	**59.6**	**56.1**	**51.7**	**60.3**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	131
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street East of Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10840
Peak Hour Traffic:	1084
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

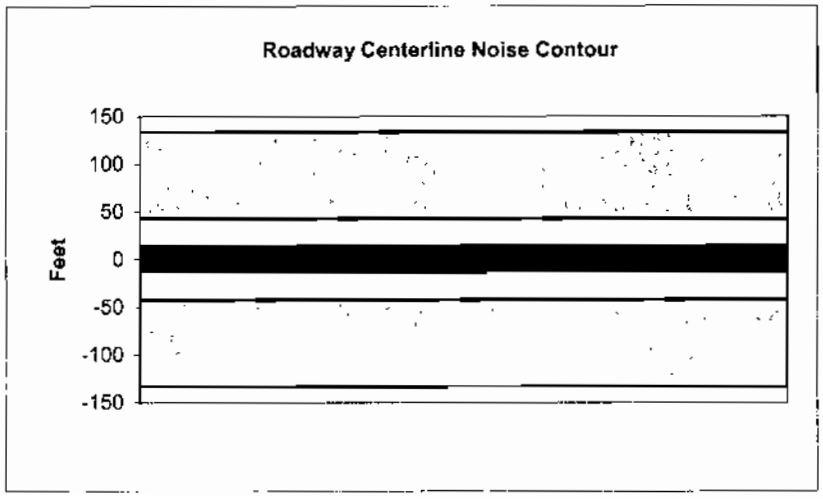
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	59.0	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	64.7	52.8	43.7	44.9	55.0	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.8**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	134
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between East of Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1270
Peak Hour Traffic:	127
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

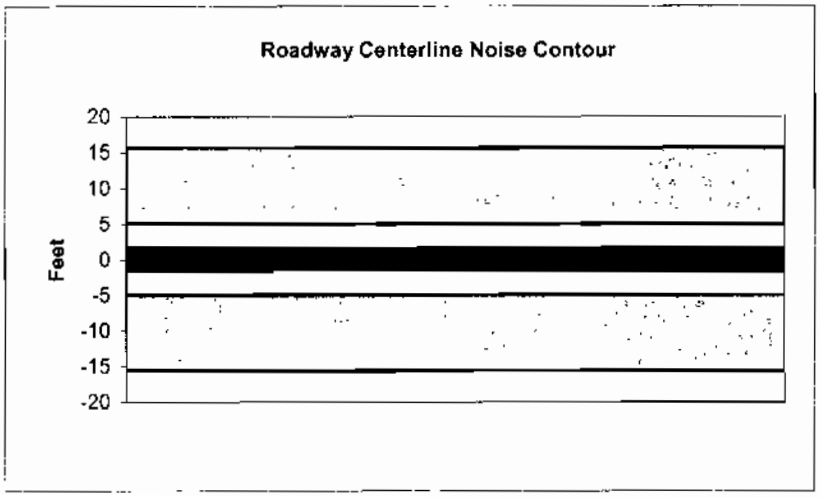
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.1	47.9	46.1	40.0	48.7	49.3
Medium Trucks:	49.7	41.7	35.3	33.7	42.2	42.4
Heavy Trucks:	55.4	43.4	34.4	35.6	45.7	45.9
Vehicle Noise:	**57.9**	**50.4**	**46.8**	**42.5**	**51.1**	**51.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street East of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13290
Peak Hour Traffic:	**1329**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

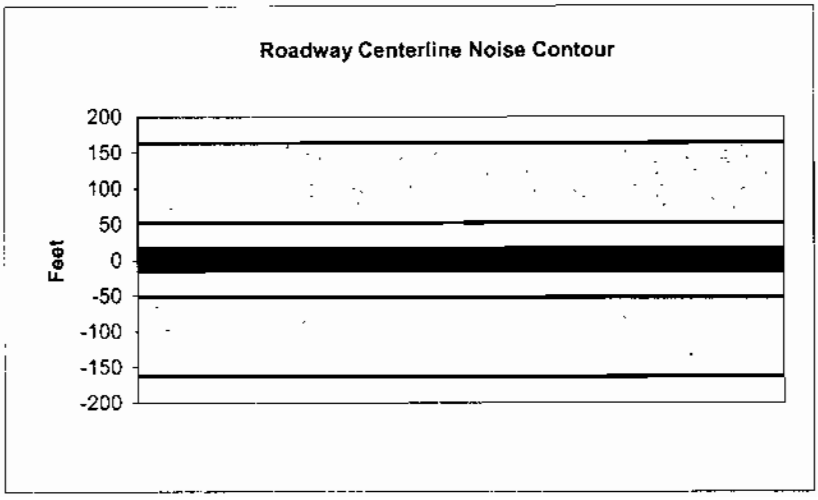
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	59.9	51.9	45.5	43.9	52.4	52.6
Heavy Trucks:	65.6	53.6	44.6	45.8	55.9	56.1
Vehicle Noise:	**68.1**	**60.6**	**57.0**	**52.7**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	164
65 dBA	52
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	12245
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1224.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

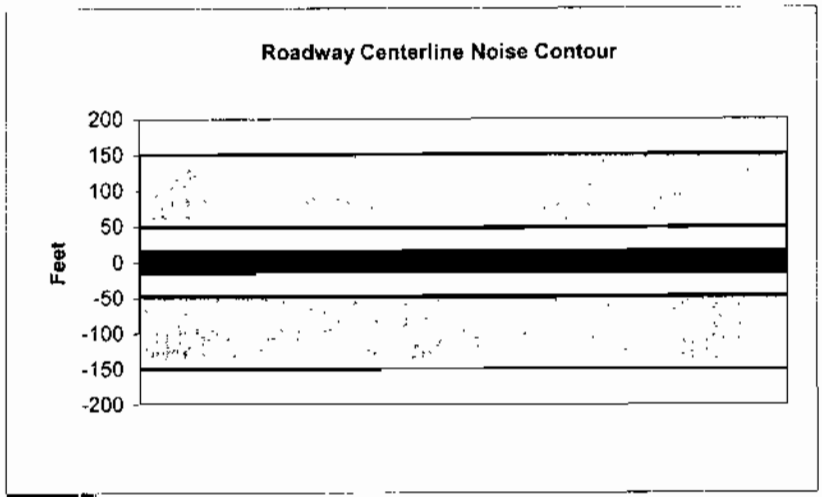
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	59.6	51.5	45.1	43.5	52.0	52.3
Heavy Trucks:	65.2	53.3	44.2	45.4	55.6	55.7
Vehicle Noise:	**67.7**	**60.2**	**56.7**	**52.4**	**60.9**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	151
65 dBA	48
	15
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Lime Street and Martin Luther King Jr/Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11165
Peak Hour Traffic:	**1116.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

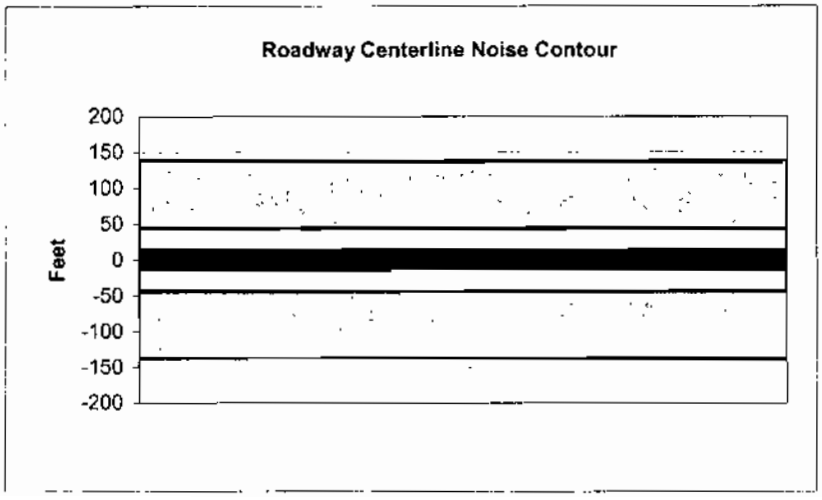
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.3	55.6	49.5	58.1	58.7
Medium Trucks:	59.2	51.1	44.7	43.1	51.6	51.9
Heavy Trucks:	64.8	52.9	43.8	45.0	55.2	55.3
Vehicle Noise:	**67.3**	**59.8**	**56.3**	**52.0**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	138
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13550
Peak Hour Traffic:	1355
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

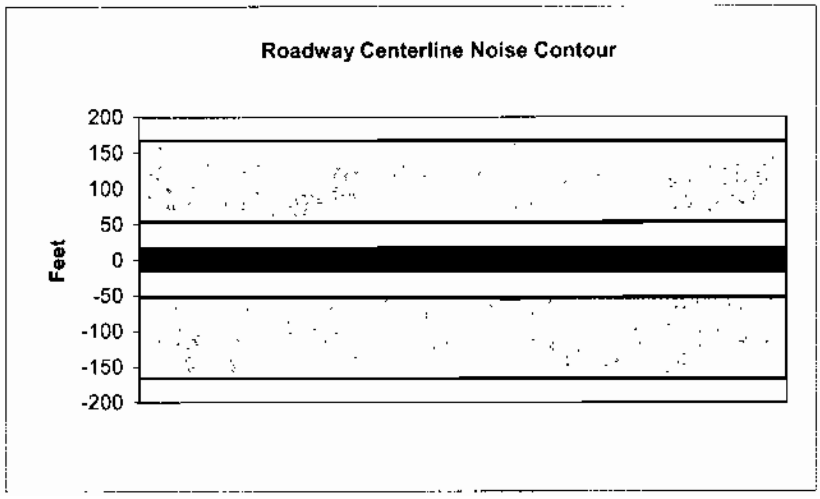
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.2	56.4	50.3	59.0	59.6
Medium Trucks:	60.0	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	65.7	53.7	44.7	45.9	56.0	56.1
Vehicle Noise:	**68.2**	**60.7**	**57.1**	**52.8**	**61.3**	**61.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	167
65 dBA	53
	17
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	14450
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1445**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

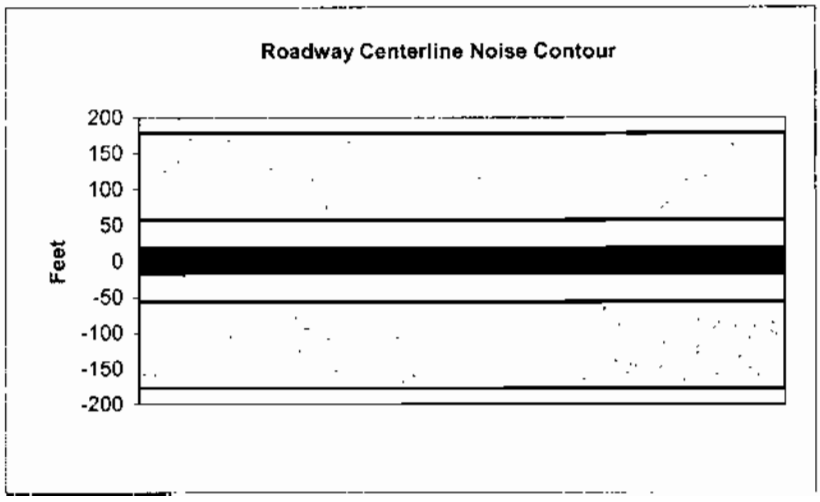
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.2	59.9
Medium Trucks:	60.3	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	65.9	54.0	44.9	46.2	56.3	56.4
Vehicle Noise:	**68.5**	**61.0**	**57.4**	**53.1**	**61.6**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	179
65 dBA	56
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Atlantic Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11040
Peak Hour Traffic:	**1104**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

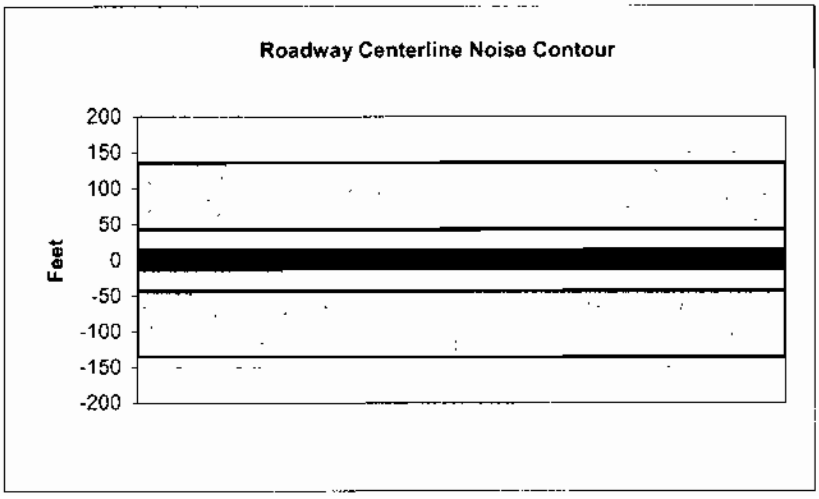
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	64.8	52.8	43.8	45.0	55.1	55.2
Vehicle Noise:	**67.3**	**59.8**	**56.2**	**51.9**	**60.5**	**60.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	136
65 dBA	43
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	6th Street		
Road Segment:	6th Street West of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13140
Peak Hour Traffic:	1314
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

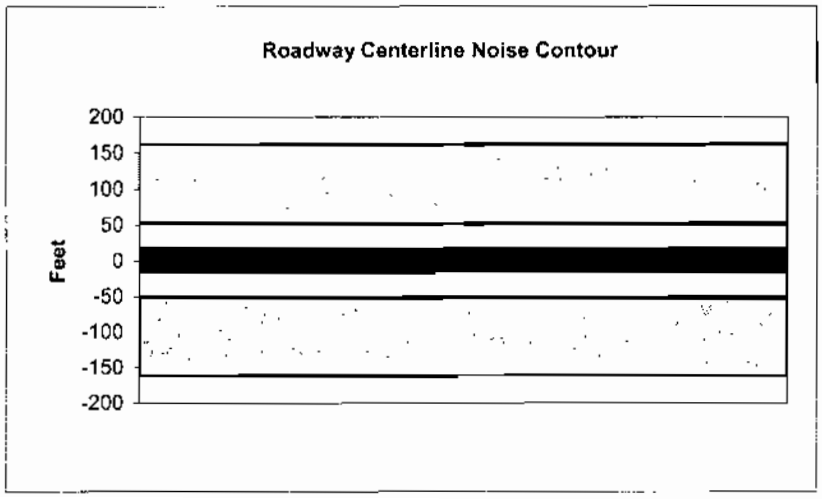
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.8	59.4
Medium Trucks:	59.9	51.8	45.4	43.9	52.3	52.6
Heavy Trucks:	65.5	53.6	44.5	45.8	55.9	56.0
Vehicle Noise:	**68.1**	**60.5**	**57.0**	**52.7**	**61.2**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	162
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Atlantic Avenue and Lime St.		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	19245
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1924.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

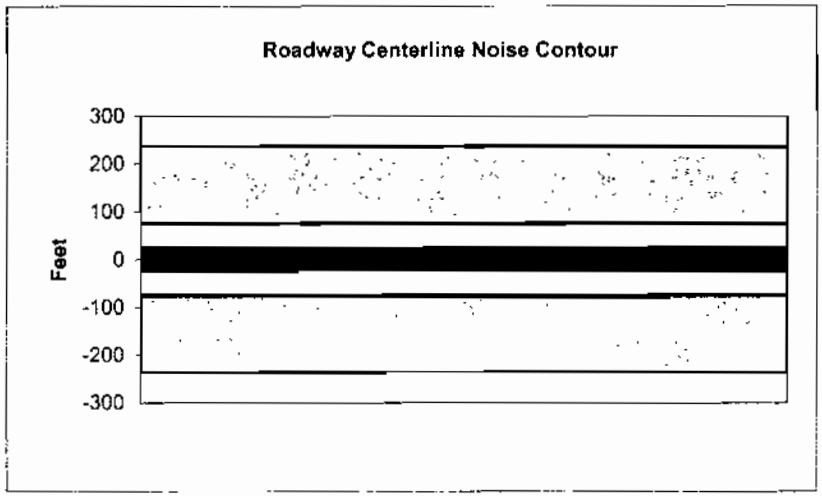
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	61.5	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	67.2	55.2	46.2	47.4	57.5	57.7
Vehicle Noise:	**69.7**	**62.2**	**58.7**	**54.3**	**62.9**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	238
65 dBA	75
	24
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Elm Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16280
Peak Hour Traffic:	**1628**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

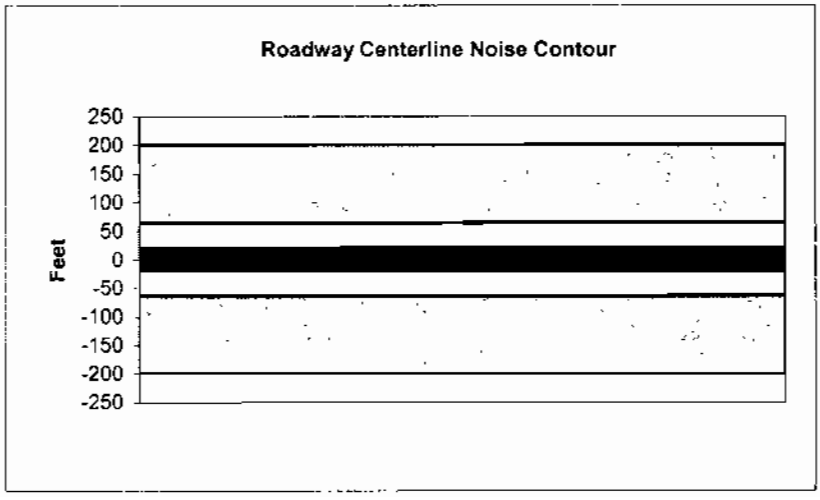
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	60.8	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	66.5	54.5	45.5	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.5**	**57.9**	**53.6**	**62.1**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	201
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Magnolia		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14760
Peak Hour Traffic:	1476
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

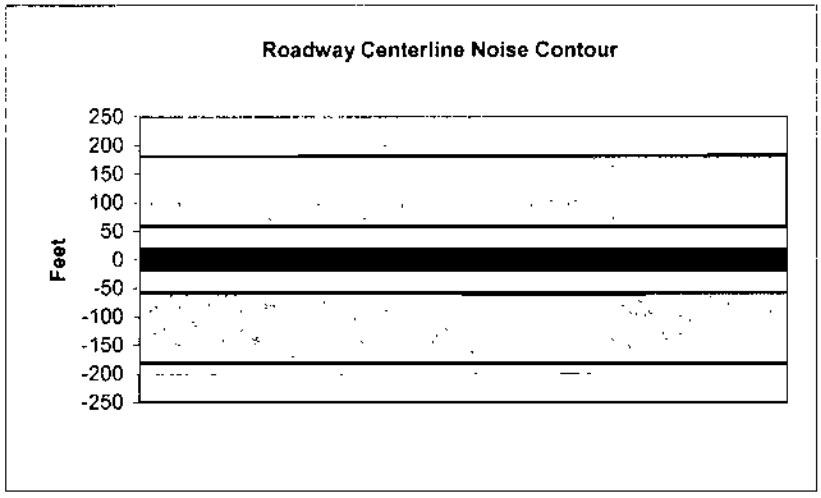
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.3	59.9
Medium Trucks:	60.4	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	66.0	54.1	45.0	46.3	56.4	56.5
Vehicle Noise:	**68.6**	**61.0**	**57.5**	**53.2**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	182
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street East of Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	31320
Peak Hour Traffic:	3132
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

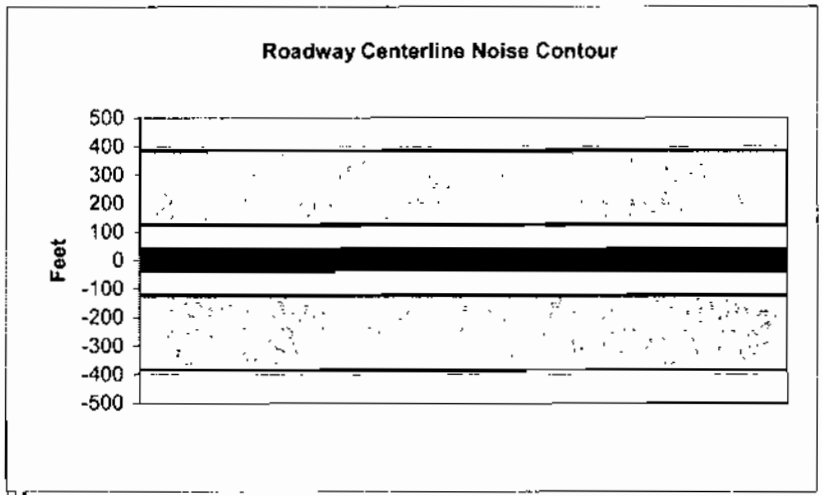
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	63.6	55.6	49.2	47.6	56.1	56.3
Heavy Trucks:	69.3	57.4	48.3	49.5	59.6	59.8
Vehicle Noise:	**71.8**	**64.3**	**60.8**	**56.4**	**65.0**	**65.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	387
65 dBA	122
	39
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16070
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1607**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

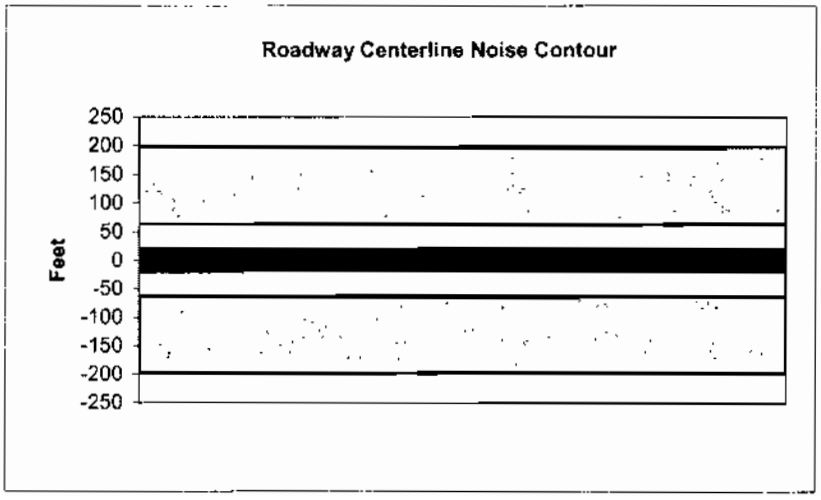
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.1	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.4
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**68.9**	**61.4**	**57.9**	**53.5**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Lime St. and Martin Luther King Jr. Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	17430
Peak Hour Traffic:	**1743**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

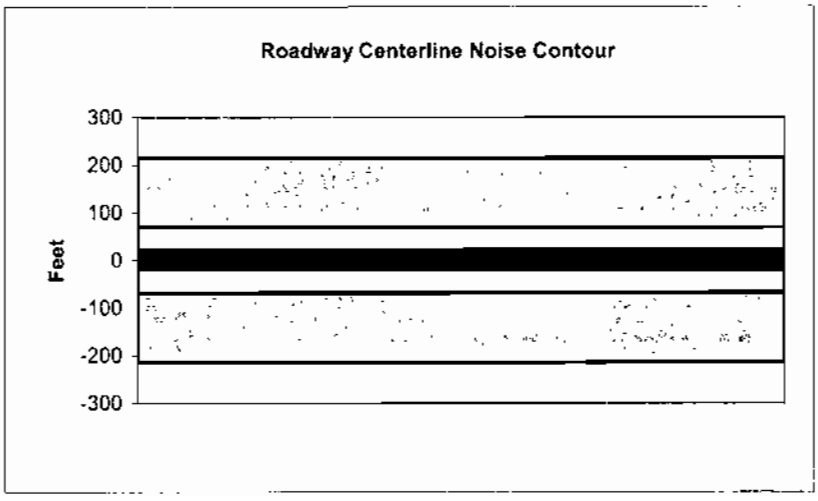
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	61.1	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	66.8	54.8	45.8	47.0	57.1	57.2
Vehicle Noise:	**69.3**	**61.8**	**58.2**	**53.9**	**62.4**	**62.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	215
65 dBA	68
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Martin Luther King Jr. Avenue and Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	21090
Peak Hour Traffic:	2109
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

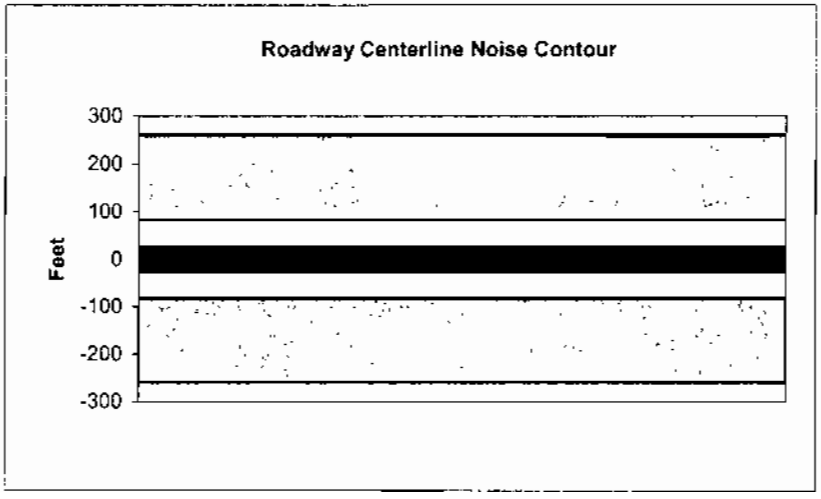
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.3	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	61.9	53.9	47.5	45.9	54.4	54.6
Heavy Trucks:	67.6	55.6	46.6	47.8	57.9	58.1
Vehicle Noise:	**70.1**	**62.6**	**59.1**	**54.7**	**63.3**	**63.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	260
65 dBA	82
	26
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Pacific and Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16080
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1608**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

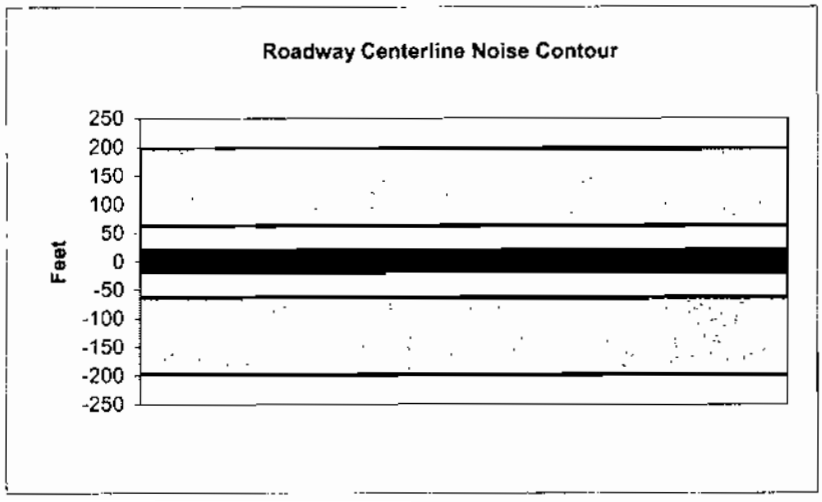
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**68.9**	**61.4**	**57.9**	**53.5**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	16165
Peak Hour Traffic:	1616.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

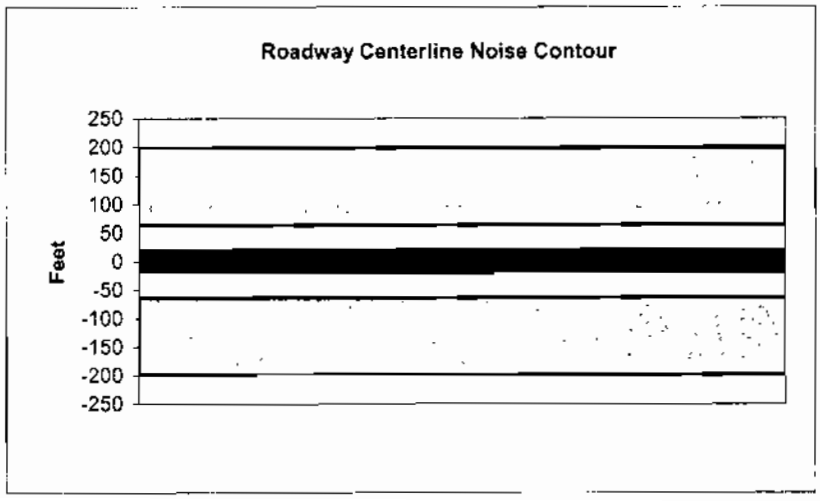
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.6	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Magnolia		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13240
Peak Hour Traffic:	**1324**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

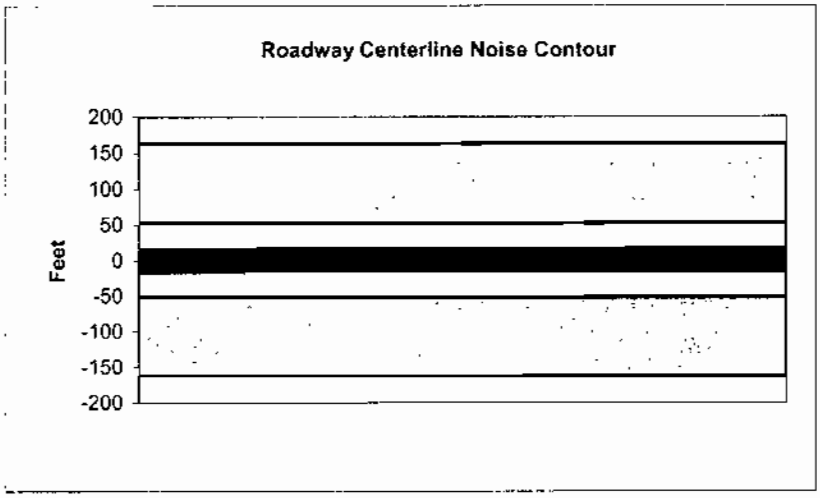
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	59.9	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	65.6	53.6	44.6	45.8	55.9	56.0
Vehicle Noise:	**68.1**	**60.6**	**57.0**	**52.7**	**61.2**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	164
65 dBA	52
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Atlantic		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	17320
Peak Hour Traffic:	1732
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

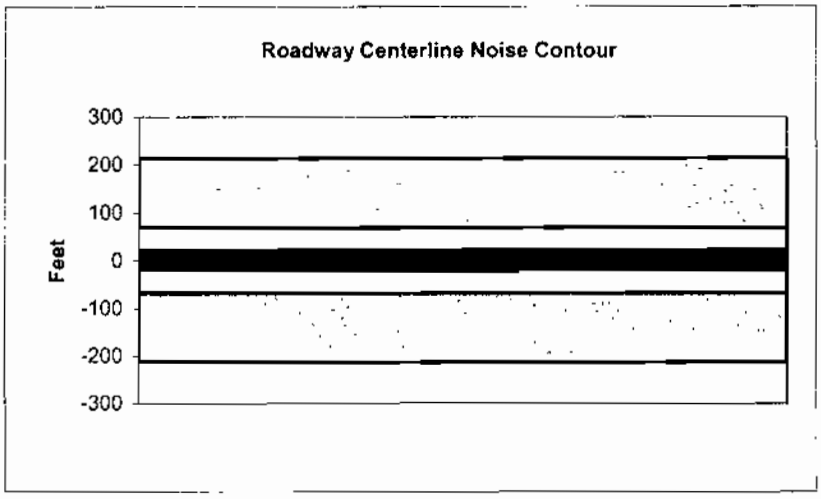
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.0	60.6
Medium Trucks:	61.1	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	66.7	54.8	45.7	46.9	57.1	57.2
Vehicle Noise:	**69.3**	**61.7**	**58.2**	**53.9**	**62.4**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	214
65 dBA	68
	21
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	7th Street		
Road Segment:	7th Street West of Pacific		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14850
Peak Hour Traffic:	1485
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

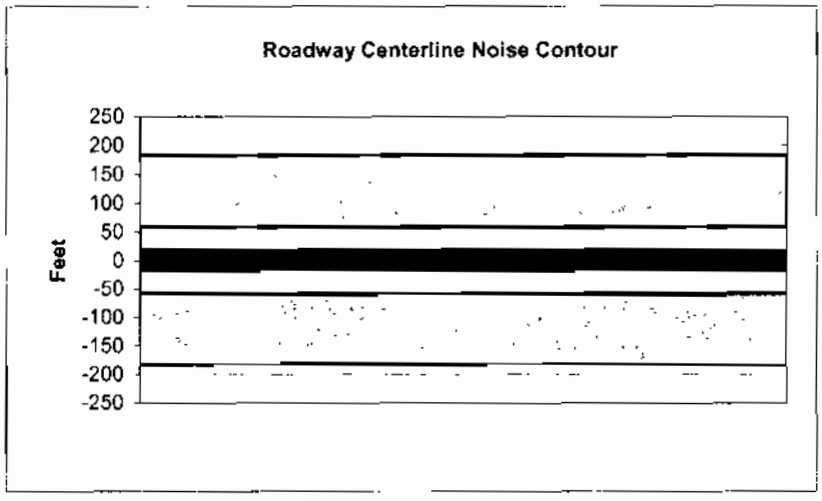
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	60.4	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	66.1	54.1	45.1	46.3	56.4	56.5
Vehicle Noise:	**68.6**	**61.1**	**57.5**	**53.2**	**61.7**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	184
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 1st Street and East 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15430
Peak Hour Traffic:	**1543**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

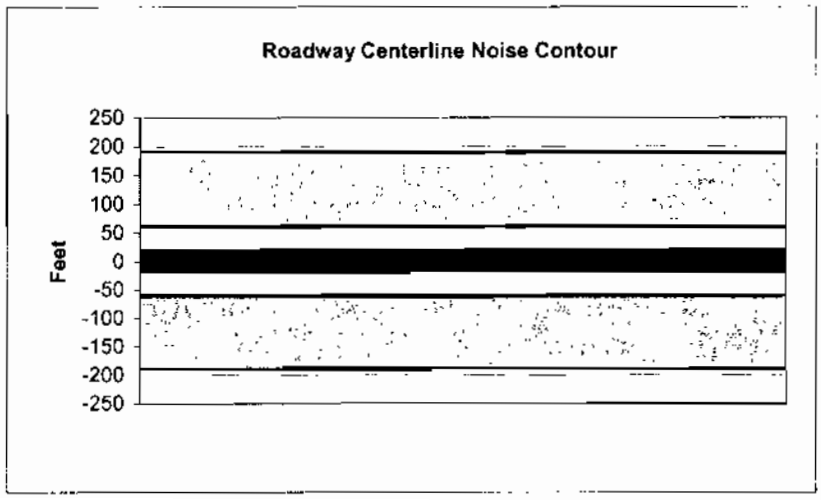
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	66.2	54.3	45.2	46.4	56.6	56.7
Vehicle Noise:	**68.8**	**61.2**	**57.7**	**53.4**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	190
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade).	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	24235
Peak Hour Traffic:	**2423.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

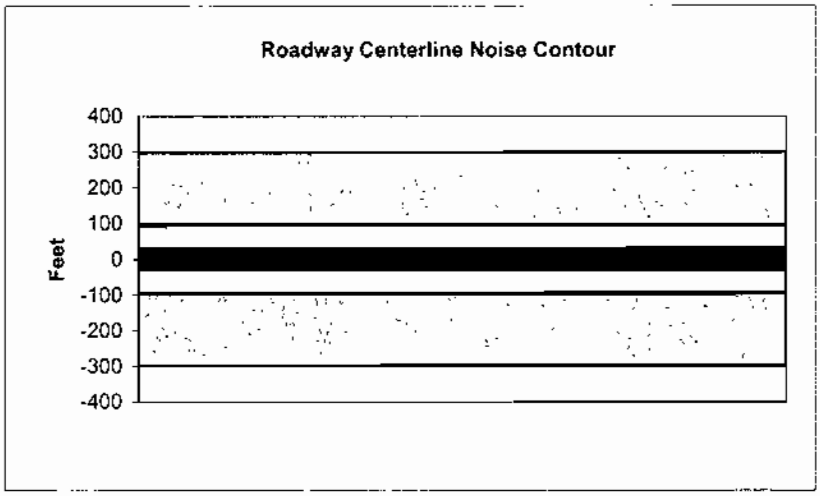
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	62.5	54.5	48.1	46.5	55.0	55.2
Heavy Trucks:	68.2	56.2	47.2	48.4	58.5	58.7
Vehicle Noise:	**70.7**	**63.2**	**59.7**	**55.3**	**63.9**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	299
65 dBA	95
	30
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	23865
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2386.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

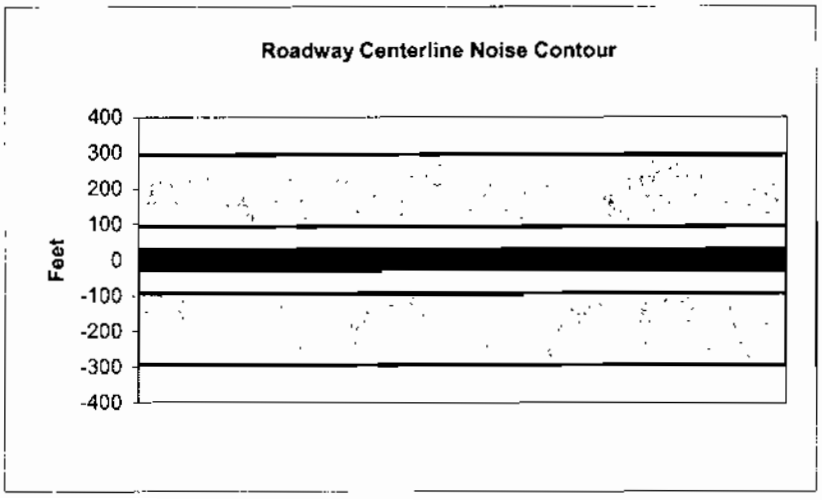
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	62.5	54.4	48.0	46.4	54.9	55.2
Heavy Trucks:	68.1	56.2	47.1	48.3	58.5	58.6
Vehicle Noise:	**70.6**	**63.1**	**59.6**	**55.3**	**63.8**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	295
65 dBA	93
	29
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	18155
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1815.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

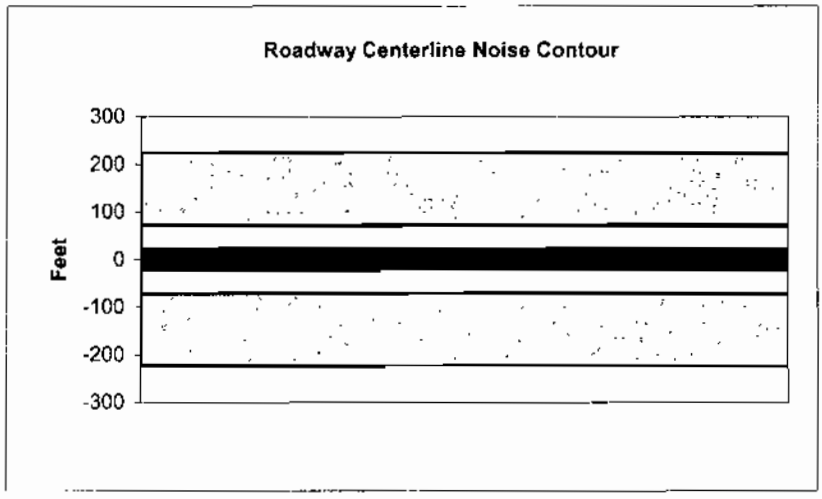
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.7	59.5	57.7	51.6	60.2	60.8
Medium Trucks:	61.3	53.2	46.8	45.3	53.7	54.0
Heavy Trucks:	66.9	55.0	45.9	47.2	57.3	57.4
Vehicle Noise:	**69.5**	**61.9**	**58.4**	**54.1**	**62.6**	**63.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	224
65 dBA	71
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between East 1st Street and Medio Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15160
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1516**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

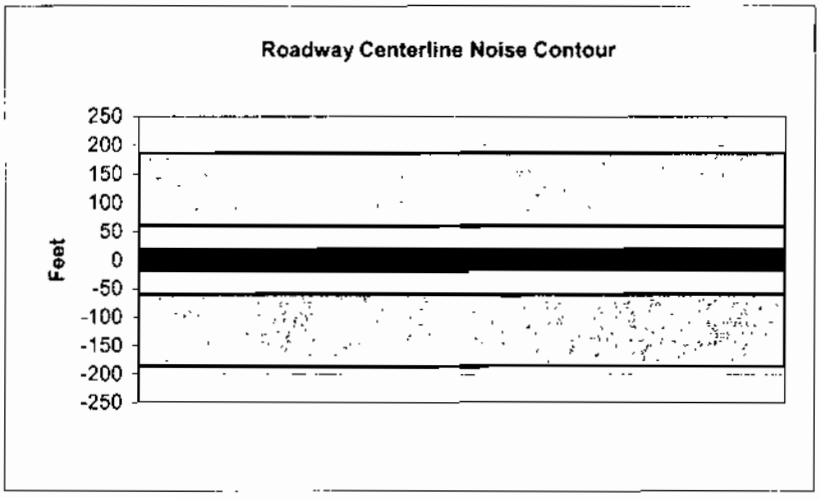
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	60.5	52.4	46.0	44.5	53.0	53.2
Heavy Trucks:	66.1	54.2	45.2	46.4	56.5	56.6
Vehicle Noise:	**68.7**	**61.2**	**57.6**	**53.3**	**61.8**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	187
65 dBA	59
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Between Medio Street and Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14735
Peak Hour Traffic:	1473.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

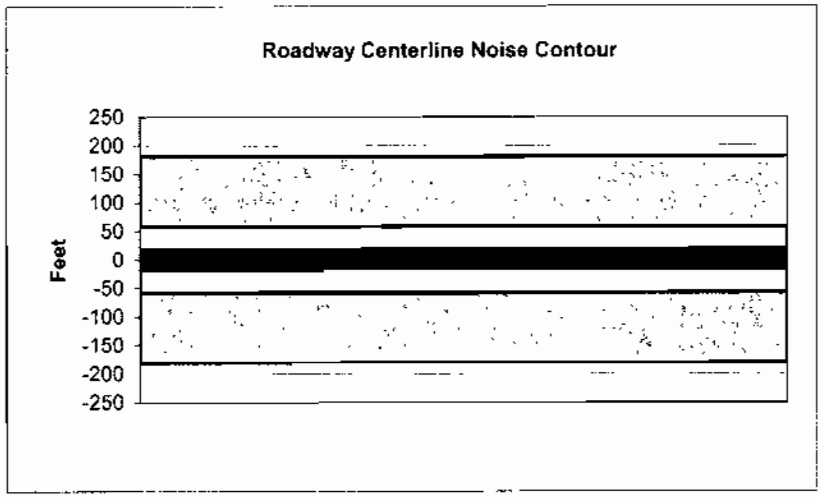
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.3	59.9
Medium Trucks:	60.4	52.3	45.9	44.4	52.8	53.1
Heavy Trucks:	66.0	54.1	45.0	46.2	56.4	56.5
Vehicle Noise:	**68.6**	**61.0**	**57.5**	**53.2**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	182
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue North of 3rd Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	23720
Peak Hour Traffic:	**2372**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

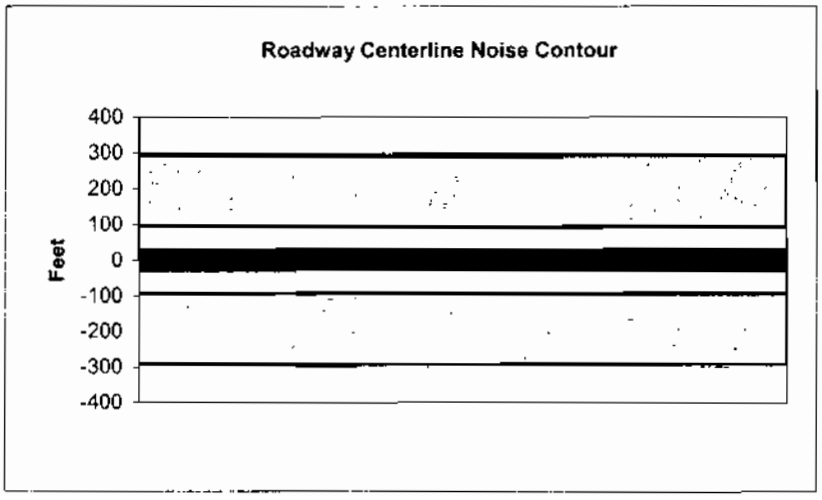
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	62.4	54.4	48.0	46.4	54.9	55.1
Heavy Trucks:	68.1	56.2	47.1	48.3	58.4	58.6
Vehicle Noise:	**70.6**	**63.1**	**59.6**	**55.2**	**63.8**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	293
65 dBA	93
	29
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue North of 7th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17440
Peak Hour Traffic:	**1744**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

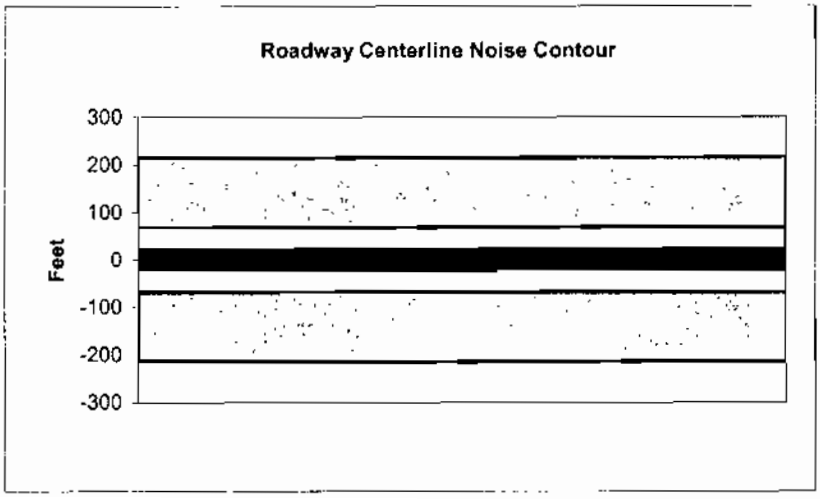
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	61.1	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	66.8	54.8	45.8	47.0	57.1	57.2
Vehicle Noise:	**69.3**	**61.8**	**58.2**	**53.9**	**62.4**	**62.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	215
65 dBA	68
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Alamitos Avenue		
Road Segment:	Alamitos Avenue South of 6th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	24640
Peak Hour Traffic:	**2464**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

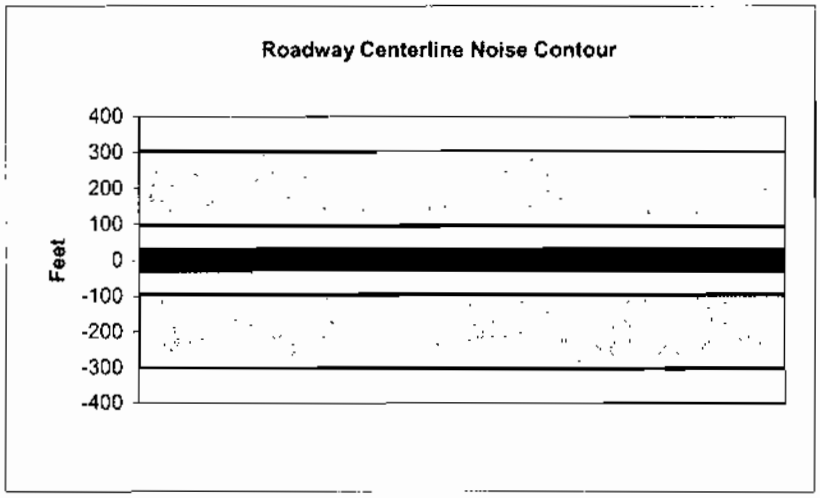
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.0	60.8	59.0	52.9	61.6	62.2
Medium Trucks:	62.6	54.5	48.2	46.6	55.1	55.3
Heavy Trucks:	68.3	56.3	47.3	48.5	58.6	58.7
Vehicle Noise:	**70.8**	**63.3**	**59.7**	**55.4**	**63.9**	**64.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	304
65 dBA	96
	30
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	5900
Peak Hour Traffic:	590
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

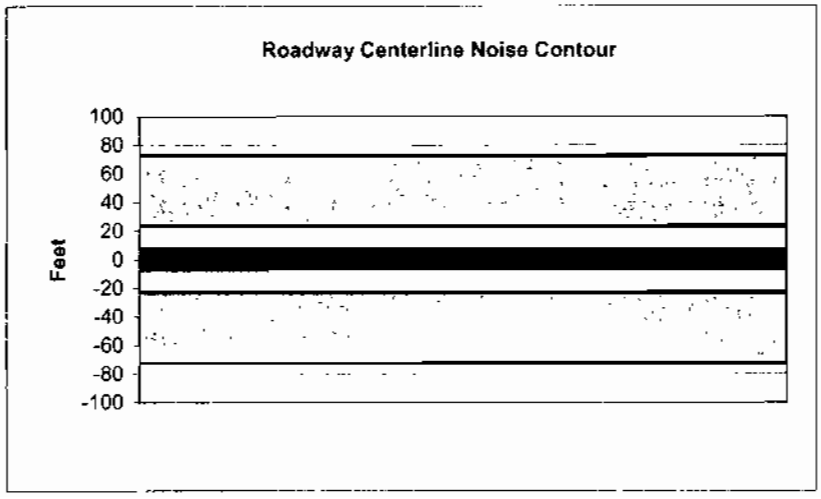
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.8	54.6	52.8	46.7	55.4	56.0
Medium Trucks:	56.4	48.3	41.9	40.4	48.9	49.1
Heavy Trucks:	62.0	50.1	41.1	42.3	52.4	52.5
Vehicle Noise:	**64.6**	**57.1**	**53.5**	**49.2**	**57.7**	**58.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	73
65 dBA	23
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7510
Peak Hour Traffic:	751
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

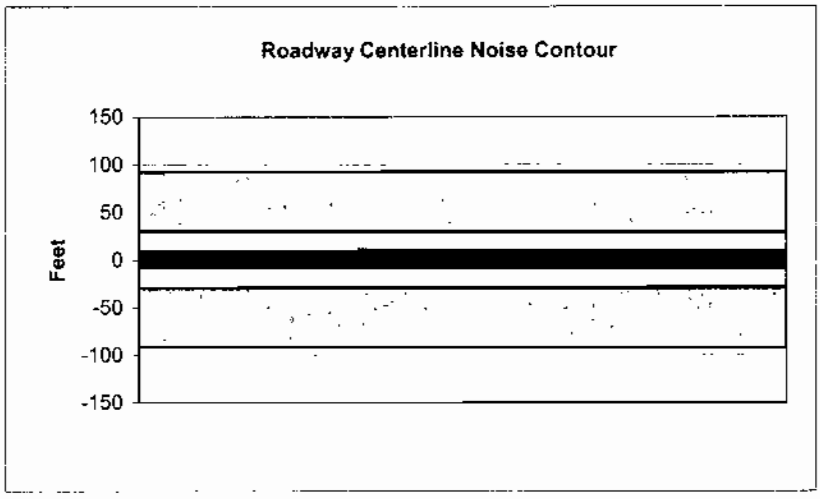
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.8	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	57.4	49.4	43.0	41.4	49.9	50.1
Heavy Trucks:	63.1	51.2	42.1	43.3	53.4	53.6
Vehicle Noise:	**65.6**	**58.1**	**54.6**	**50.2**	**58.8**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	93
65 dBA	29
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8650
Peak Hour Traffic:	865
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

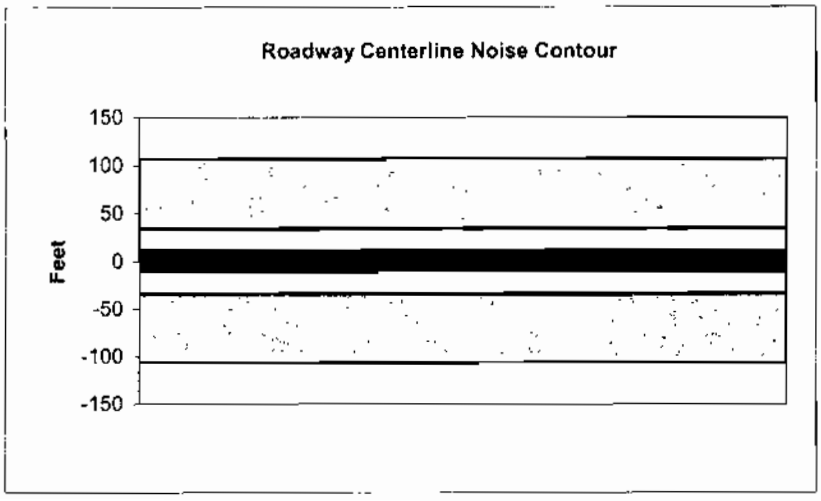
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.5	56.2	54.5	48.4	57.0	57.6
Medium Trucks:	58.1	50.0	43.6	42.0	50.5	50.8
Heavy Trucks:	63.7	51.8	42.7	43.9	54.1	54.2
Vehicle Noise:	**66.2**	**58.7**	**55.2**	**50.9**	**59.4**	**59.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	107
65 dBA	34
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10860
Peak Hour Traffic:	**1086**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

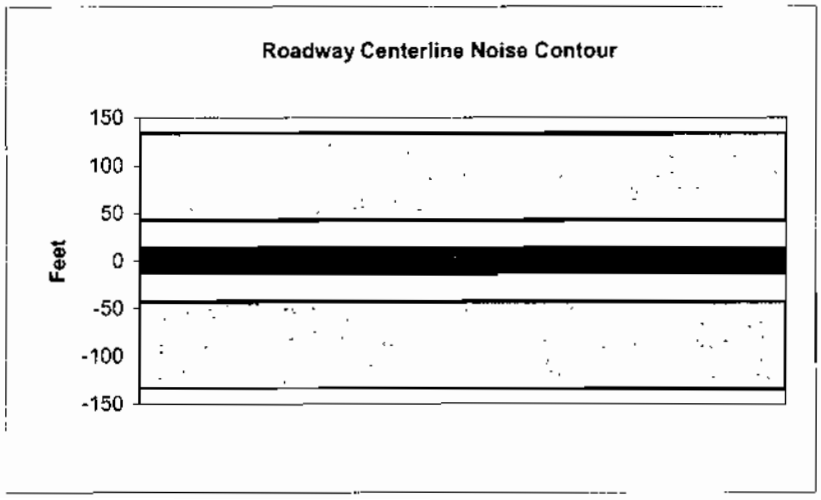
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	59.0	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	64.7	52.8	43.7	44.9	55.0	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.8**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	134
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11245
Peak Hour Traffic:	**1124.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

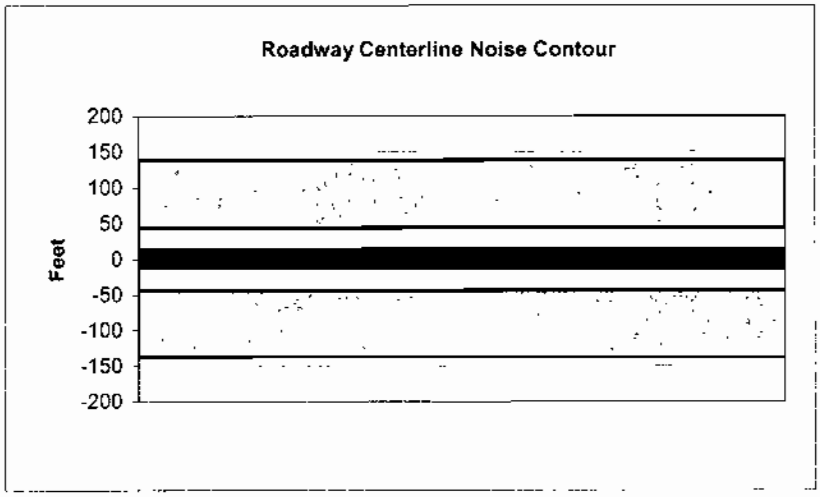
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.6	57.4	55.6	49.5	58.2	58.8
Medium Trucks:	59.2	51.1	44.8	43.2	51.7	51.9
Heavy Trucks:	64.8	52.9	43.9	45.1	55.2	55.3
Vehicle Noise:	**67.4**	**59.9**	**56.3**	**52.0**	**60.5**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	139
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11635
Peak Hour Traffic:	1163.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

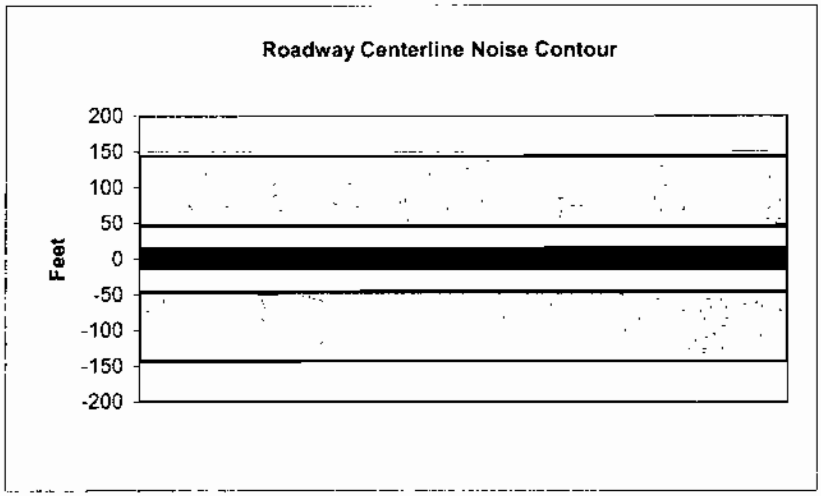
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.7	57.5	55.7	49.7	58.3	58.9
Medium Trucks:	59.3	51.3	44.9	43.3	51.8	52.0
Heavy Trucks:	65.0	53.1	44.0	45.2	55.3	55.5
Vehicle Noise:	**67.5**	**60.0**	**56.5**	**52.1**	**60.7**	**61.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	144
65 dBA	45
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Atlantic Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	7000
Receiver Barrier Dist:	0	Peak Hour Traffic:	700
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

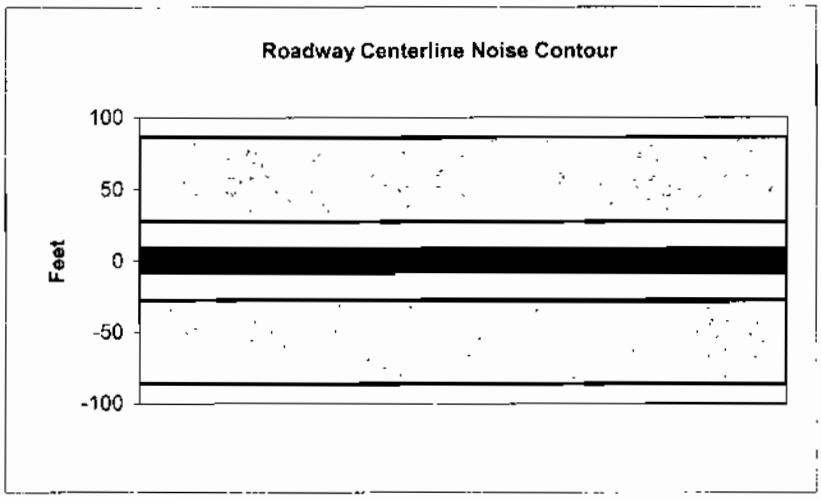
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.5	55.3	53.5	47.4	56.1	56.7
Medium Trucks:	57.1	49.1	42.7	41.1	49.6	49.8
Heavy Trucks:	62.8	50.9	41.8	43.0	53.1	53.3
Vehicle Noise:	**65.3**	**57.8**	**54.3**	**49.9**	**58.5**	**58.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	86
65 dBA	27
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue North of Broadway		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	450
Peak Hour Traffic:	45
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

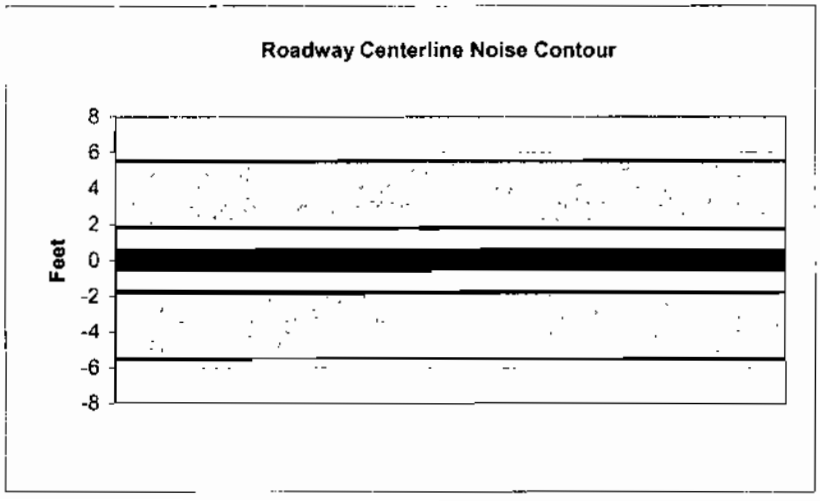
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	34.8	43.6	41.8	35.8	44.4	45.0
Medium Trucks:	45.4	37.4	31.0	29.4	37.9	38.1
Heavy Trucks:	51.1	39.2	30.1	31.3	41.4	41.6
Vehicle Noise:	**53.6**	**46.1**	**42.6**	**38.2**	**46.8**	**47.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	6
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue North of Ocean		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	620
Peak Hour Traffic:	62
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

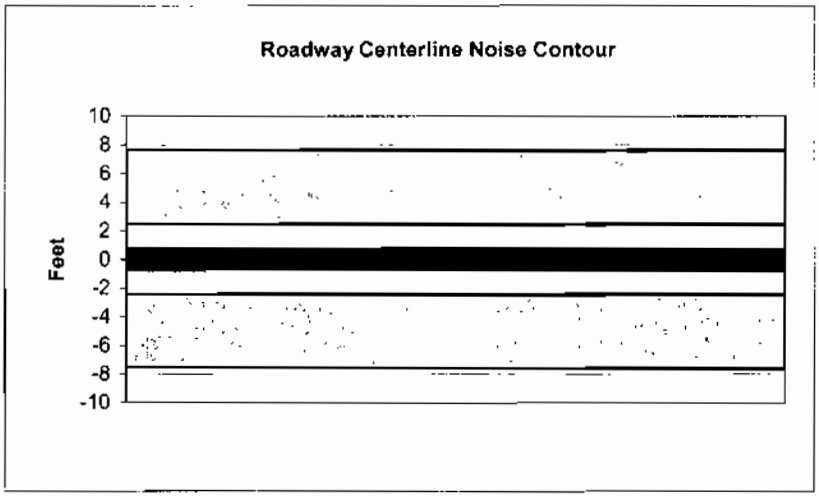
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.2	45.0	43.2	37.1	45.8	46.4
Medium Trucks:	46.8	38.8	32.4	30.8	39.3	39.5
Heavy Trucks:	52.5	40.5	31.5	32.7	42.8	43.0
Vehicle Noise:	**55.0**	**47.5**	**44.0**	**39.6**	**48.2**	**48.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	8
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Bonita Avenue		
Road Segment:	Bonita Avenue South of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	600
Receiver Barrier Dist:	0	Peak Hour Traffic:	60
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

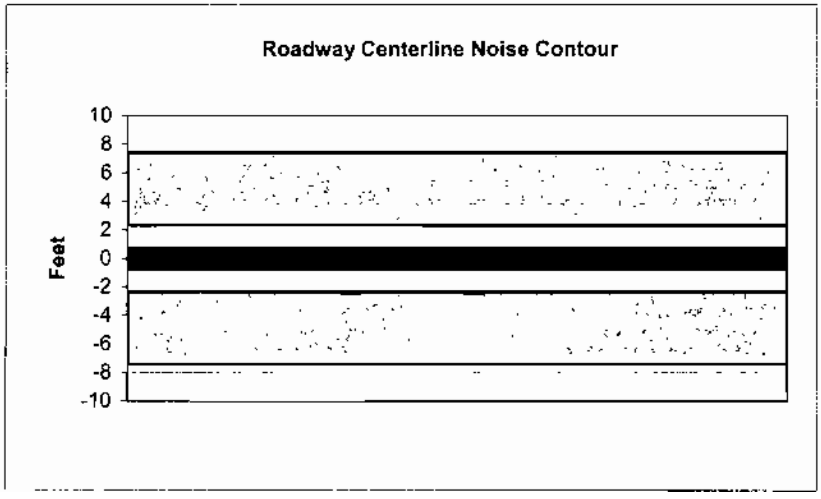
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.1	44.9	43.1	37.0	45.7	46.3
Medium Trucks:	46.7	38.6	32.2	30.7	39.2	39.4
Heavy Trucks:	52.3	40.4	31.3	32.6	42.7	42.8
Vehicle Noise:	**54.9**	**47.4**	**43.8**	**39.5**	**48.0**	**48.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	7
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Alamitos Avenue and Bonita Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15485
Peak Hour Traffic:	**1548.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

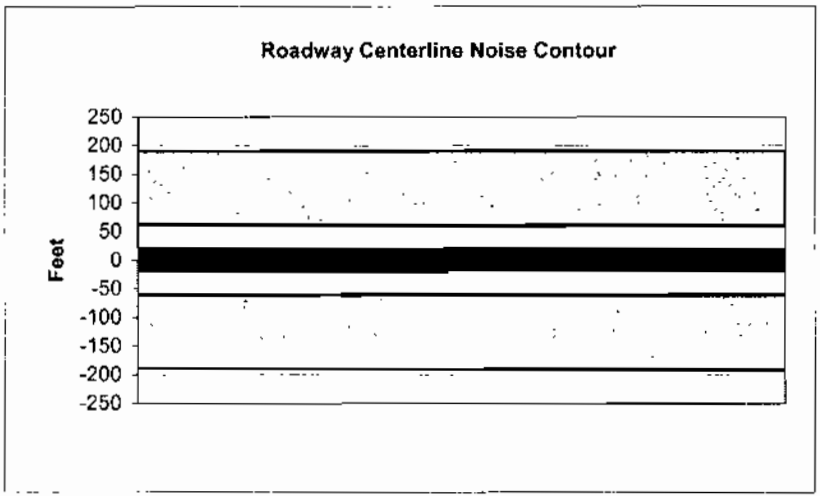
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.5	60.2
Medium Trucks:	60.6	52.5	46.1	44.6	53.1	53.3
Heavy Trucks:	66.2	54.3	45.2	46.5	56.6	56.7
Vehicle Noise:	**68.8**	**61.3**	**57.7**	**53.4**	**61.9**	**62.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	191
65 dBA	61
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Atlantic Avenue and Lime Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14945
Peak Hour Traffic:	**1494.5**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

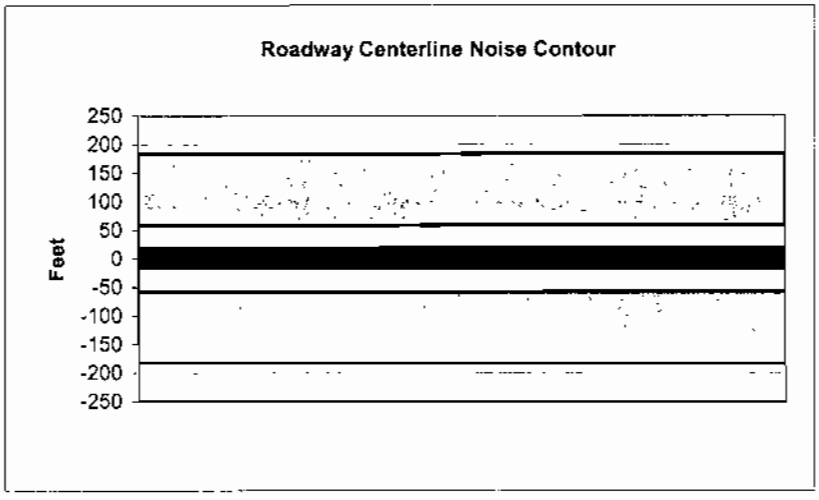
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	60.4	52.4	46.0	44.4	52.9	53.1
Heavy Trucks:	66.1	54.1	45.1	46.3	56.4	56.6
Vehicle Noise:	**68.6**	**61.1**	**57.6**	**53.2**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	184
65 dBA	58
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Bonita Avenue and Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15575
Peak Hour Traffic:	1557.5
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

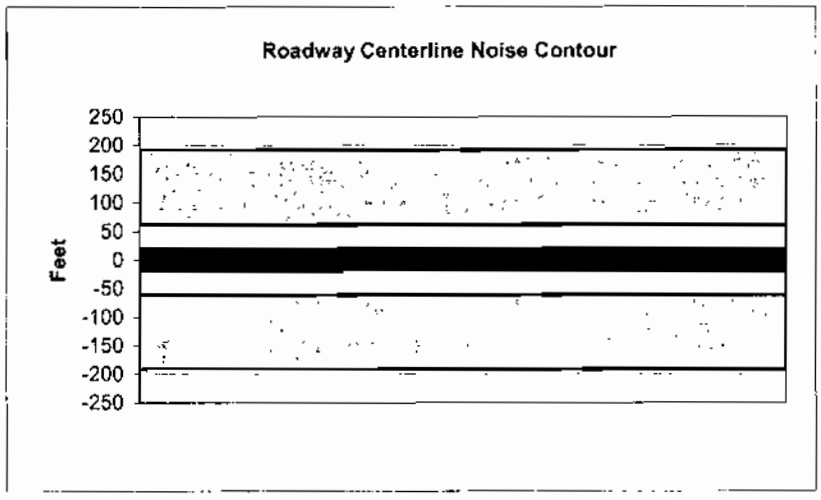
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.6	60.2
Medium Trucks:	60.6	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	66.3	54.3	45.3	46.5	56.6	56.7
Vehicle Noise:	**68.8**	**61.3**	**57.7**	**53.4**	**62.0**	**62.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	192
65 dBA	61
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15400
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1540**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

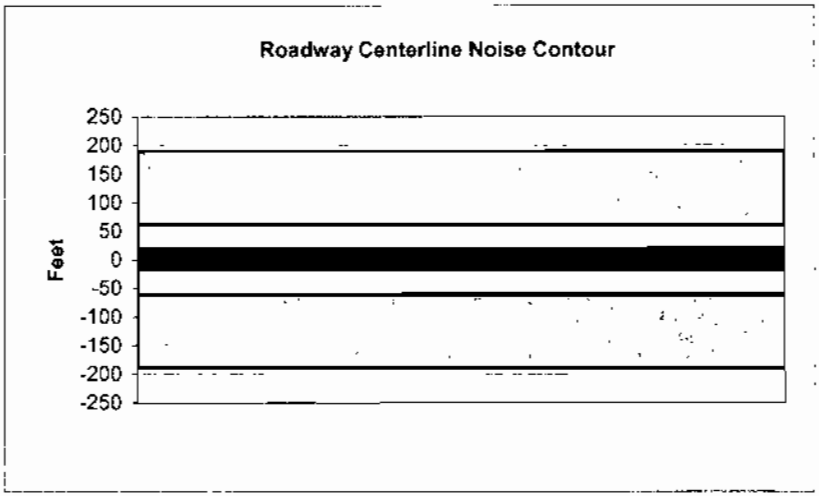
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.7	57.0	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.5	53.0	53.3
Heavy Trucks:	66.2	54.3	45.2	46.4	56.6	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.4**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	190
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Magnolia		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18120
Peak Hour Traffic:	**1812**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

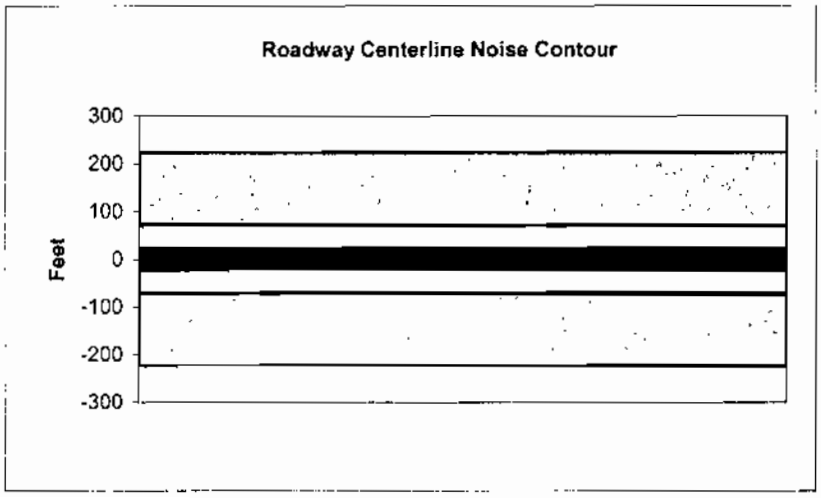
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.7	59.5	57.7	51.6	60.2	60.8
Medium Trucks:	61.3	53.2	46.8	45.2	53.7	54.0
Heavy Trucks:	66.9	55.0	45.9	47.1	57.3	57.4
Vehicle Noise:	**69.4**	**61.9**	**58.4**	**54.1**	**62.6**	**63.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	224
65 dBA	71
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway East of Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16200
Peak Hour Traffic:	1620
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

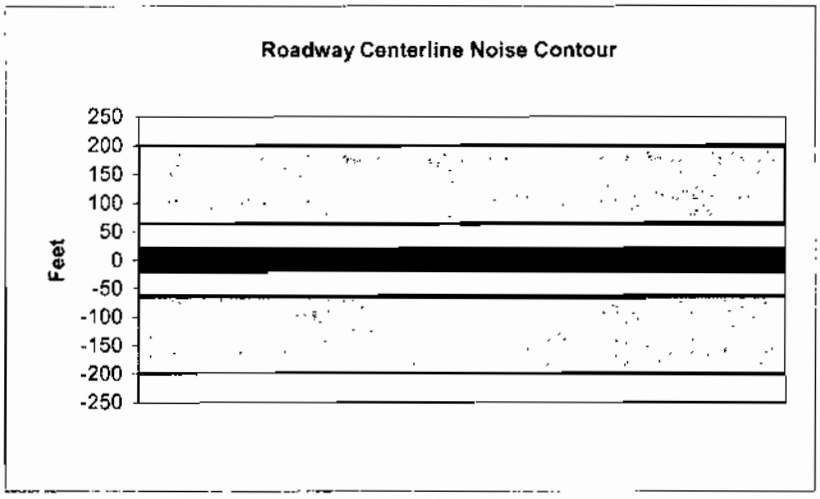
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.3	53.5
Heavy Trucks:	66.4	54.5	45.4	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	200
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Long Beach Blvd and Elm Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	16180
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1618**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

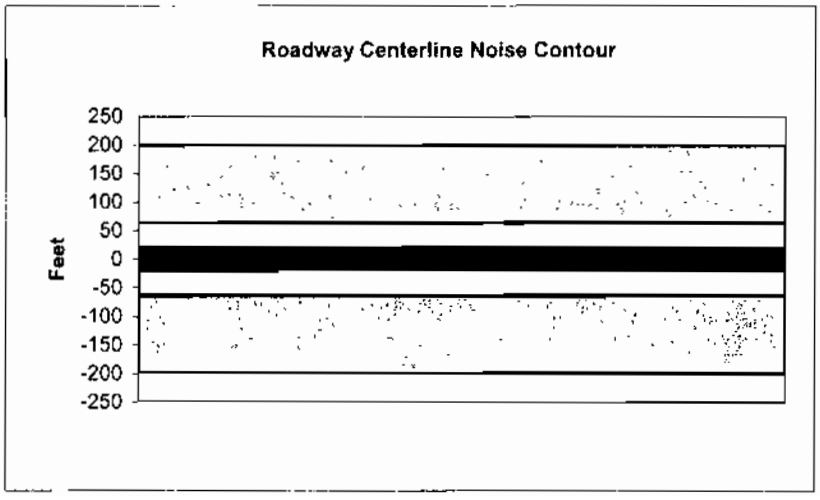
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.7	60.3
Medium Trucks:	60.8	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	66.4	54.5	45.4	46.7	56.8	56.9
Vehicle Noise:	**69.0**	**61.4**	**57.9**	**53.6**	**62.1**	**62.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	200
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Bewteen Lime Street and Alamitos Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	15060
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1506**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

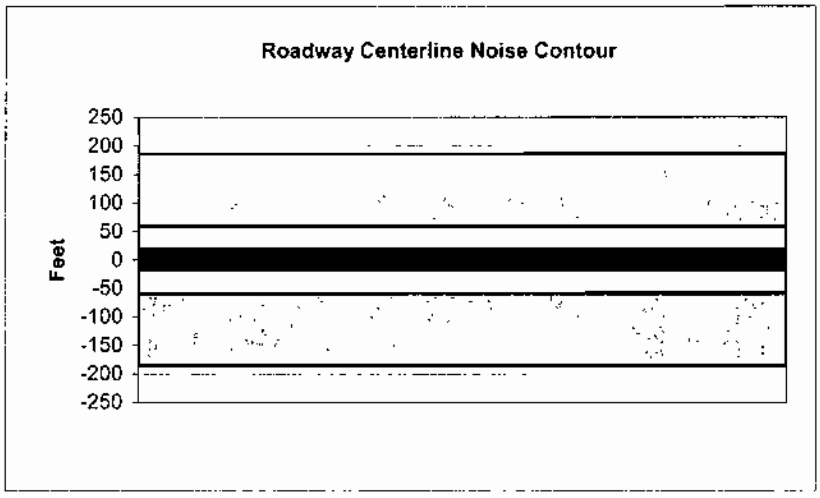
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	60.5	52.4	46.0	44.4	52.9	53.2
Heavy Trucks:	66.1	54.2	45.1	46.3	56.5	56.6
Vehicle Noise:	**68.6**	**61.1**	**57.6**	**53.3**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	186
65 dBA	59
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Pacific Avenue & Pine Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	19945
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1994.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

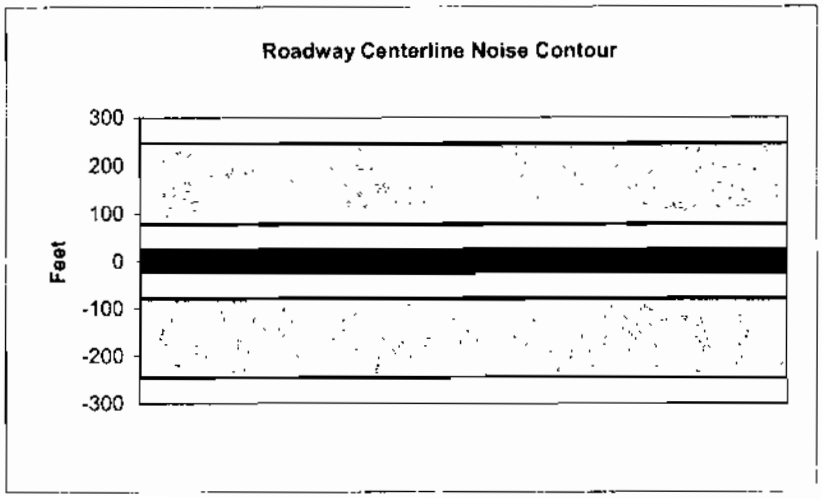
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.9	58.1	52.0	60.6	61.3
Medium Trucks:	61.7	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	67.3	55.4	46.3	47.6	57.7	57.8
Vehicle Noise:	**69.9**	**62.4**	**58.8**	**54.5**	**63.0**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	246
65 dBA	78
	25
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Between Pine Street & Long Beach Blvd		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	20100
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2010**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

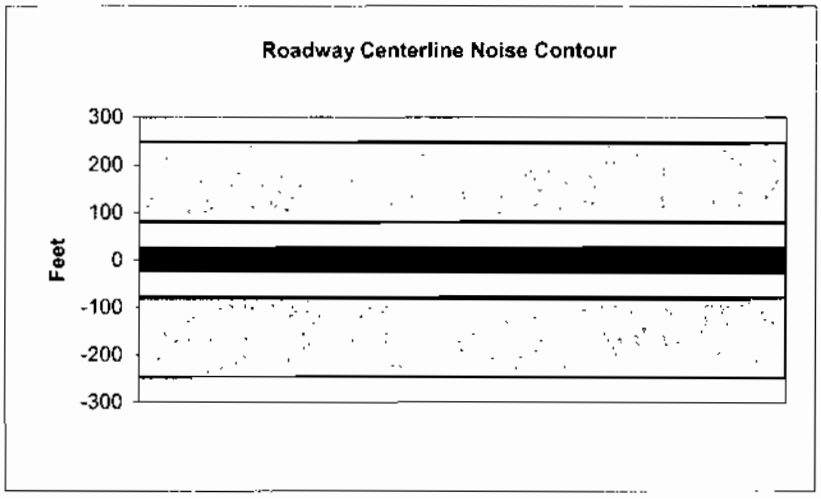
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	61.7	53.7	47.3	45.7	54.2	54.4
Heavy Trucks:	67.4	55.4	46.4	47.6	57.7	57.8
Vehicle Noise:	**69.9**	**62.4**	**58.8**	**54.5**	**63.1**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	248
65 dBA	78
	25
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Atlantic Avenue		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15450
Peak Hour Traffic:	**1545**
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

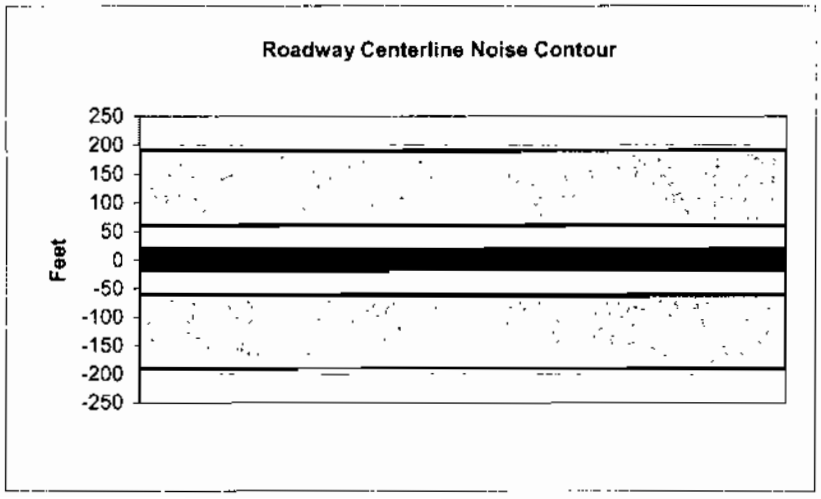
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.5	60.1
Medium Trucks:	60.6	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	66.2	54.3	45.2	46.5	56.6	56.7
Vehicle Noise:	**68.8**	**61.2**	**57.7**	**53.4**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	191
65 dBA	60
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Magnolia		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	20680
Receiver Barrier Dist:	0	Peak Hour Traffic:	**2068**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

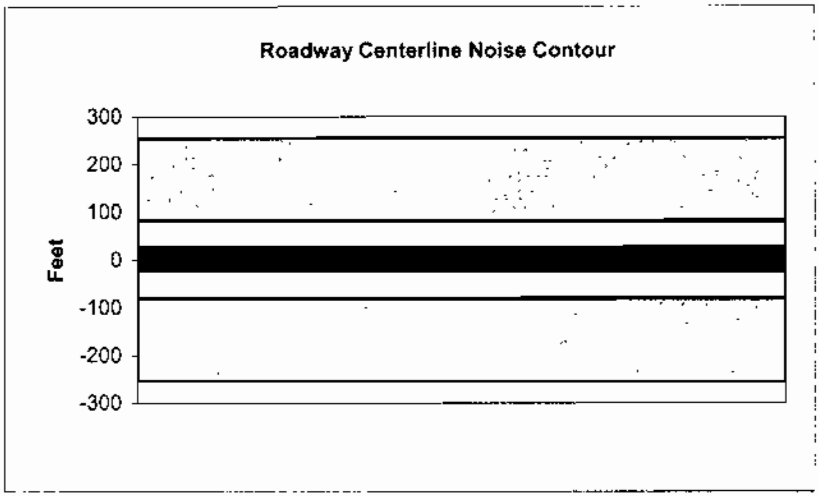
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.2	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	61.8	53.8	47.4	45.8	54.3	54.5
Heavy Trucks:	67.5	55.6	46.5	47.7	57.8	58.0
Vehicle Noise:	**70.0**	**62.5**	**59.0**	**54.6**	**63.2**	**63.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	255
65 dBA	81
	26
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Broadway		
Road Segment:	Broadway West of Pacific Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	19300
Peak Hour Traffic:	1930
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

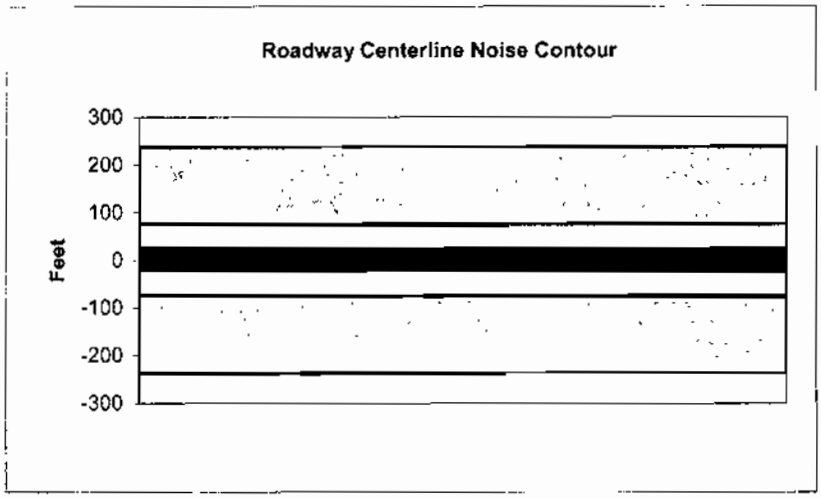
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	61.5	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	67.2	55.3	46.2	47.4	57.5	57.7
Vehicle Noise:	**69.7**	**62.2**	**58.7**	**54.3**	**62.9**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	238
65 dBA	75
	24
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2425
Peak Hour Traffic:	**242.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

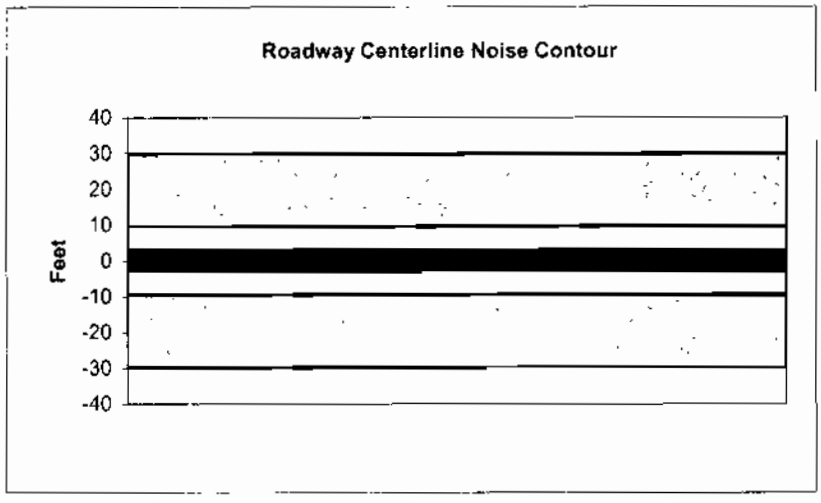
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.2	50.9	49.1	43.1	51.7	52.3
Medium Trucks:	52.8	44.7	38.3	36.7	45.2	45.5
Heavy Trucks:	58.4	46.5	37.4	38.6	48.8	48.9
Vehicle Noise:	**60.9**	**53.4**	**49.9**	**45.5**	**54.1**	**54.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	30
65 dBA	9
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Cedar Avenue north of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2900
Peak Hour Traffic:	290
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

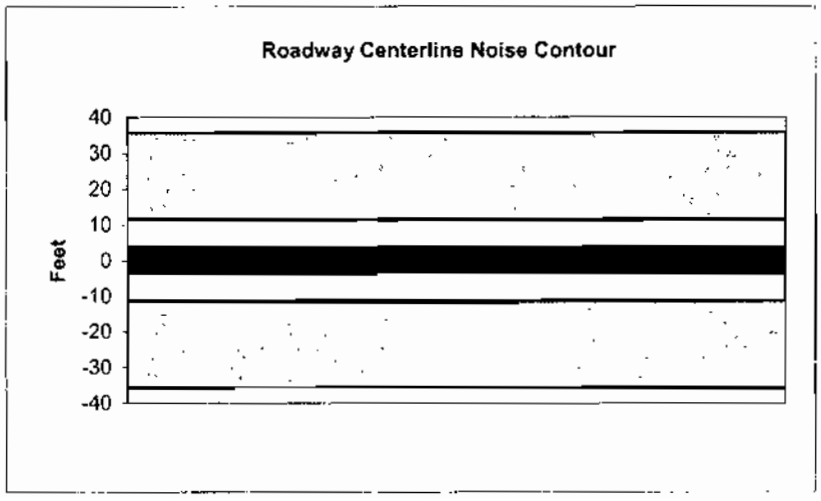
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.5	53.1
Medium Trucks:	53.5	45.5	39.1	37.5	46.0	46.2
Heavy Trucks:	59.2	47.2	38.2	39.4	49.5	49.7
Vehicle Noise:	**61.7**	**54.2**	**50.7**	**46.3**	**54.9**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	36
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Cedar Avenue		
Road Segment:	Cedar Avenue south of 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2060
Peak Hour Traffic:	206
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

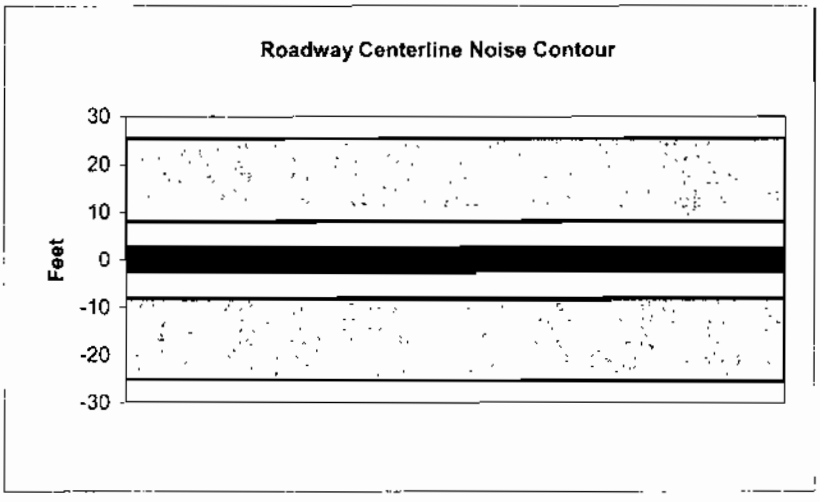
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.4	50.2	48.4	42.4	51.0	51.6
Medium Trucks:	52.1	44.0	37.6	36.0	44.5	44.7
Heavy Trucks:	57.7	45.8	36.7	37.9	48.0	48.2
Vehicle Noise:	**60.2**	**52.7**	**49.2**	**44.8**	**53.4**	**53.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	25
65 dBA	8
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Chestnut Avenue		
Road Segment:	Chestnut Avenue north of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1160
Peak Hour Traffic:	116
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

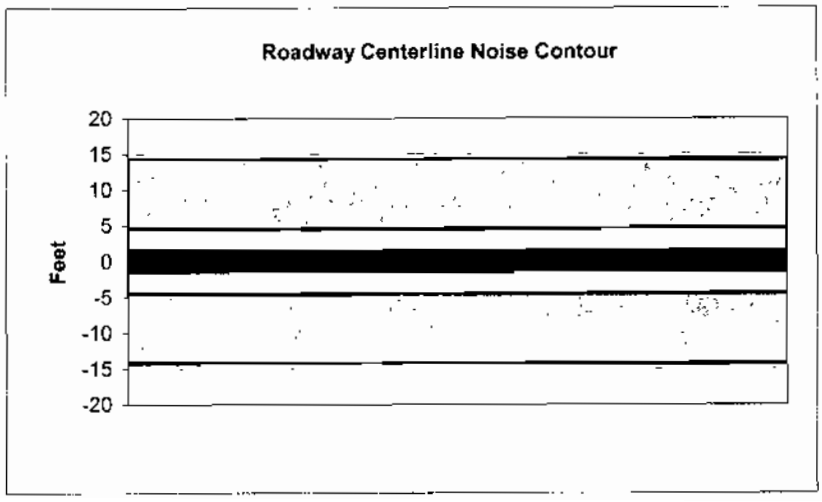
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.0	47.7	45.9	39.9	48.5	49.1
Medium Trucks:	49.6	41.5	35.1	33.5	42.0	42.3
Heavy Trucks:	55.2	43.3	34.2	35.4	45.6	45.7
Vehicle Noise:	**57.7**	**50.2**	**46.7**	**42.3**	**50.9**	**51.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	14
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Chestnut Avenue		
Road Segment:	Chestnut Avenue south of 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1080
Peak Hour Traffic:	108
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

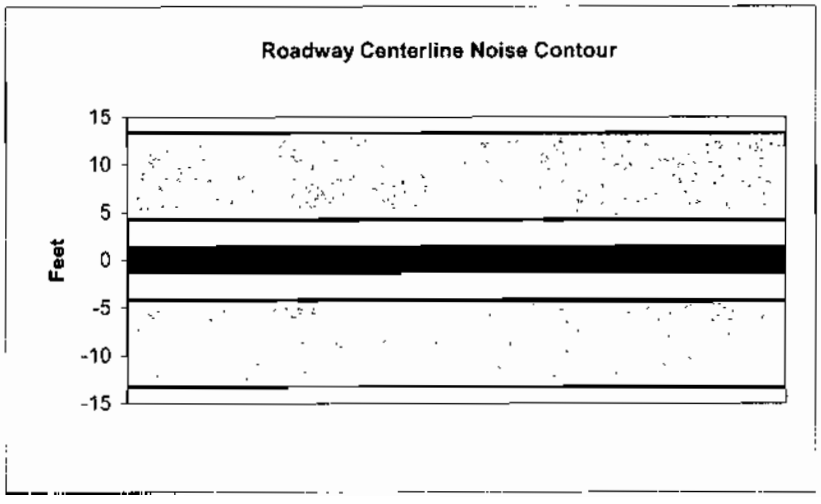
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.6	47.4	45.6	39.6	48.2	48.8
Medium Trucks:	49.2	41.2	34.8	33.2	41.7	41.9
Heavy Trucks:	54.9	43.0	33.9	35.1	45.2	45.4
Vehicle Noise:	**57.4**	**49.9**	**46.4**	**42.0**	**50.6**	**51.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	13
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	East 1st Street		
Road Segment:	East 1st Street East of Alamitas Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	700
Peak Hour Traffic:	70
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

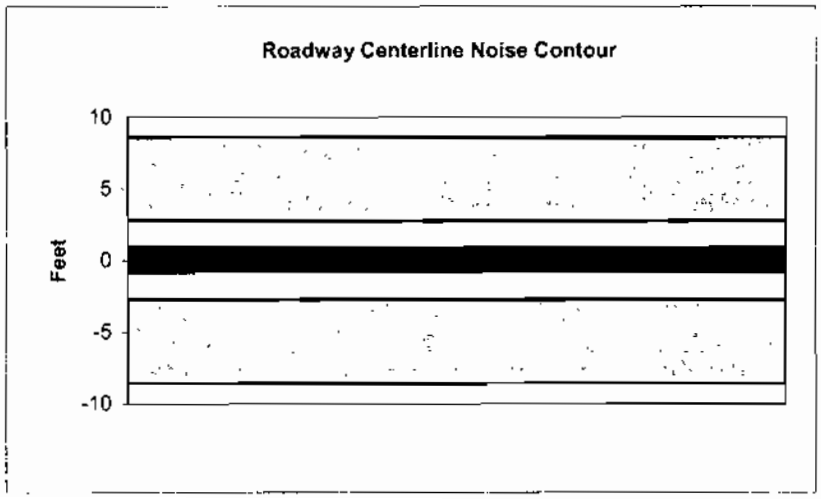
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.5	45.3	43.5	37.4	46.1	46.7
Medium Trucks:	47.1	39.1	32.7	31.1	39.6	39.8
Heavy Trucks:	52.8	40.9	31.8	33.0	43.1	43.3
Vehicle Noise:	**55.3**	**47.8**	**44.3**	**39.9**	**48.5**	**48.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	9
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	3145
Peak Hour Traffic:	**314.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

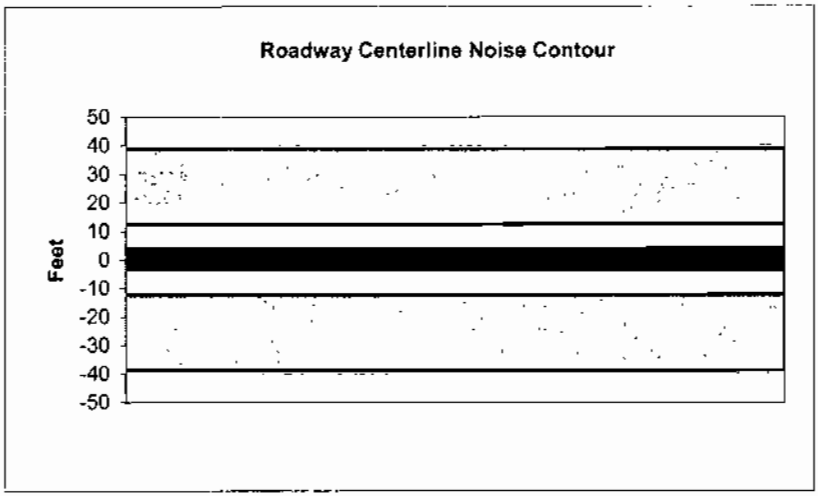
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.3	52.1	50.3	44.2	52.8	53.5
Medium Trucks:	53.9	45.8	39.4	37.9	46.4	46.6
Heavy Trucks:	59.5	47.6	38.5	39.8	49.9	50.0
Vehicle Noise:	**62.1**	**54.5**	**51.0**	**46.7**	**55.2**	**55.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	39
65 dBA	12
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1275
Peak Hour Traffic:	127.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

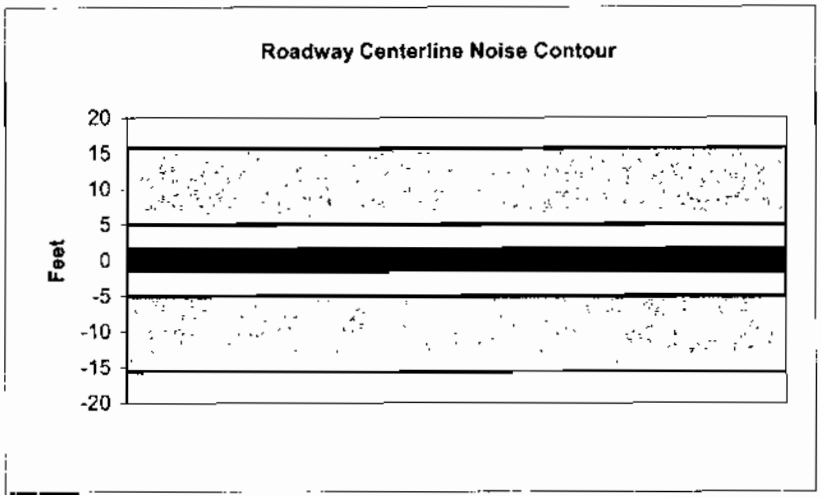
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.4	48.1	46.4	40.3	48.9	49.5
Medium Trucks:	50.0	41.9	35.5	33.9	42.4	42.7
Heavy Trucks:	55.6	43.7	34.6	35.8	46.0	46.1
Vehicle Noise:	**58.1**	**50.6**	**47.1**	**42.8**	**51.3**	**51.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4615
Receiver Barrier Dist:	0	Peak Hour Traffic:	**461.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

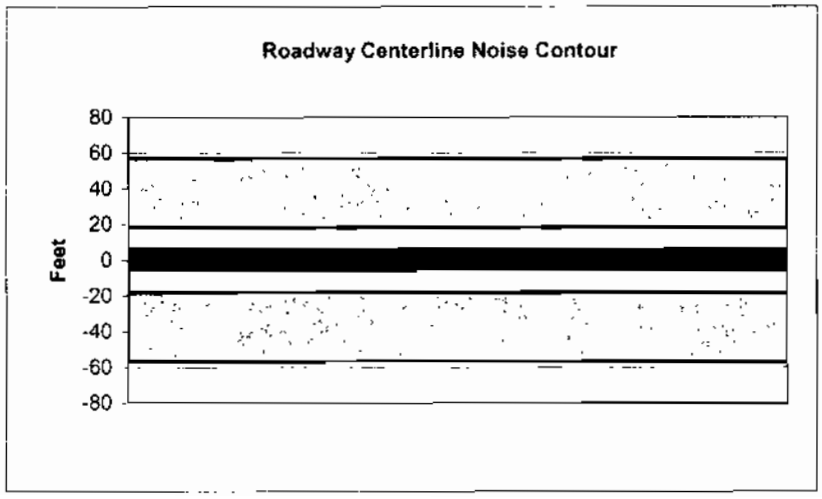
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.0	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	55.6	47.5	41.1	39.5	48.0	48.3
Heavy Trucks:	61.2	49.3	40.2	41.4	51.6	51.7
Vehicle Noise:	**63.7**	**56.2**	**52.7**	**48.3**	**56.9**	**57.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	57
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue North of 3rd Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	2730
Receiver Barrier Dist:	0	Peak Hour Traffic:	**273**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

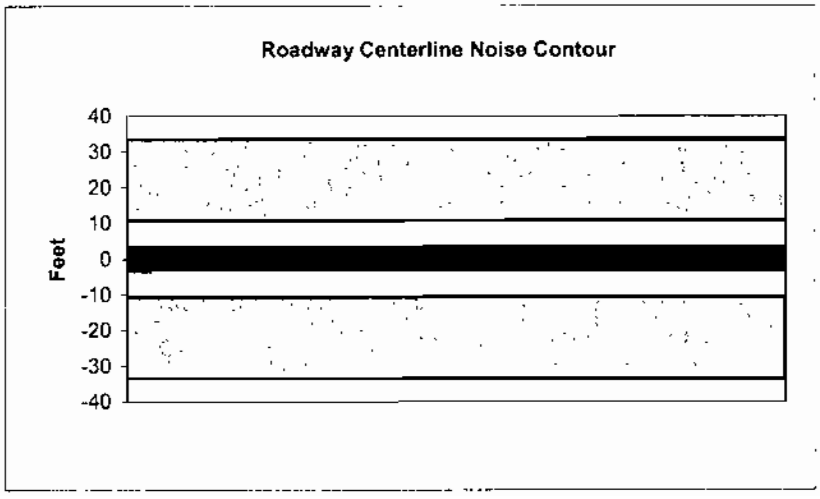
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.7	51.5	49.7	43.6	52.2	52.8
Medium Trucks:	53.3	45.2	38.8	37.3	45.7	46.0
Heavy Trucks:	58.9	47.0	37.9	39.1	49.3	49.4
Vehicle Noise:	**61.4**	**53.9**	**50.4**	**46.1**	**54.6**	**55.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	34
65 dBA	11
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue North of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1100
Peak Hour Traffic:	110
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

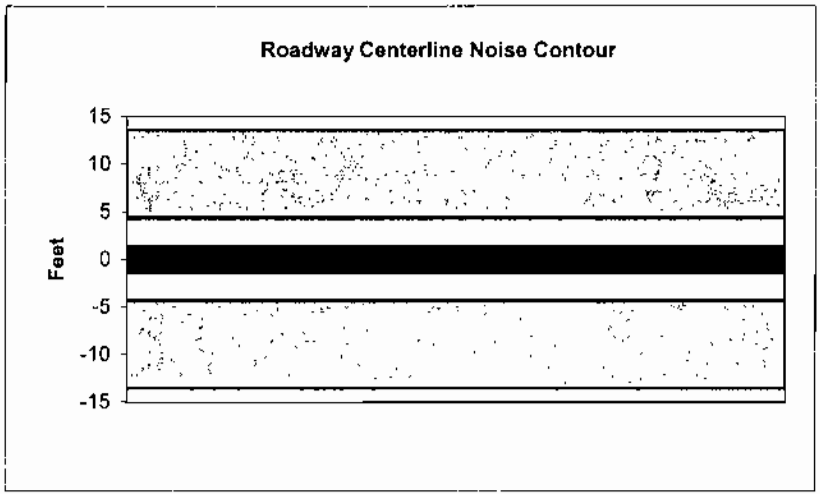
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.7	47.5	45.7	39.6	48.3	48.9
Medium Trucks:	49.3	41.3	34.9	33.3	41.8	42.0
Heavy Trucks:	55.0	43.0	34.0	35.2	45.3	45.5
Vehicle Noise:	**57.5**	**50.0**	**46.4**	**42.1**	**50.7**	**51.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	14
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue South of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1450
Peak Hour Traffic:	**145**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

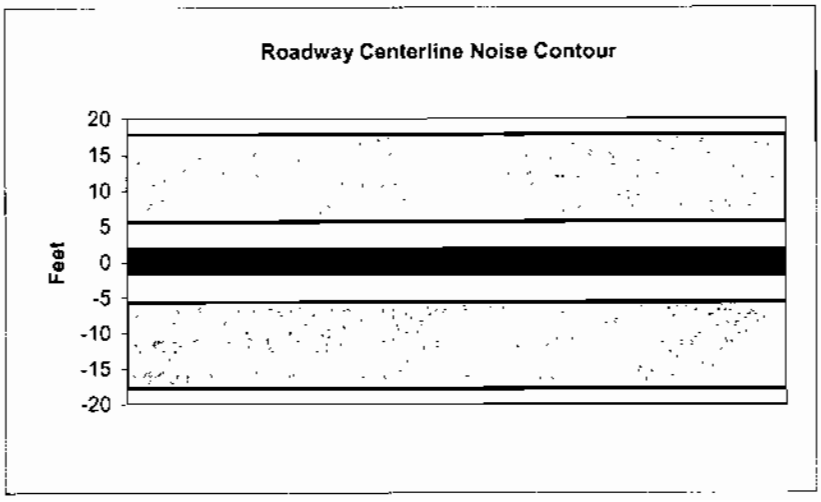
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.9	48.7	46.9	40.8	49.5	50.1
Medium Trucks:	50.5	42.5	36.1	34.5	43.0	43.2
Heavy Trucks:	56.2	44.2	35.2	36.4	46.5	46.7
Vehicle Noise:	**58.7**	**51.2**	**47.6**	**43.3**	**51.9**	**52.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	18
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Elm Avenue		
Road Segment:	Elm Avenue South of 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4740
Peak Hour Traffic:	**474**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

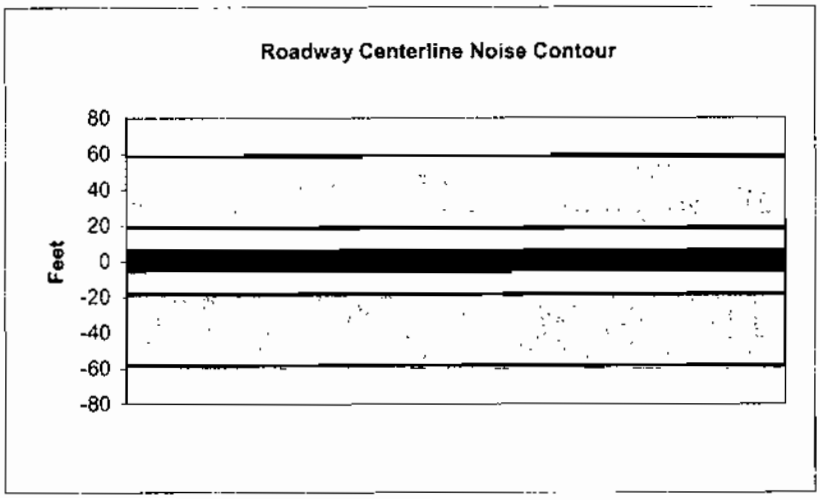
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.1	53.8	52.1	46.0	54.6	55.2
Medium Trucks:	55.7	47.6	41.2	39.6	48.1	48.4
Heavy Trucks:	61.3	49.4	40.3	41.5	51.7	51.8
Vehicle Noise:	**63.8**	**56.3**	**52.8**	**48.5**	**57.0**	**57.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	59
65 dBA	19
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9805
Peak Hour Traffic:	980.5
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

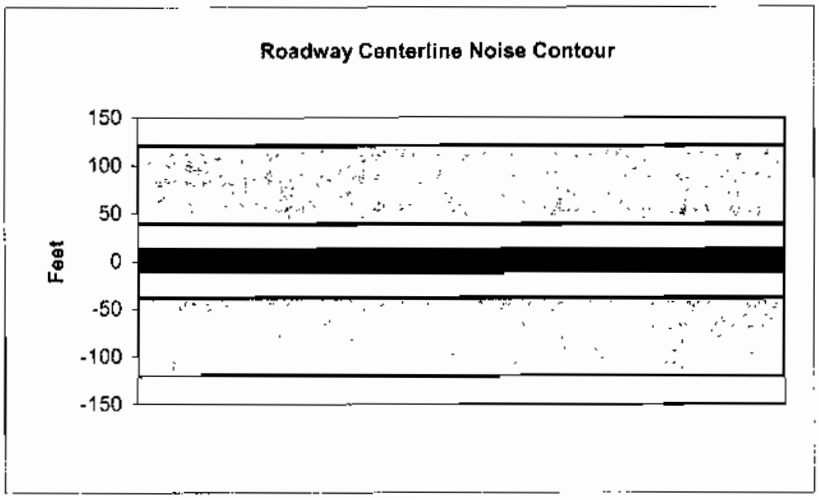
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	58.3	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	64.0	52.0	43.0	44.2	54.3	54.4
Vehicle Noise:	**66.5**	**59.0**	**55.4**	**51.1**	**59.6**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	121
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	13125
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1312.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	42
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

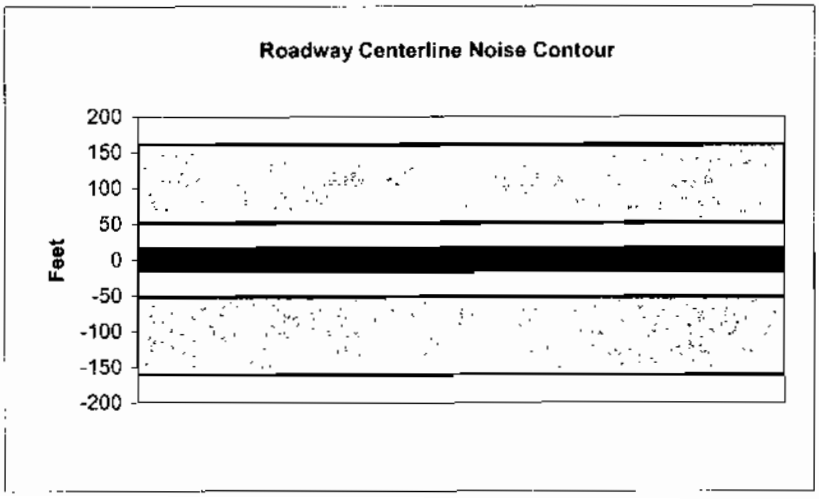
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.8	56.0	49.9	58.5	59.1
Medium Trucks:	59.6	51.5	45.1	43.6	52.0	52.3
Heavy Trucks:	65.2	53.3	44.2	45.5	55.6	55.7
Vehicle Noise:	**67.8**	**60.2**	**56.7**	**52.4**	**60.9**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	162
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13145
Peak Hour Traffic:	1314.5
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

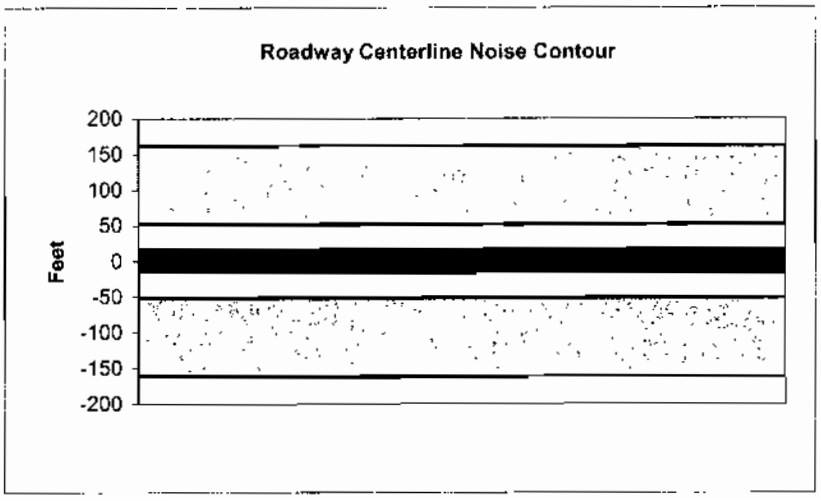
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.0	57.8	56.0	49.9	58.5	59.1
Medium Trucks:	59.6	51.5	45.1	43.6	52.0	52.3
Heavy Trucks:	65.2	53.3	44.2	45.5	55.6	55.7
Vehicle Noise:	**67.8**	**60.2**	**56.7**	**52.4**	**60.9**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	162
65 dBA	51
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15750
Peak Hour Traffic:	**1575**
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

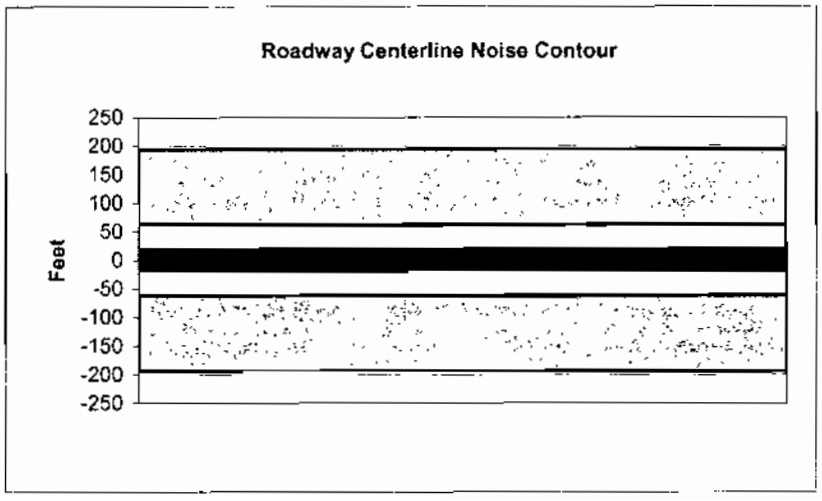
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	58.5	56.8	50.7	59.3	59.9
Medium Trucks:	60.4	52.3	45.9	44.3	52.8	53.1
Heavy Trucks:	66.0	54.1	45.0	46.2	56.4	56.5
Vehicle Noise:	**68.5**	**61.0**	**57.5**	**53.2**	**61.7**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	195
65 dBA	62
	19
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16095
Peak Hour Traffic:	**1609.5**
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

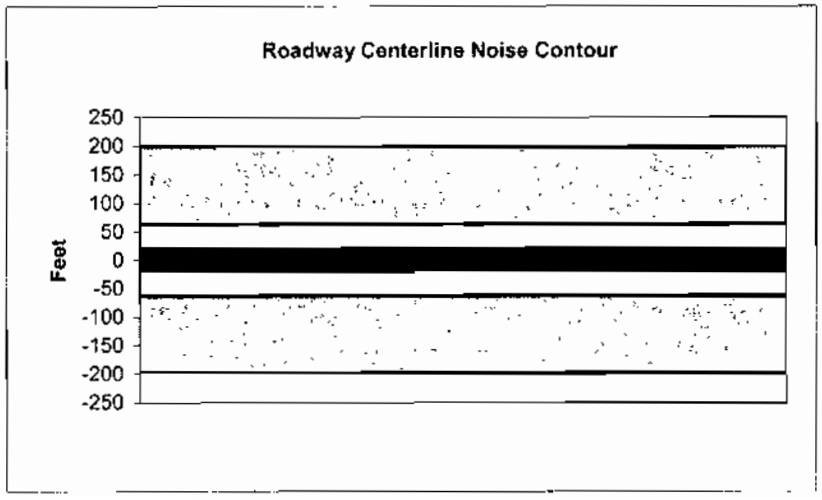
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	60.5	52.4	46.0	44.4	52.9	53.2
Heavy Trucks:	66.1	54.2	45.1	46.3	56.5	56.6
Vehicle Noise:	**68.6**	**61.1**	**57.6**	**53.3**	**61.8**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	199
65 dBA	63
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17615
Peak Hour Traffic:	**1761.5**
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

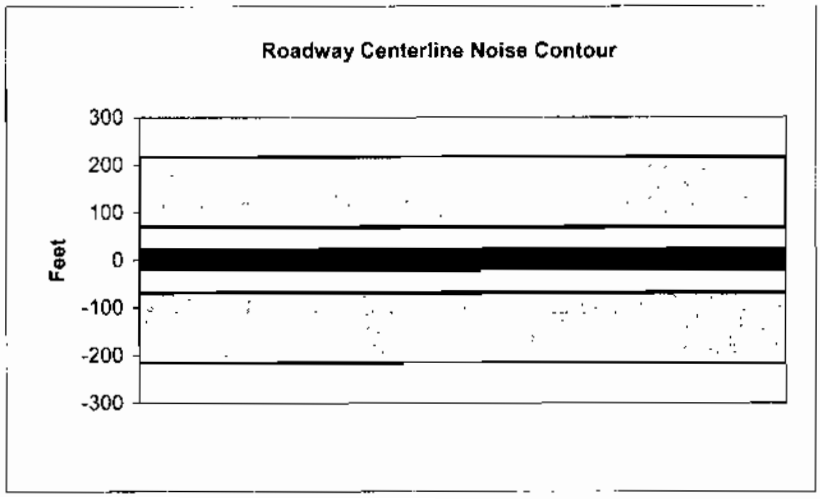
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.3	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	60.9	52.8	46.4	44.8	53.3	53.6
Heavy Trucks:	66.5	54.6	45.5	46.7	56.9	57.0
Vehicle Noise:	**69.0**	**61.5**	**58.0**	**53.6**	**62.2**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	217
65 dBA	69
	22
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Long Beach Boulevard North of 7th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16410
Peak Hour Traffic:	1641
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

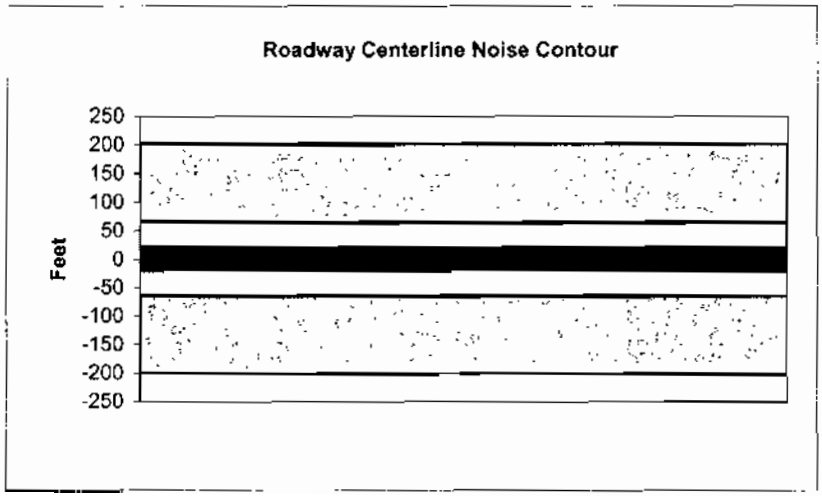
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	60.5	52.5	46.1	44.5	53.0	53.2
Heavy Trucks:	66.2	54.3	45.2	46.4	56.5	56.7
Vehicle Noise:	**68.7**	**61.2**	**57.7**	**53.3**	**61.9**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	202
65 dBA	64
	20
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Long Beach Boulevard		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11665
Peak Hour Traffic:	**1166.5**
Vehicle Speed:	30
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

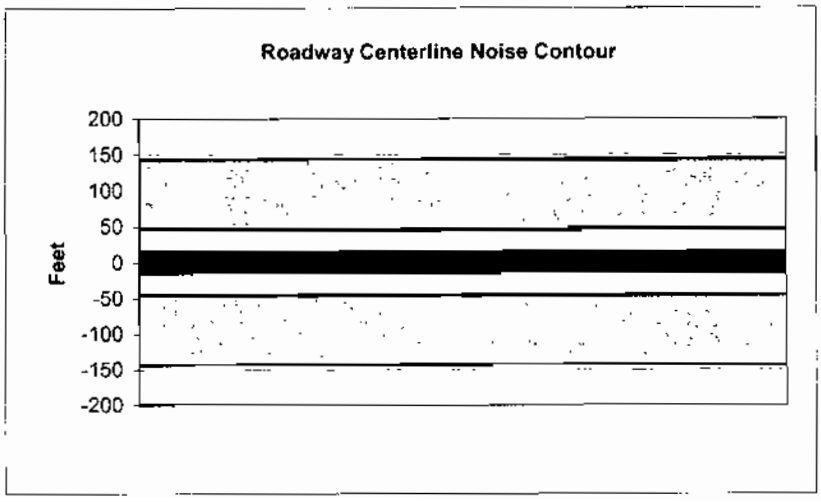
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.2	55.5	49.4	58.0	58.6
Medium Trucks:	59.1	51.0	44.6	43.0	51.5	51.8
Heavy Trucks:	64.7	52.8	43.7	44.9	55.1	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.9**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	144
65 dBA	46
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 1st Street and Ocean Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	645
Receiver Barrier Dist:	0	Peak Hour Traffic:	**64.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

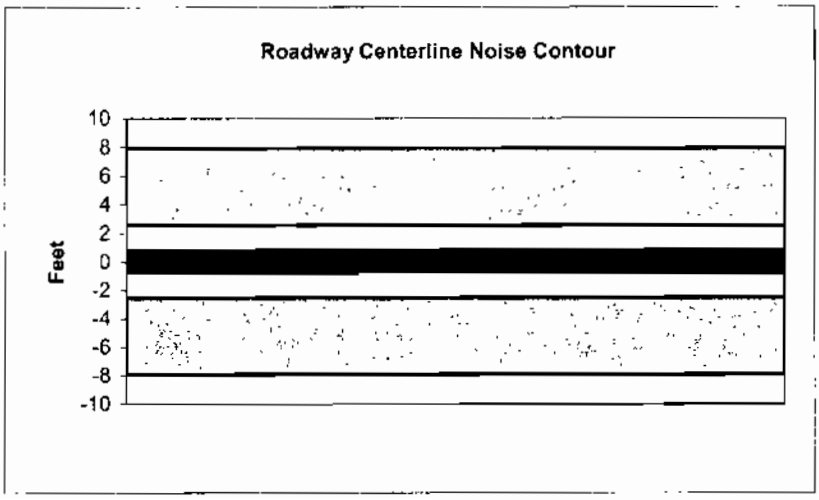
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.4	45.2	43.4	37.3	46.0	46.6
Medium Trucks:	47.0	38.9	32.6	31.0	39.5	39.7
Heavy Trucks:	52.7	40.7	31.7	32.9	43.0	43.1
Vehicle Noise:	**55.2**	**47.7**	**44.1**	**39.8**	**48.3**	**48.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	8
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	920
Peak Hour Traffic:	92
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

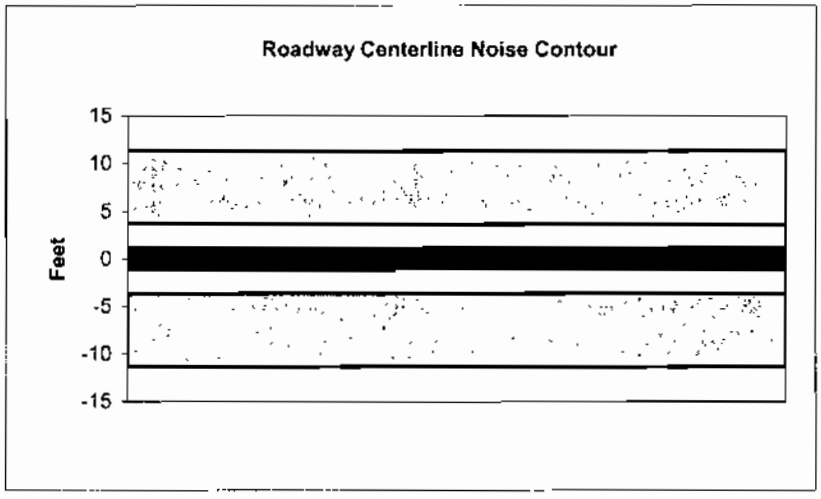
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.9	46.7	44.9	38.9	47.5	48.1
Medium Trucks:	48.6	40.5	34.1	32.5	41.0	41.2
Heavy Trucks:	54.2	42.3	33.2	34.4	44.5	44.7
Vehicle Noise:	**56.7**	**49.2**	**45.7**	**41.3**	**49.9**	**50.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	11
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	850
Peak Hour Traffic:	85
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

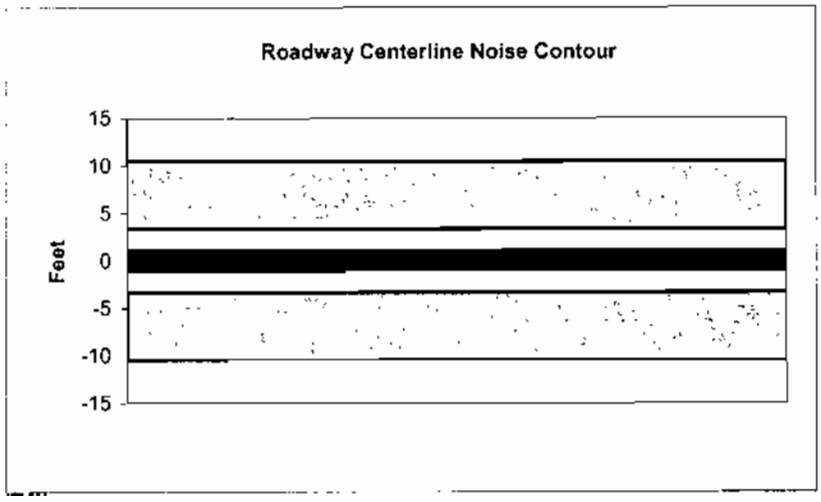
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.6	46.4	44.6	38.5	47.2	47.8
Medium Trucks:	48.2	40.1	33.8	32.2	40.7	40.9
Heavy Trucks:	53.9	41.9	32.9	34.1	44.2	44.3
Vehicle Noise:	**56.4**	**48.9**	**45.3**	**41.0**	**49.5**	**50.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	10
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	905
Receiver Barrier Dist:	0	Peak Hour Traffic:	**90.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

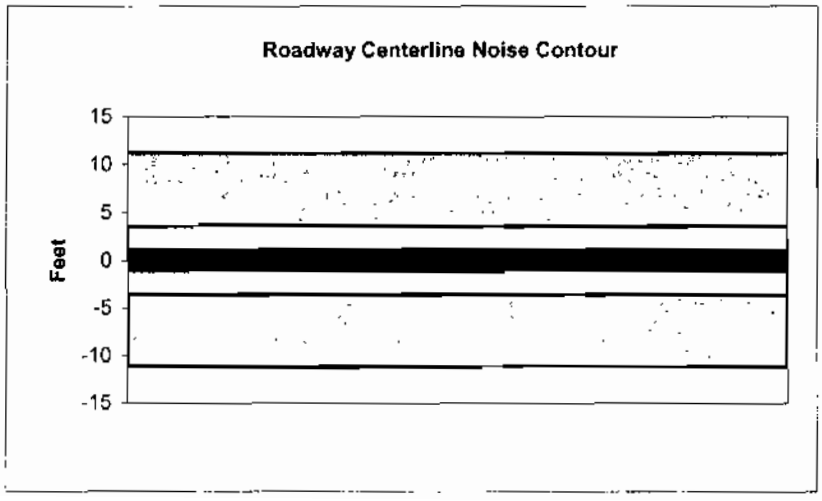
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.9	46.7	44.9	38.8	47.4	48.0
Medium Trucks:	48.5	40.4	34.0	32.5	40.9	41.2
Heavy Trucks:	54.1	42.2	33.1	34.4	44.5	44.6
Vehicle Noise:	**56.7**	**49.1**	**45.6**	**41.3**	**49.8**	**50.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	11
65 dBA	4
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1640
Peak Hour Traffic:	164
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

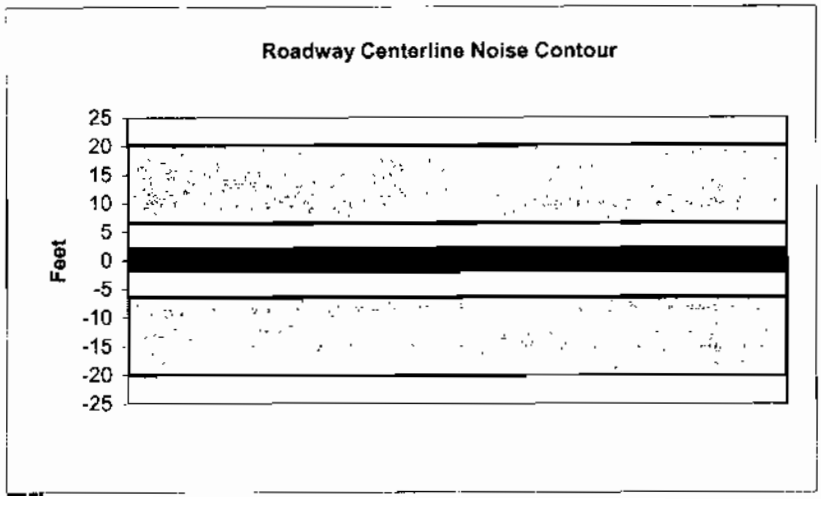
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.5	49.2	47.5	41.4	50.0	50.6
Medium Trucks:	51.1	43.0	36.6	35.0	43.5	43.8
Heavy Trucks:	56.7	44.8	35.7	36.9	47.1	47.2
Vehicle Noise:	**59.2**	**51.7**	**48.2**	**43.8**	**52.4**	**52.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	20
65 dBA	6
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1230
Peak Hour Traffic:	**123**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

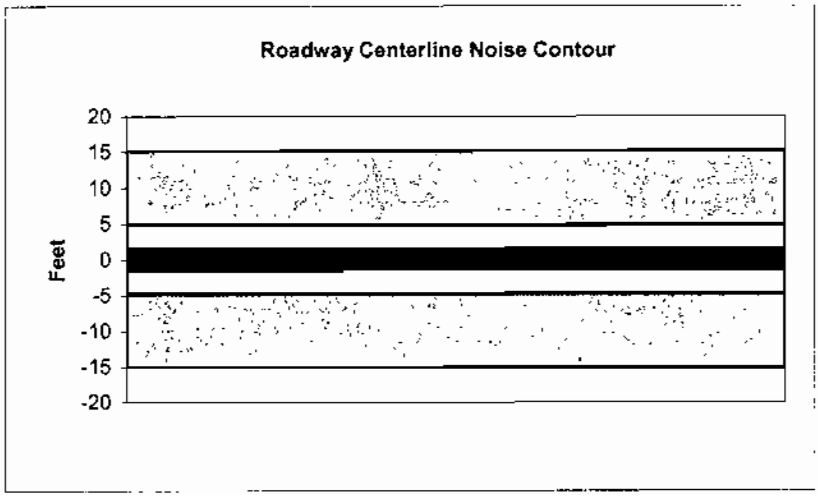
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.2	48.0	46.2	40.1	48.8	49.4
Medium Trucks:	49.8	41.7	35.4	33.8	42.3	42.5
Heavy Trucks:	55.5	43.5	34.5	35.7	45.8	45.9
Vehicle Noise:	**58.0**	**50.5**	**46.9**	**42.6**	**51.1**	**51.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	15
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Between Broadway and 1st Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	1190
Receiver Barrier Dist:	0	Peak Hour Traffic:	**119**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

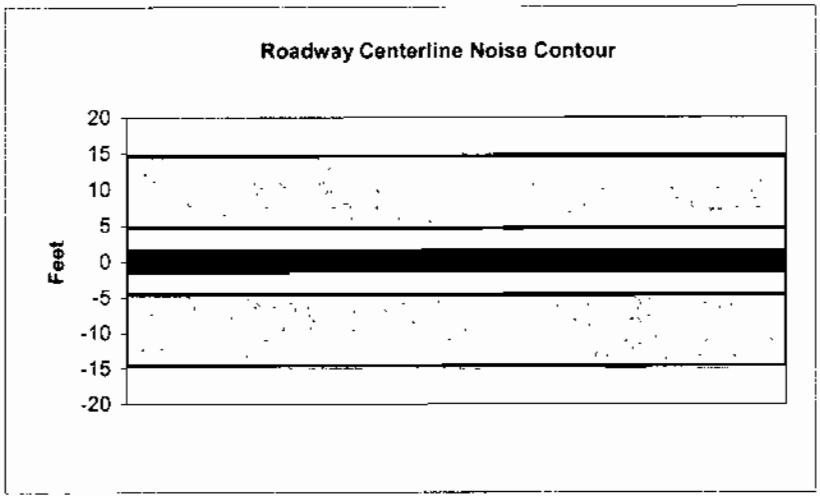
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.1	47.8	46.1	40.0	48.6	49.2
Medium Trucks:	49.7	41.6	35.2	33.6	42.1	42.4
Heavy Trucks:	55.3	43.4	34.3	35.5	45.7	45.8
Vehicle Noise:	**57.8**	**50.3**	**46.8**	**42.5**	**51.0**	**51.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	15
65 dBA	5
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Lime Avenue		
Road Segment:	Lime Avenue North of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	630
Receiver Barrier Dist:	0	Peak Hour Traffic:	63
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

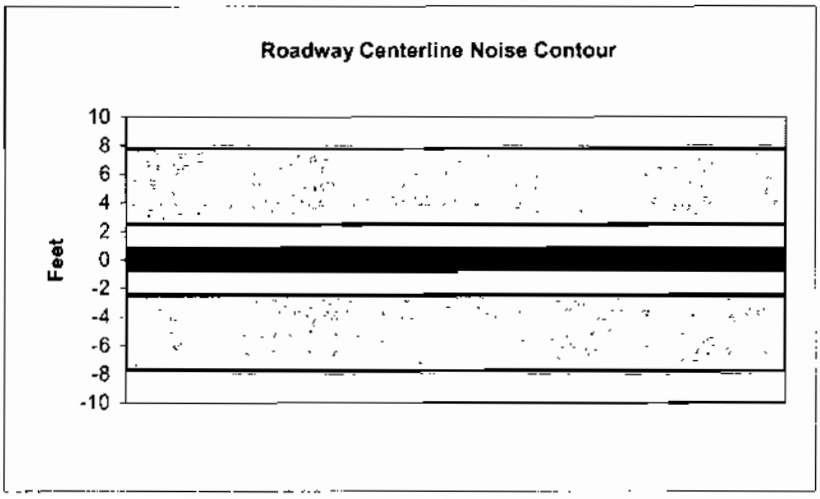
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	36.3	45.1	43.3	37.2	45.9	46.5
Medium Trucks:	46.9	38.8	32.5	30.9	39.4	39.6
Heavy Trucks:	52.6	40.6	31.6	32.8	42.9	43.0
Vehicle Noise:	**55.1**	**47.6**	**44.0**	**39.7**	**48.2**	**48.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	8
65 dBA	2
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	8515
Receiver Barrier Dist:	0	Peak Hour Traffic:	**851.5**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	18
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

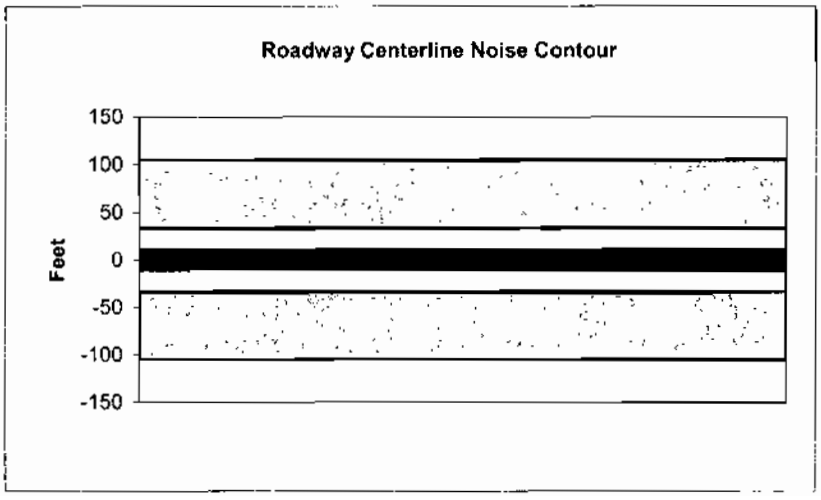
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.5	56.3	54.5	48.4	57.1	57.7
Medium Trucks:	58.1	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	63.7	51.8	42.8	44.0	54.1	54.2
Vehicle Noise:	**66.3**	**58.8**	**55.2**	**50.9**	**59.4**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	105
65 dBA	33
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9535
Peak Hour Traffic:	**953.5**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

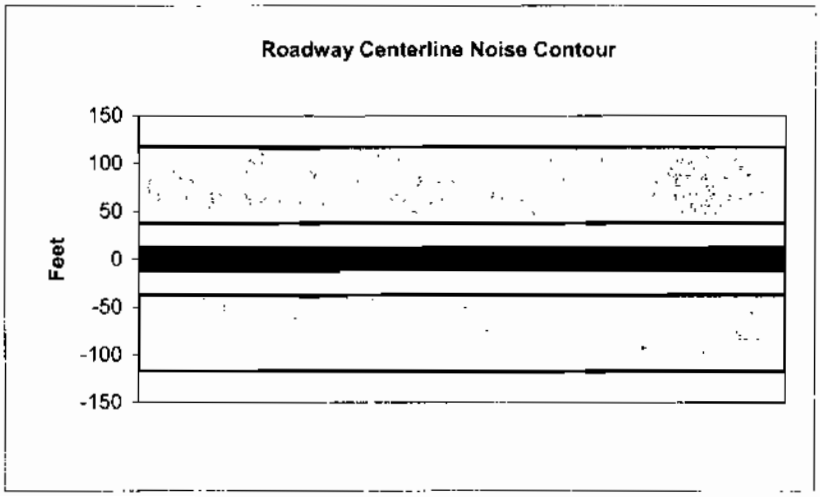
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.8	55.0	48.9	57.5	58.2
Medium Trucks:	58.6	50.5	44.1	42.6	51.1	51.3
Heavy Trucks:	64.2	52.3	43.2	44.5	54.6	54.7
Vehicle Noise:	**66.8**	**59.3**	**55.7**	**51.4**	**59.9**	**60.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	118
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Between Broadway and Ocean Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	12560
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1256**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	18
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

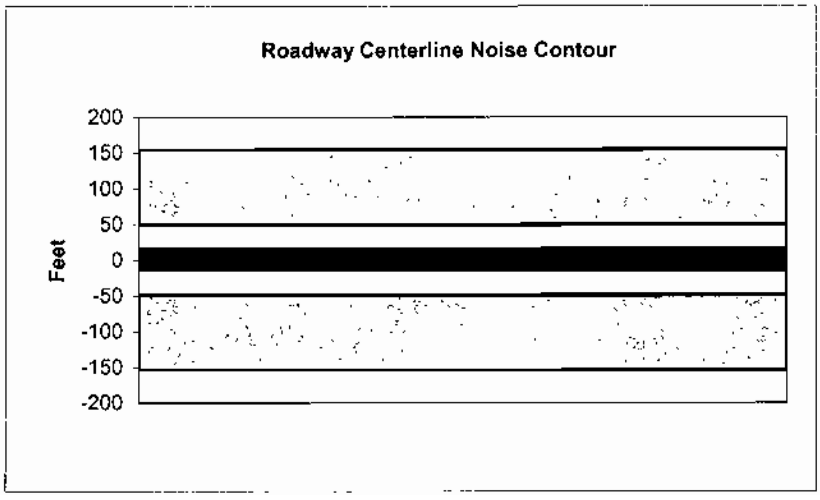
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.2	58.0	56.2	50.1	58.7	59.4
Medium Trucks:	59.8	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	65.4	53.5	44.4	45.7	55.8	55.9
Vehicle Noise:	**68.0**	**60.4**	**56.9**	**52.6**	**61.1**	**61.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	155
65 dBA	49
	16
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue north of 3rd Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	7580
Receiver Barrier Dist:	0	Peak Hour Traffic:	**758**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	18
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

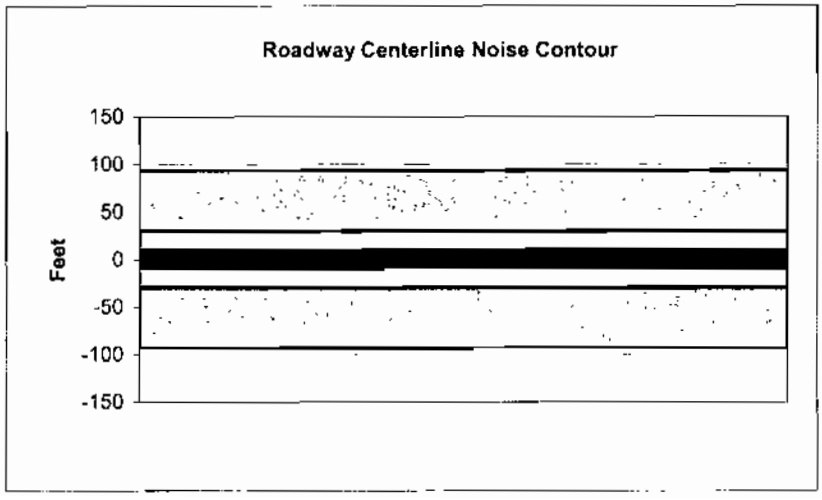
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.0	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	57.6	49.5	43.1	41.6	50.1	50.3
Heavy Trucks:	63.2	51.3	42.2	43.5	53.6	53.7
Vehicle Noise:	**65.8**	**58.3**	**54.7**	**50.4**	**58.9**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	94
65 dBA	30
	9
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue north of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8140
Peak Hour Traffic:	814
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

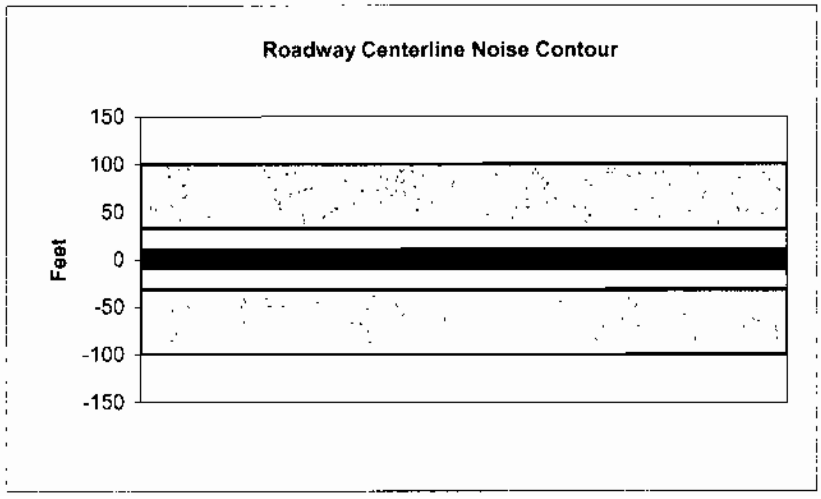
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.3	56.1	54.3	48.2	56.9	57.5
Medium Trucks:	57.9	49.8	43.5	41.9	50.4	50.6
Heavy Trucks:	63.6	51.6	42.6	43.8	53.9	54.0
Vehicle Noise:	**66.1**	**58.6**	**55.0**	**50.7**	**59.2**	**59.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	100
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Magnolia Avenue south of 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9250
Peak Hour Traffic:	**925**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

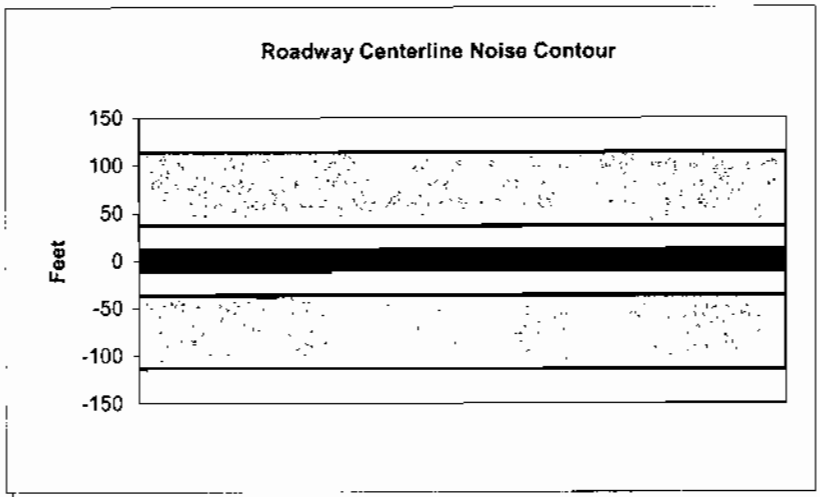
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.6	54.9	48.8	57.4	58.0
Medium Trucks:	58.5	50.4	44.0	42.4	50.9	51.2
Heavy Trucks:	64.1	52.2	43.1	44.3	54.5	54.6
Vehicle Noise:	**66.6**	**59.1**	**55.6**	**51.2**	**59.8**	**60.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	114
65 dBA	36
	11
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Magnolia Avenue		
Road Segment:	Mangolia Avenue south of Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	4520
Peak Hour Traffic:	452
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

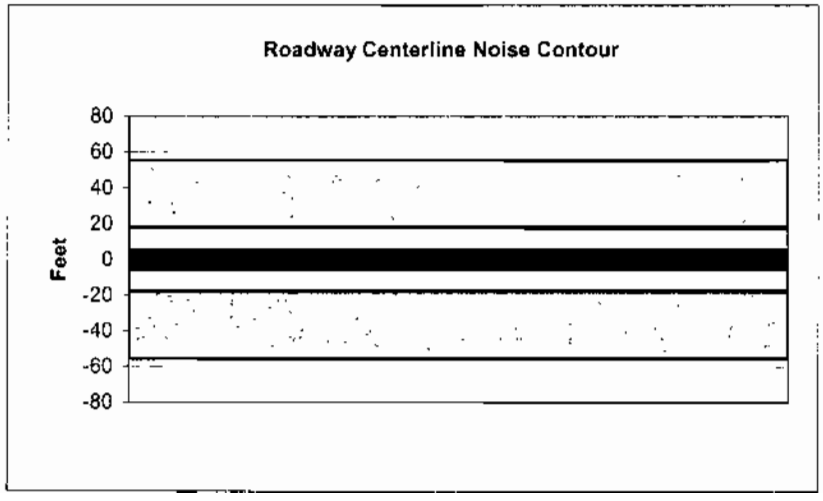
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.7	53.5	51.7	45.7	54.3	54.9
Medium Trucks:	55.4	47.3	40.9	39.3	47.8	48.0
Heavy Trucks:	61.0	49.1	40.0	41.2	51.3	51.5
Vehicle Noise:	**63.5**	**56.0**	**52.5**	**48.1**	**56.7**	**57.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	56
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Medio Street		
Road Segment:	Medio Street West of Alamitos		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	750
Receiver Barrier Dist:	0	Peak Hour Traffic:	**75**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

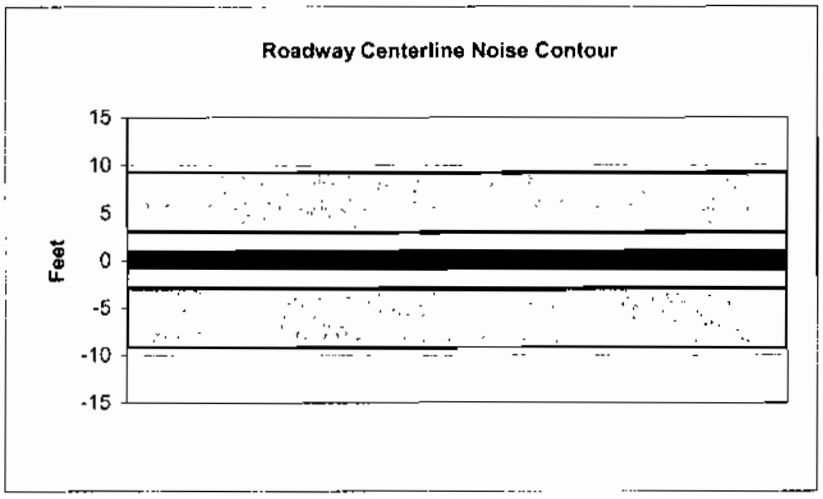
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	37.1	45.8	44.1	38.0	46.6	47.2
Medium Trucks:	47.7	39.6	33.2	31.6	40.1	40.4
Heavy Trucks:	53.3	41.4	32.3	33.5	43.7	43.8
Vehicle Noise:	**55.8**	**48.3**	**44.8**	**40.5**	**49.0**	**49.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	9
65 dBA	3
	1
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Martin Luther King Jr. Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7930
Peak Hour Traffic:	793
Vehicle Speed:	30
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

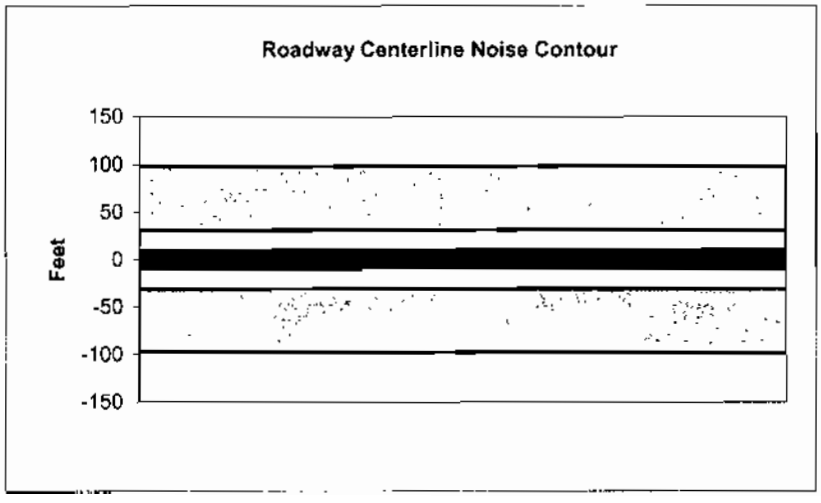
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.1	55.9	54.1	48.0	56.6	57.2
Medium Trucks:	57.7	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	63.3	51.4	42.3	43.6	53.7	53.8
Vehicle Noise:	**65.9**	**58.3**	**54.8**	**50.5**	**59.0**	**59.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	98
65 dBA	31
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Martin Luther King Jr. Avenue		
Road Segment:	Martin Luther King Jr. Avenue North of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	3430
Receiver Barrier Dist:	0	Peak Hour Traffic:	**343**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	24
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

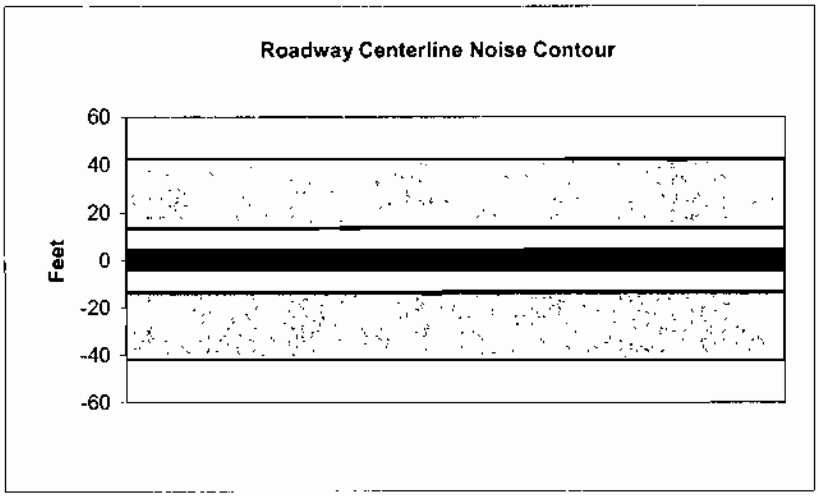
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.4	52.2	50.4	44.4	53.0	53.6
Medium Trucks:	54.0	46.0	39.6	38.0	46.5	46.7
Heavy Trucks:	59.7	47.8	38.7	39.9	50.0	50.2
Vehicle Noise:	**62.2**	**54.7**	**51.2**	**46.8**	**55.4**	**55.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	42
65 dBA	13
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Alamitos Avenue and Bonita Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	35705
Peak Hour Traffic:	3570.5
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

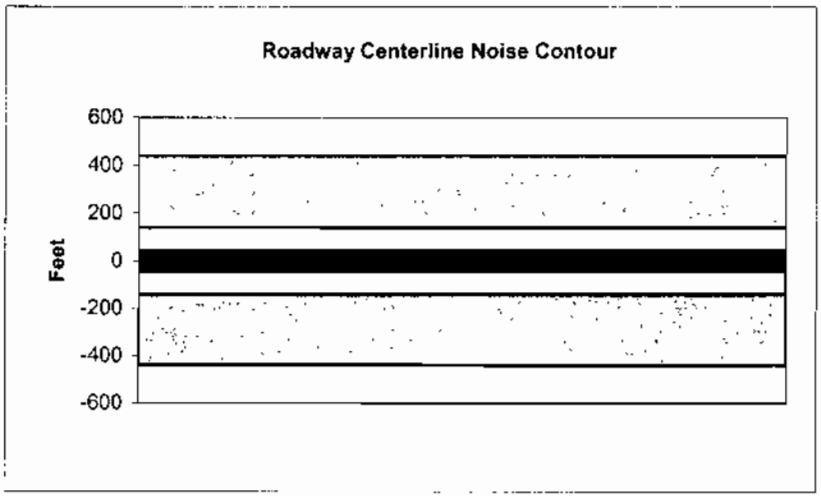
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	63.8	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	69.5	57.5	48.5	49.7	59.8	60.0
Vehicle Noise:	**72.0**	**64.5**	**61.0**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	441
65 dBA	139
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Atlanic Avenue and Lime Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	36890
Peak Hour Traffic:	3689
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

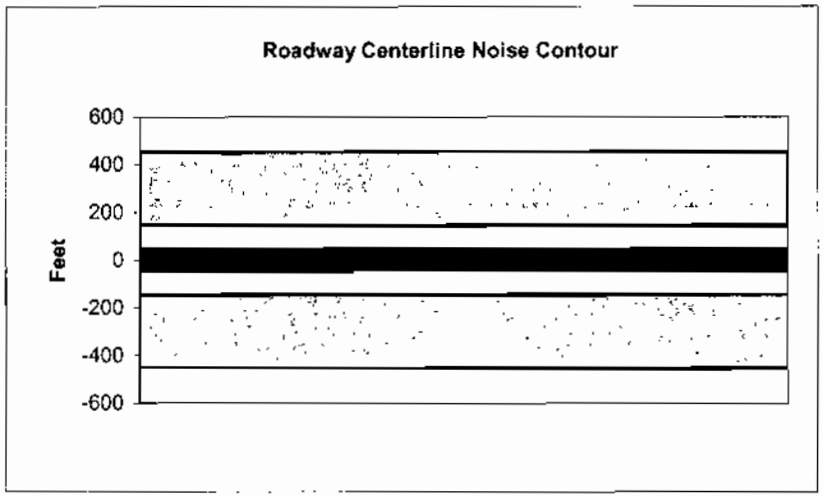
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.2	60.4	54.3	62.9	63.5
Medium Trucks:	64.0	55.9	49.5	48.0	56.4	56.7
Heavy Trucks:	69.6	57.7	48.6	49.8	60.0	60.1
Vehicle Noise:	**72.2**	**64.6**	**61.1**	**56.8**	**65.3**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	455
65 dBA	144
	46
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Bonita Avenue and Orange Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	35590
Peak Hour Traffic:	3559
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

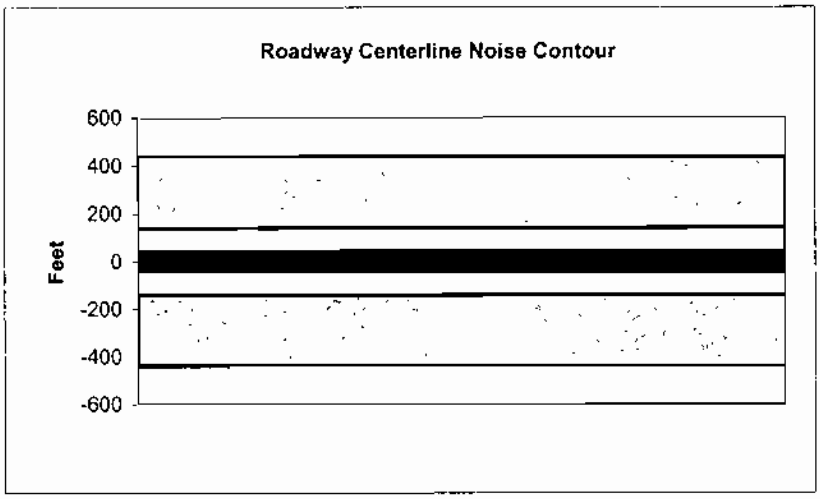
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	63.8	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	69.5	57.5	48.5	49.7	59.8	59.9
Vehicle Noise:	**72.0**	**64.5**	**60.9**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	440
65 dBA	139
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Magnolia Avenue		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	35900
Peak Hour Traffic:	3590
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

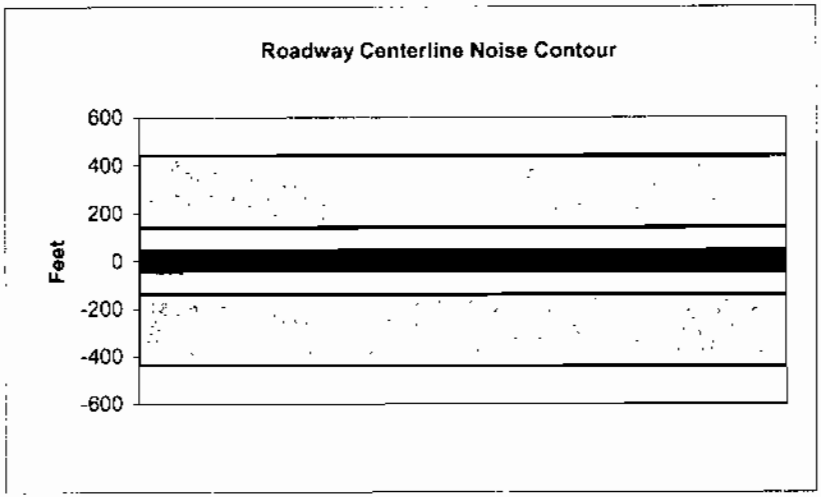
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	63.9	55.8	49.4	47.8	56.3	56.6
Heavy Trucks:	69.5	57.6	48.5	49.7	59.9	60.0
Vehicle Noise:	**72.0**	**64.5**	**61.0**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	443
65 dBA	140
	44
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	37960
Peak Hour Traffic:	3796
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

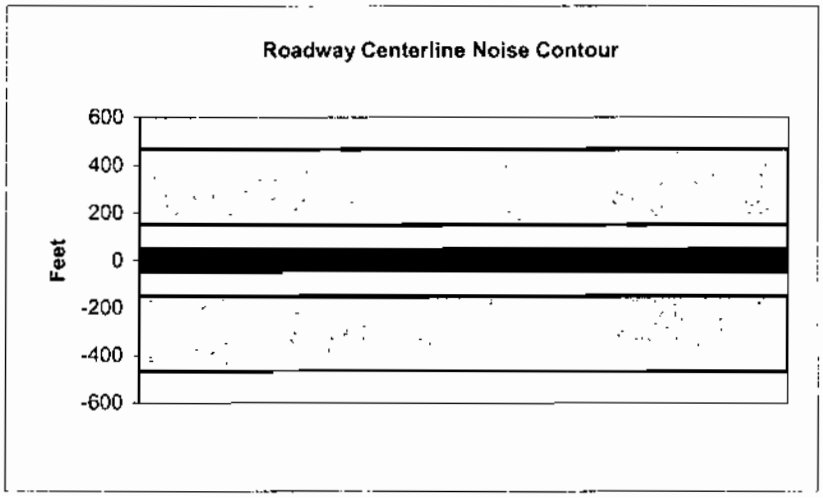
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	64.1	56.0	49.7	48.1	56.6	56.8
Heavy Trucks:	69.7	57.8	48.8	50.0	60.1	60.2
Vehicle Noise:	**72.3**	**64.8**	**61.2**	**56.9**	**65.4**	**65.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	469
65 dBA	148
	47
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Magnolia Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	37080
Peak Hour Traffic:	3708
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

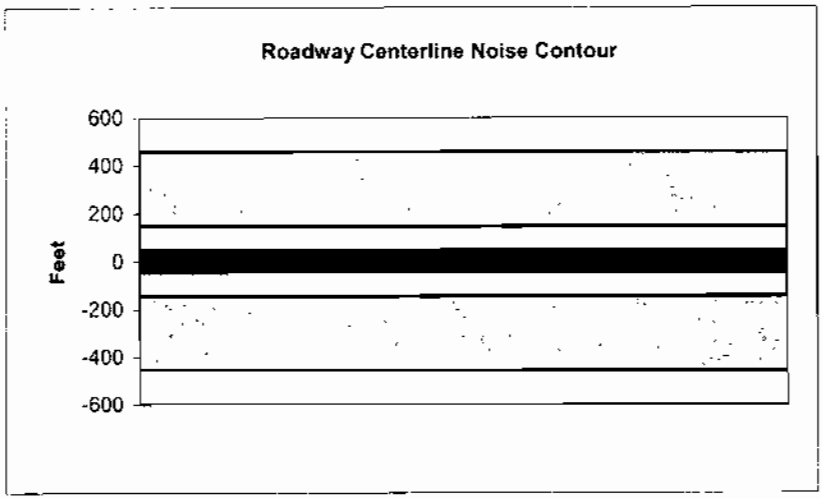
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	64.0	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	69.6	57.7	48.7	49.9	60.0	60.1
Vehicle Noise:	**72.2**	**64.7**	**61.1**	**56.8**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	458
65 dBA	145
	46
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue East of Orange Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	36340
Receiver Barrier Dist:	0	Peak Hour Traffic:	**3634**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

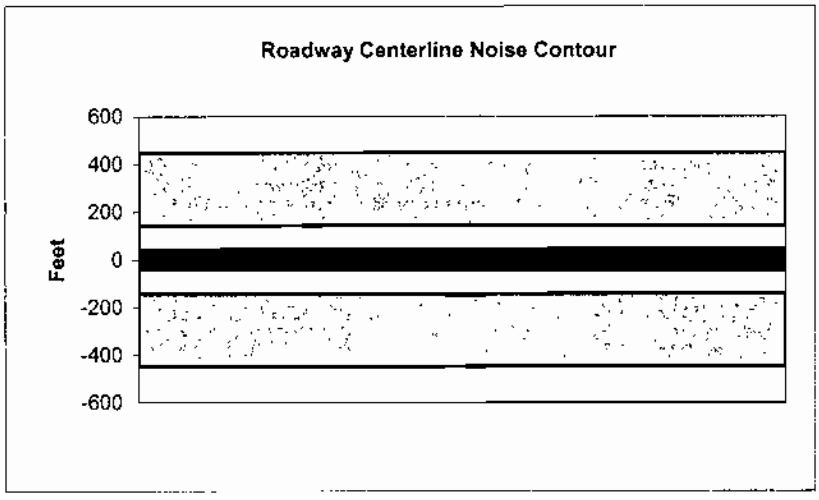
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.9	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	69.6	57.6	48.6	49.8	59.9	60.0
Vehicle Noise:	**72.1**	**64.6**	**61.0**	**56.7**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	449
65 dBA	142
	45
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Lime Street and Alamitos Avenue		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	36475
Peak Hour Traffic:	**3647.5**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

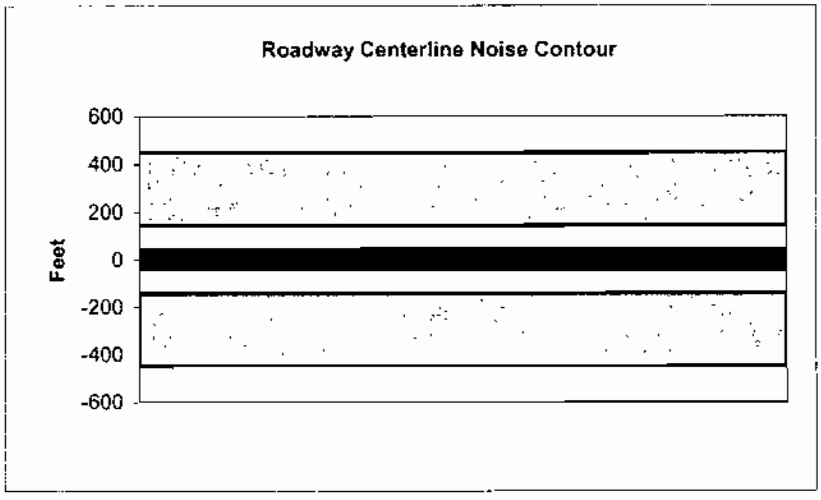
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	69.6	57.6	48.6	49.8	59.9	60.1
Vehicle Noise:	**72.1**	**64.6**	**61.0**	**56.7**	**65.3**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	450
65 dBA	142
	45
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Pacific Avenue and Pine Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	37590
Peak Hour Traffic:	3759
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

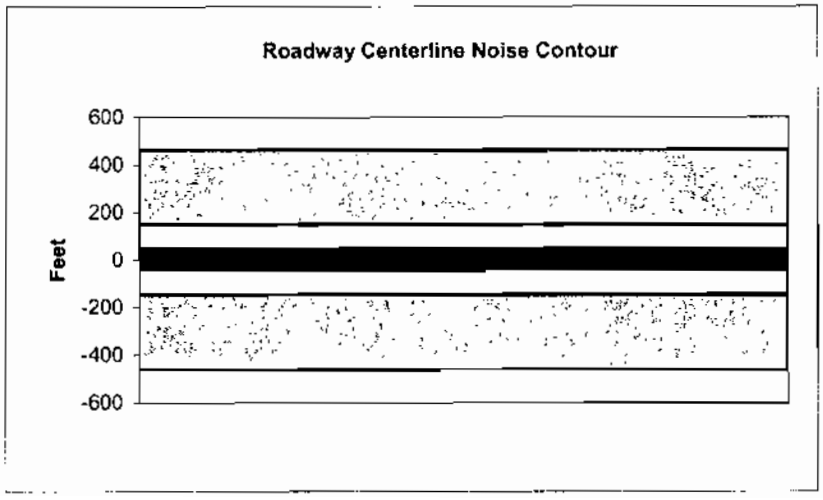
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	64.1	56.0	49.6	48.0	56.5	56.8
Heavy Trucks:	69.7	57.8	48.7	49.9	60.1	60.2
Vehicle Noise:	**72.2**	**64.7**	**61.2**	**56.8**	**65.4**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	464
65 dBA	147
	46
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Between Pine Street and Long Beach Blvd.		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	39460
Peak Hour Traffic:	3946
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

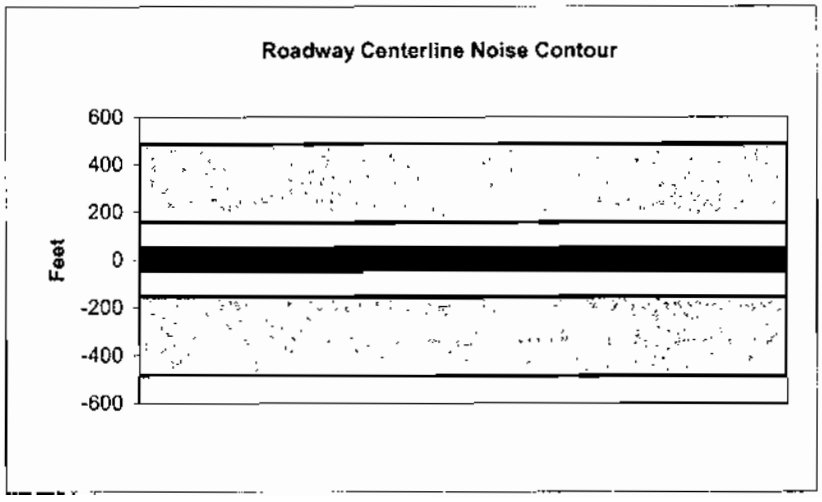
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.7	62.4	60.7	54.6	63.2	63.8
Medium Trucks:	64.3	56.2	49.8	48.2	56.7	57.0
Heavy Trucks:	69.9	58.0	48.9	50.1	60.3	60.4
Vehicle Noise:	**72.4**	**64.9**	**61.4**	**57.1**	**65.6**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	488
65 dBA	154
	49
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Atlanic Avenue		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	36360
Peak Hour Traffic:	3636
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

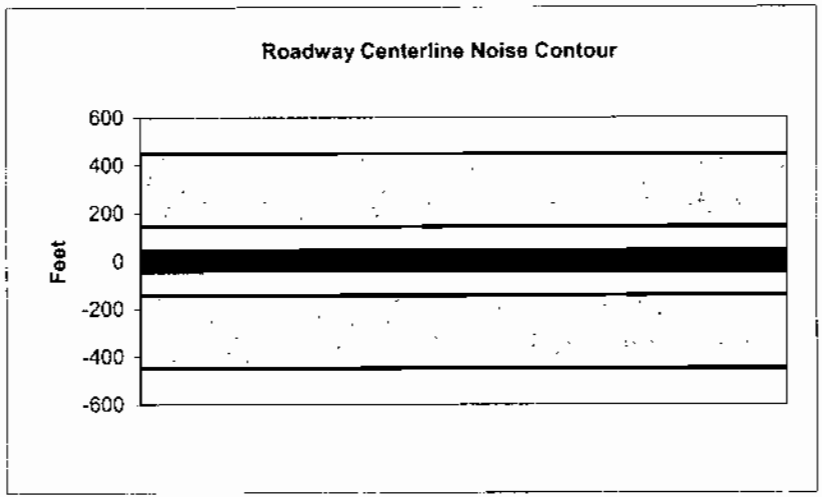
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.9	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	69.6	57.6	48.6	49.8	59.9	60.0
Vehicle Noise:	**72.1**	**64.6**	**61.0**	**56.7**	**65.3**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	449
65 dBA	142
	45
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Existing Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Ocean Avenue		
Road Segment:	Ocean Avenue West of Pacific Avenue		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	38900
Receiver Barrier Dist:	0	Peak Hour Traffic:	**3890**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	48
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

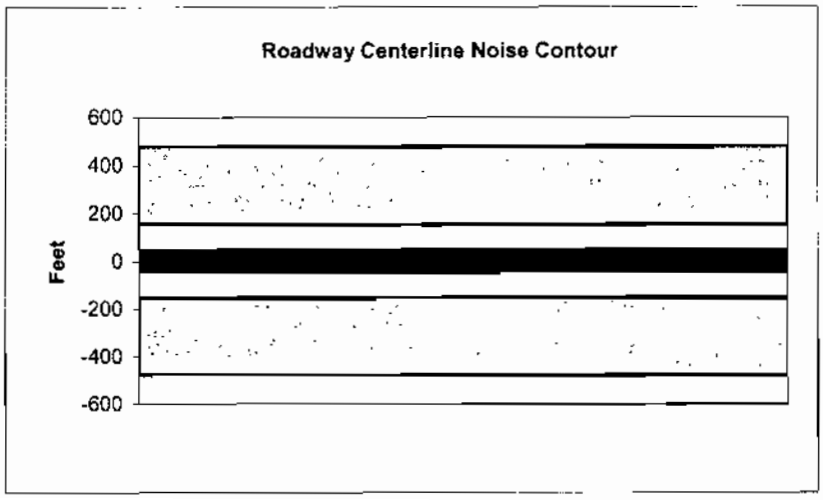
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	64.2	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	69.9	57.9	48.9	50.1	60.2	60.3
Vehicle Noise:	**72.4**	**64.9**	**61.3**	**57.0**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	480
65 dBA	152
	48
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2510
Peak Hour Traffic:	251
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

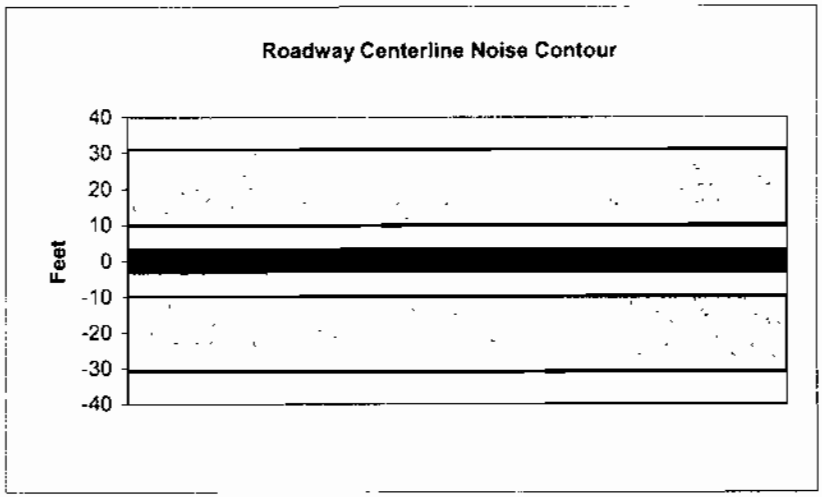
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.1	49.3	43.2	51.9	52.5
Medium Trucks:	52.9	44.8	38.5	36.9	45.4	45.6
Heavy Trucks:	58.6	46.6	37.6	38.8	48.9	49.0
Vehicle Noise:	**61.1**	**53.6**	**50.0**	**45.7**	**54.2**	**54.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	31
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2485
Peak Hour Traffic:	248.5
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

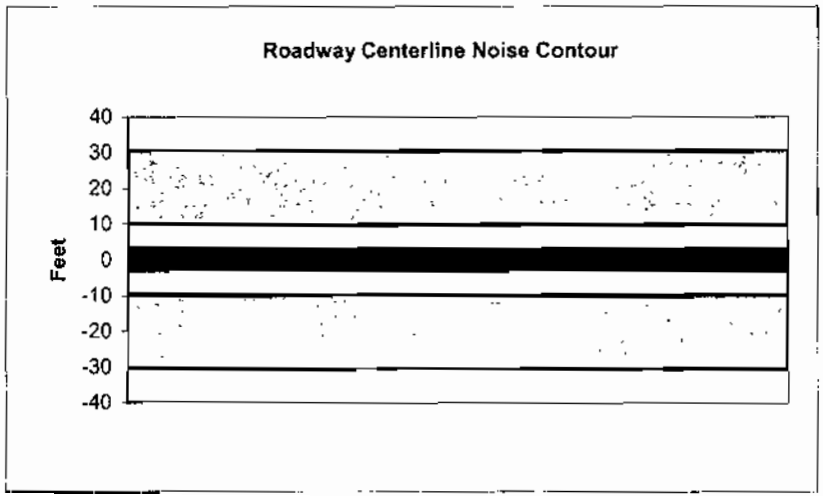
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.0	49.3	43.2	51.8	52.4
Medium Trucks:	52.9	44.8	38.4	36.8	45.3	45.6
Heavy Trucks:	58.5	46.6	37.5	38.7	48.9	49.0
Vehicle Noise:	**61.0**	**53.5**	**50.0**	**45.7**	**54.2**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	31
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue North of 4th Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2480
Peak Hour Traffic:	**248**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

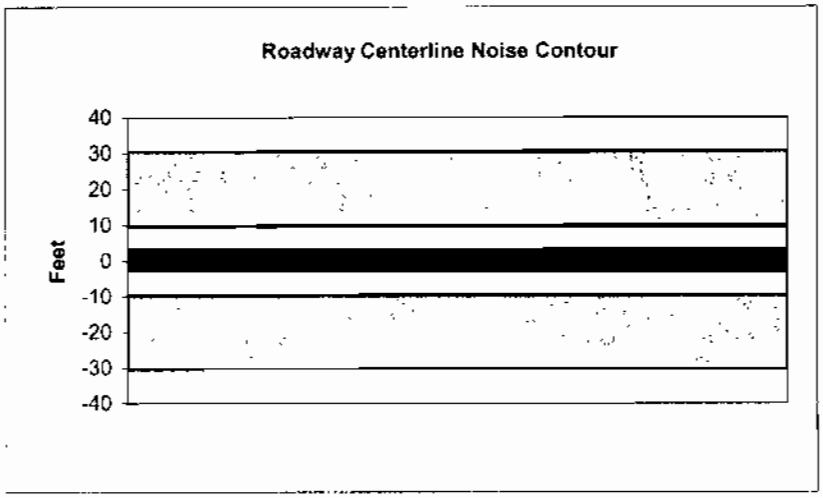
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.0	49.2	43.2	51.8	52.4
Medium Trucks:	52.9	44.8	38.4	36.8	45.3	45.6
Heavy Trucks:	58.5	46.6	37.5	38.7	48.9	49.0
Vehicle Noise:	**61.0**	**53.5**	**50.0**	**45.6**	**54.2**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
	3
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue North of Ocean		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1300
Peak Hour Traffic:	130
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

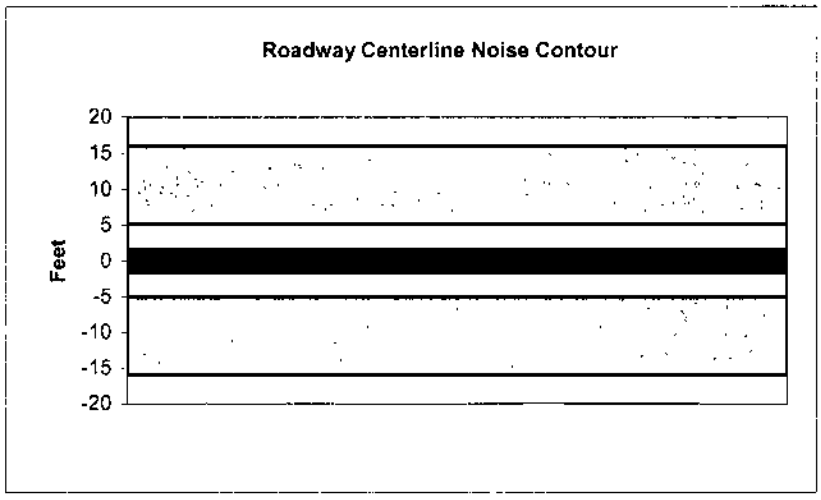
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.4	48.2	46.4	40.4	49.0	49.6
Medium Trucks:	50.1	42.0	35.6	34.0	42.5	42.7
Heavy Trucks:	55.7	43.8	34.7	35.9	46.1	46.2
Vehicle Noise:	**58.2**	**50.7**	**47.2**	**42.8**	**51.4**	**51.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	16
65 dBA	5
	2
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Orange Avenue		
Road Segment:	Orange Avenue South of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	2880
Receiver Barrier Dist:	0	Peak Hour Traffic:	**288**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

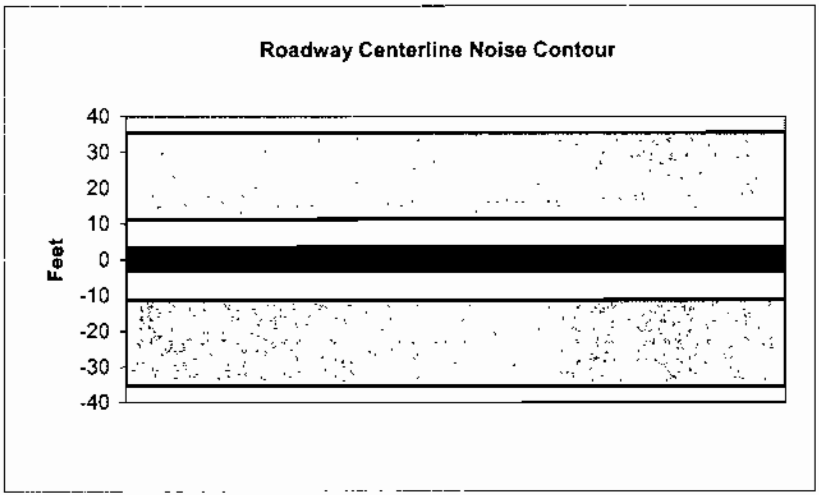
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.5	53.1
Medium Trucks:	53.5	45.4	39.1	37.5	46.0	46.2
Heavy Trucks:	59.2	47.2	38.2	39.4	49.5	49.6
Vehicle Noise:	**61.7**	**54.2**	**50.6**	**46.3**	**54.8**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	36
65 dBA	11
	4
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9830
Peak Hour Traffic:	983
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

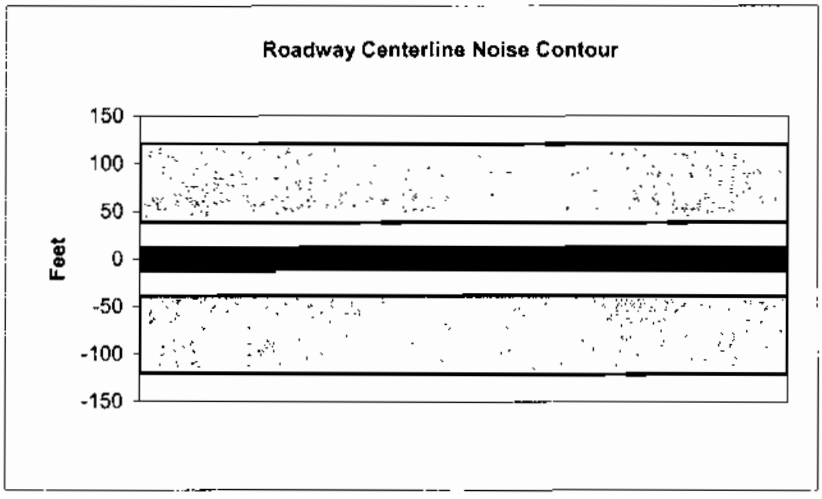
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.9	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	58.5	50.4	44.1	42.5	51.0	51.2
Heavy Trucks:	64.2	52.2	43.2	44.4	54.5	54.6
Vehicle Noise:	**66.7**	**59.2**	**55.6**	**51.3**	**59.9**	**60.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	121
65 dBA	38
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9510
Peak Hour Traffic:	951
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

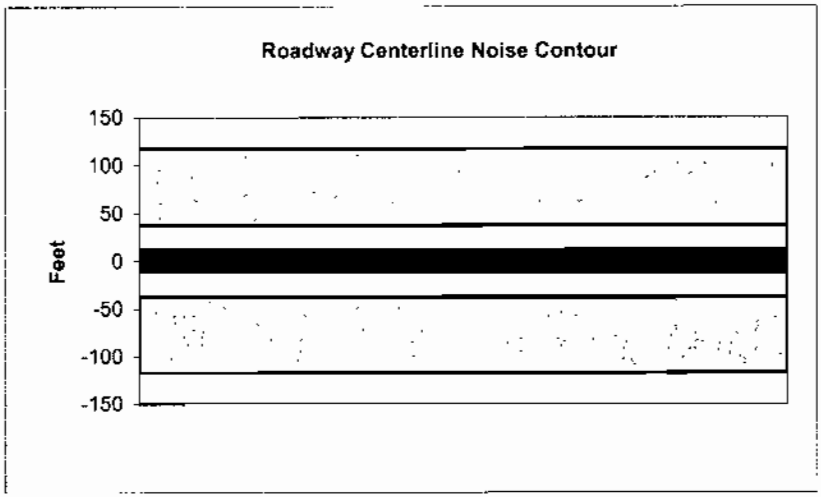
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	58.4	50.3	43.9	42.3	50.8	51.1
Heavy Trucks:	64.0	52.1	43.0	44.2	54.4	54.5
Vehicle Noise:	**66.5**	**59.0**	**55.5**	**51.2**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	117
65 dBA	37
	12
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	6360
Receiver Barrier Dist:	0	Peak Hour Traffic:	**636**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	30
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

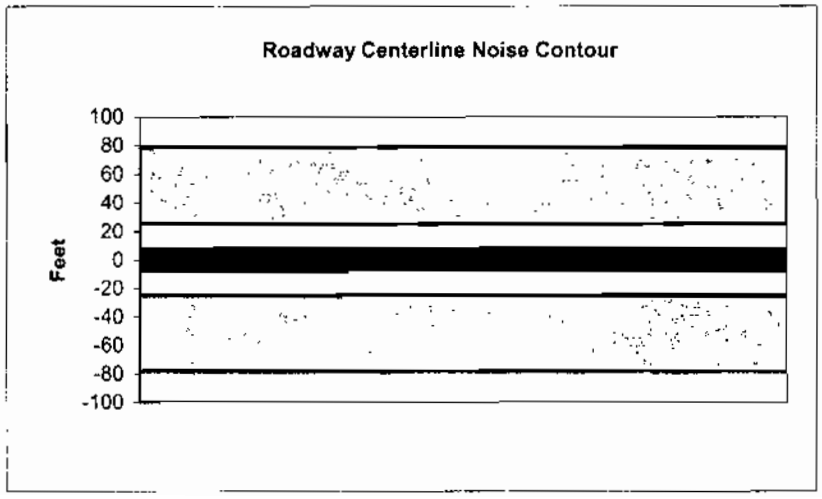
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.0	54.8	53.0	46.9	55.6	56.2
Medium Trucks:	56.6	48.6	42.2	40.6	49.1	49.3
Heavy Trucks:	62.3	50.3	41.3	42.5	52.6	52.7
Vehicle Noise:	**64.8**	**57.3**	**53.7**	**49.4**	**58.0**	**58.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	79
65 dBA	25
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade)	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6760
Peak Hour Traffic:	**676**
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

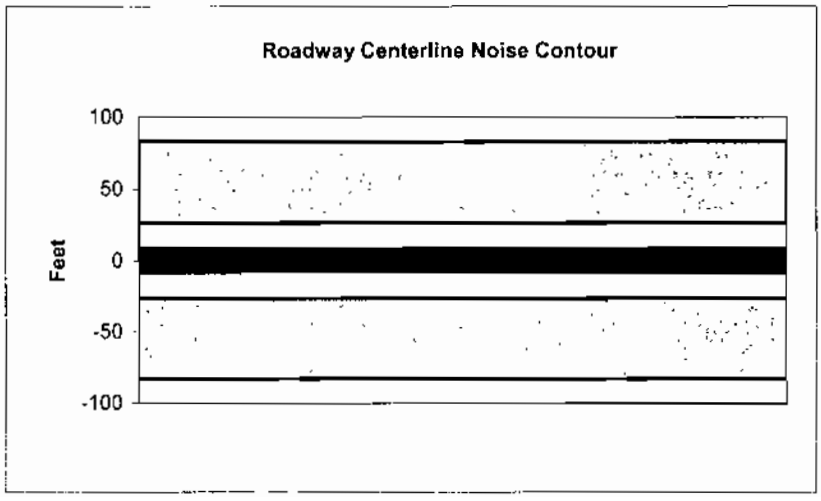
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.3	55.1	53.3	47.2	55.8	56.5
Medium Trucks:	56.9	48.8	42.4	40.9	49.4	49.6
Heavy Trucks:	62.5	50.6	41.5	42.8	52.9	53.0
Vehicle Noise:	**65.1**	**57.5**	**54.0**	**49.7**	**58.2**	**58.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	83
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10750
Peak Hour Traffic:	1075
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

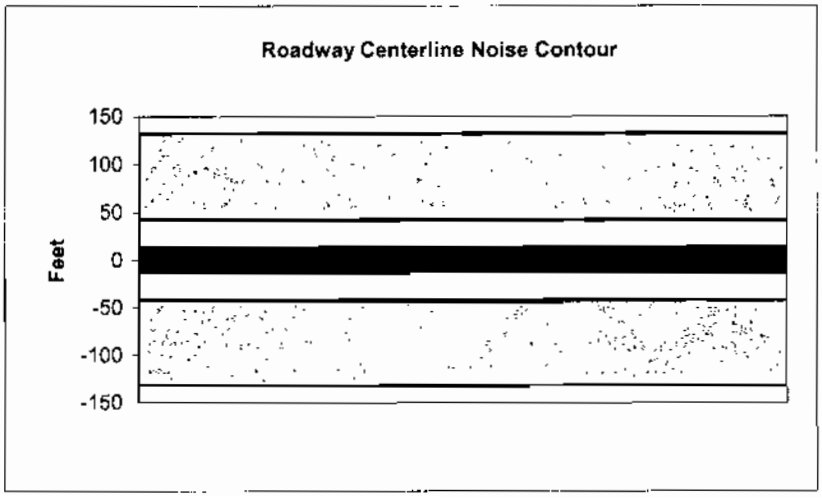
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.3	57.1	55.3	49.2	57.9	58.5
Medium Trucks:	58.9	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	64.5	52.6	43.6	44.8	54.9	55.0
Vehicle Noise:	**67.1**	**59.6**	**56.0**	**51.7**	**60.2**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	133
65 dBA	42
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue north of 7th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10420
Peak Hour Traffic:	**1042**
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

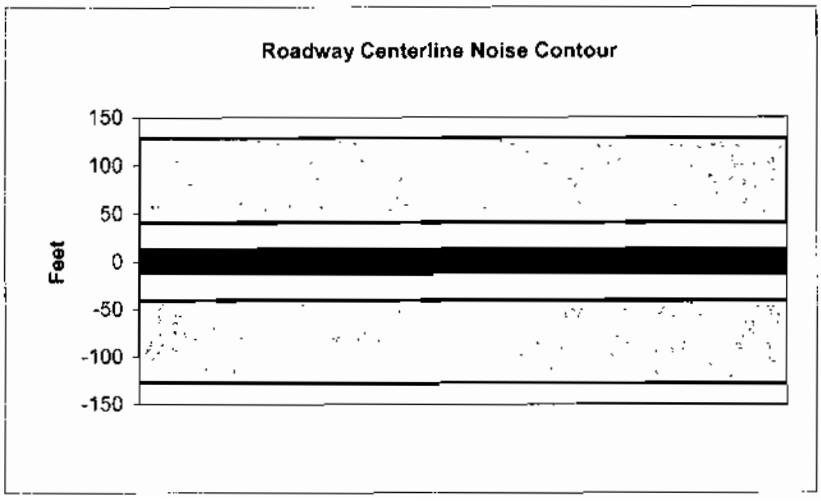
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	56.9	55.2	49.1	57.7	58.3
Medium Trucks:	58.8	50.7	44.3	42.7	51.2	51.5
Heavy Trucks:	64.4	52.5	43.4	44.6	54.8	54.9
Vehicle Noise:	**66.9**	**59.4**	**55.9**	**51.6**	**60.1**	**60.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	129
65 dBA	41
	13
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue north of Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8250
Peak Hour Traffic:	825
Vehicle Speed:	30
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

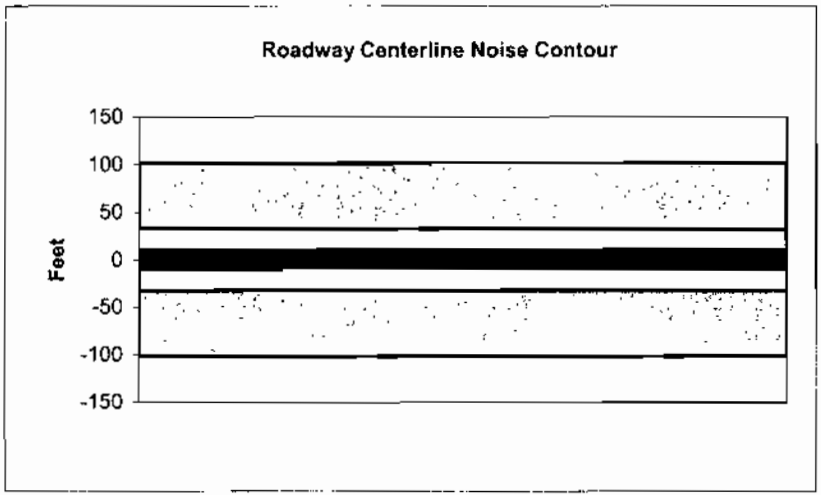
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.2	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	57.8	49.7	43.3	41.7	50.2	50.5
Heavy Trucks:	63.4	51.5	42.4	43.6	53.8	53.9
Vehicle Noise:	**65.9**	**58.4**	**54.9**	**50.5**	**59.1**	**59.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	102
65 dBA	32
	10
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pacific Avenue		
Road Segment:	Pacific Avenue south of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	11150
Receiver Barrier Dist:	0	Peak Hour Traffic:	**1115**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	30
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

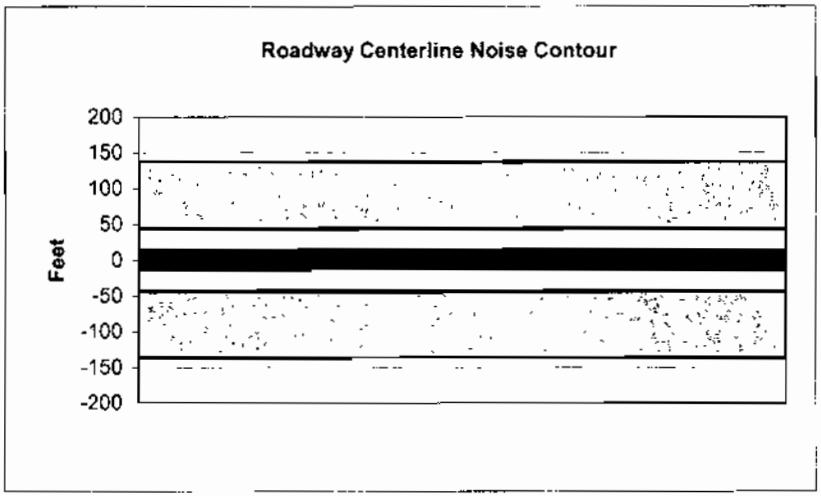
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.2	55.5	49.4	58.0	58.6
Medium Trucks:	59.1	51.0	44.6	43.0	51.5	51.8
Heavy Trucks:	64.7	52.8	43.7	44.9	55.1	55.2
Vehicle Noise:	**67.2**	**59.7**	**56.2**	**51.9**	**60.4**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	138
65 dBA	44
	14
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 3rd Street and Broadway		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5810
Peak Hour Traffic:	581
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

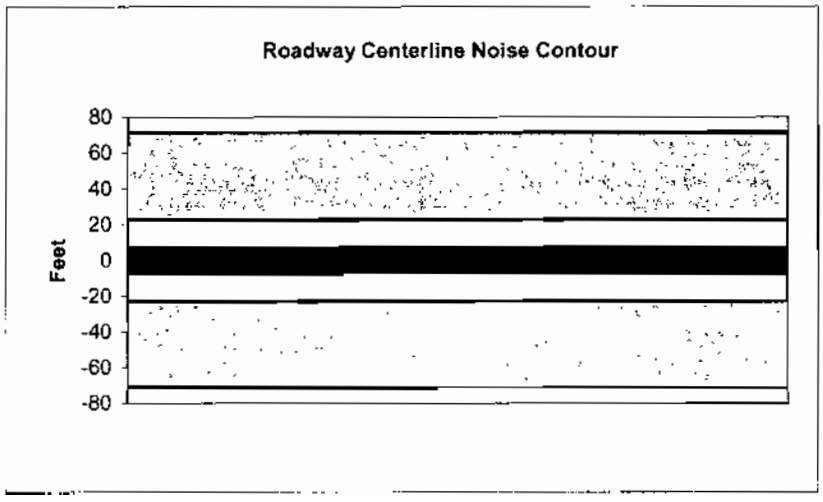
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.0	54.7	52.9	46.9	55.5	56.1
Medium Trucks:	56.6	48.5	42.1	40.5	49.0	49.3
Heavy Trucks:	62.2	50.3	41.2	42.4	52.6	52.7
Vehicle Noise:	**64.7**	**57.2**	**53.7**	**49.3**	**57.9**	**58.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	72
65 dBA	23
	7
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 4th Street and 3rd Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4540
Receiver Barrier Dist:	0	Peak Hour Traffic:	**454**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

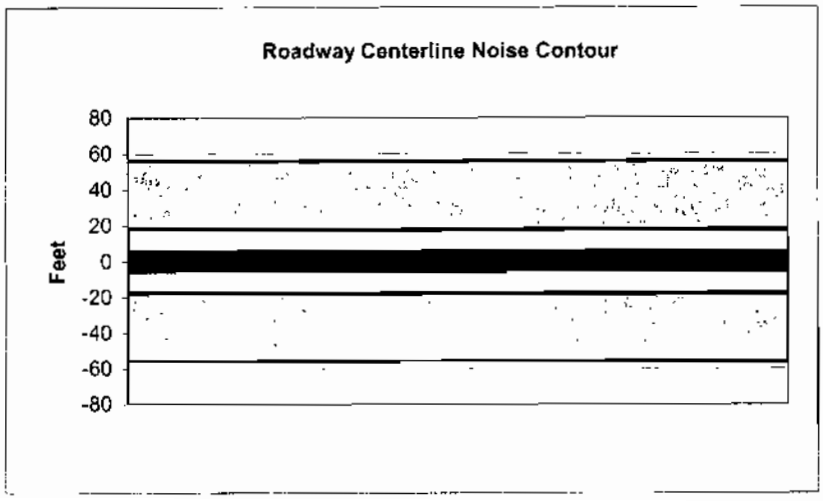
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.9	53.7	51.9	45.8	54.4	55.0
Medium Trucks:	55.5	47.4	41.0	39.5	47.9	48.2
Heavy Trucks:	61.1	49.2	40.1	41.4	51.5	51.6
Vehicle Noise:	**63.7**	**56.1**	**52.6**	**48.3**	**56.8**	**57.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	56
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 5th Street and 4th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	4685
Peak Hour Traffic:	**468.5**
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

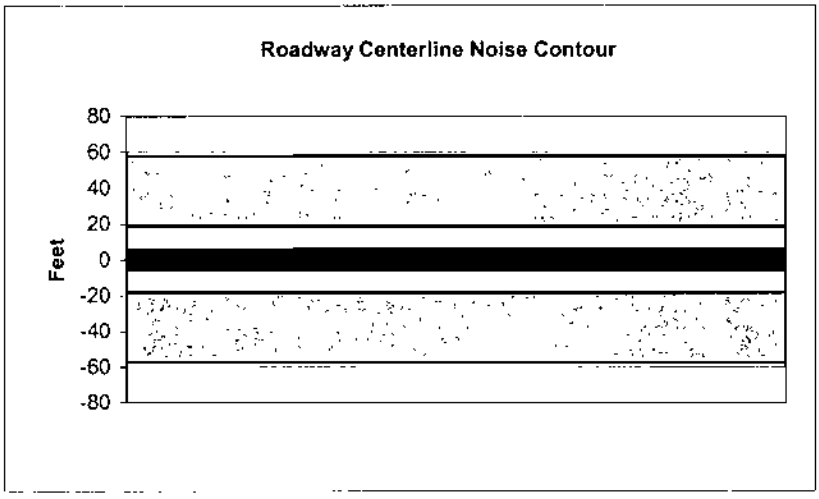
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.0	53.8	52.0	45.9	54.6	55.2
Medium Trucks:	55.6	47.6	41.2	39.6	48.1	48.3
Heavy Trucks:	61.3	49.3	40.3	41.5	51.6	51.7
Vehicle Noise:	**63.8**	**56.3**	**52.7**	**48.4**	**57.0**	**57.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	58
65 dBA	18
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 6th Street and 5th Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5000
Peak Hour Traffic:	500
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

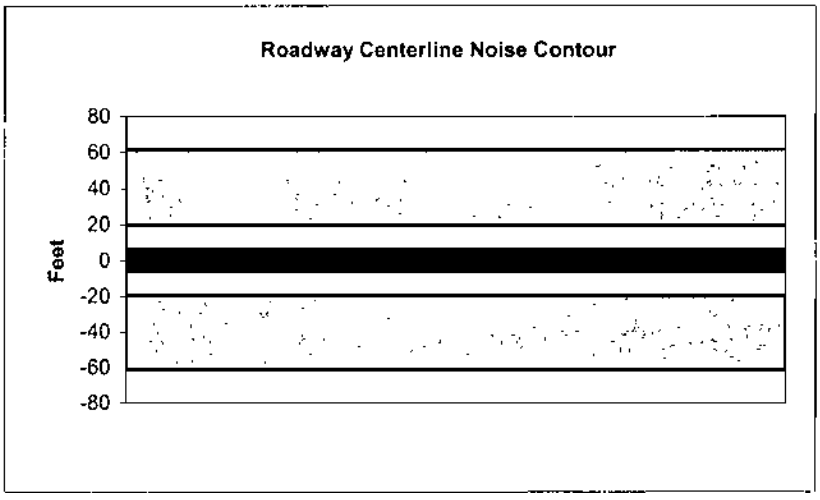
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.3	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	55.9	47.8	41.5	39.9	48.4	48.6
Heavy Trucks:	61.5	49.6	40.6	41.8	51.9	52.0
Vehicle Noise:	**64.1**	**56.6**	**53.0**	**48.7**	**57.2**	**57.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	62
65 dBA	20
	6
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Between 7th Street and 6th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4160
Receiver Barrier Dist:	0	Peak Hour Traffic:	**416**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

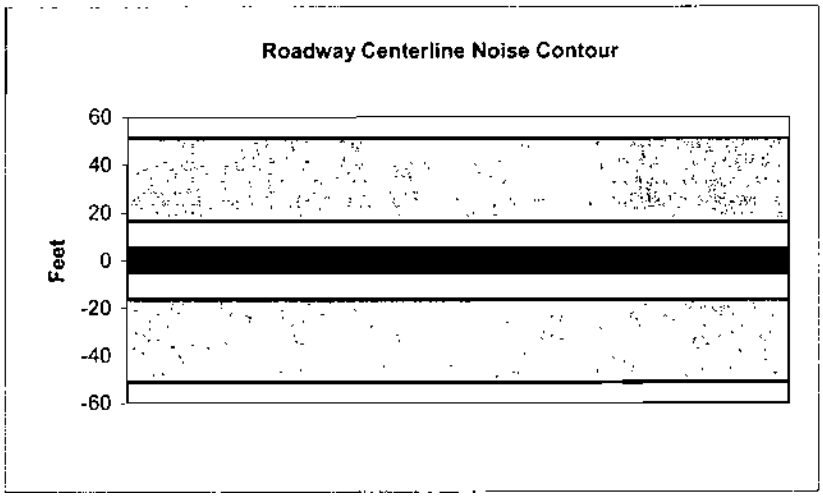
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.5	53.3	51.5	45.4	54.1	54.7
Medium Trucks:	55.1	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	60.7	48.8	39.8	41.0	51.1	51.2
Vehicle Noise:	**63.3**	**55.8**	**52.2**	**47.9**	**56.4**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	51
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street north of Ocean Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	6500
Peak Hour Traffic:	650
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

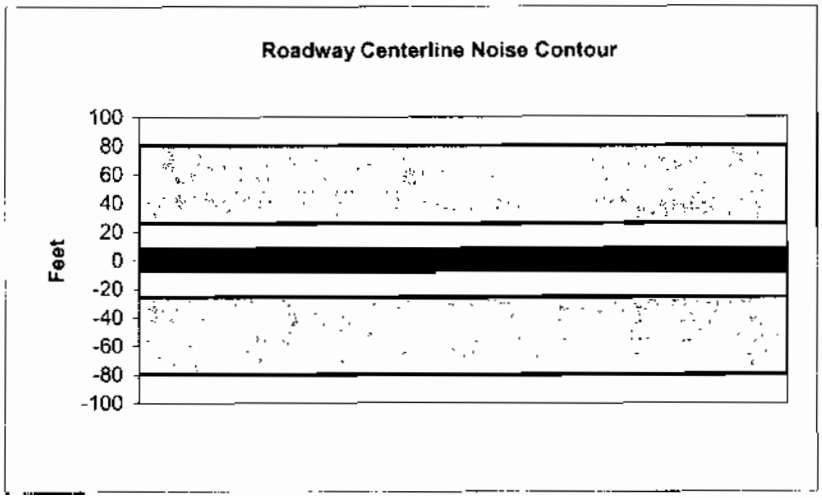
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.4	55.2	53.4	47.3	56.0	56.6
Medium Trucks:	57.0	49.0	42.6	41.0	49.5	49.7
Heavy Trucks:	62.7	50.8	41.7	42.9	53.0	53.2
Vehicle Noise:	**65.2**	**57.7**	**54.2**	**49.8**	**58.4**	**58.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	80
65 dBA	25
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street north of 7th Street		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	4180
Receiver Barrier Dist:	0	Peak Hour Traffic:	**418**
Centerline Dist. To Observer:	100	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

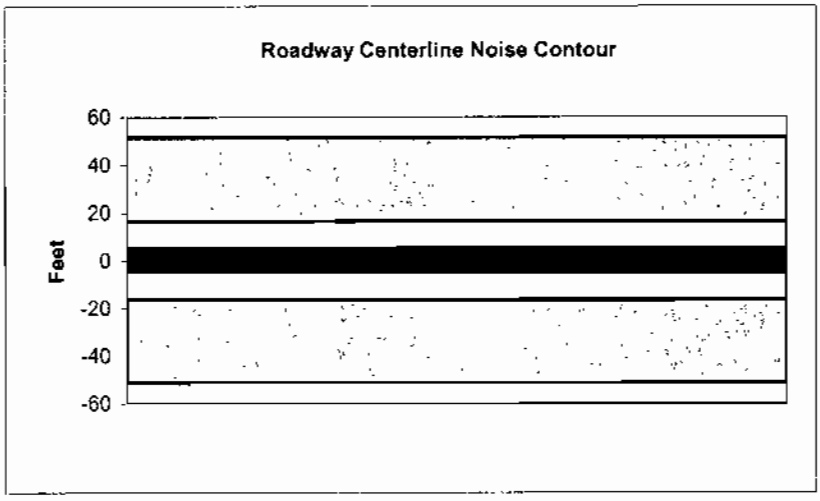
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.5	53.3	51.5	45.4	54.1	54.7
Medium Trucks:	55.1	47.1	40.7	39.1	47.6	47.8
Heavy Trucks:	60.8	48.8	39.8	41.0	51.1	51.2
Vehicle Noise:	**63.3**	**55.8**	**52.2**	**47.9**	**56.5**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	52
65 dBA	16
	5
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street south of Ocean Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade)	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6770
Peak Hour Traffic:	677
Vehicle Speed:	30
Centerline Separation:	12

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

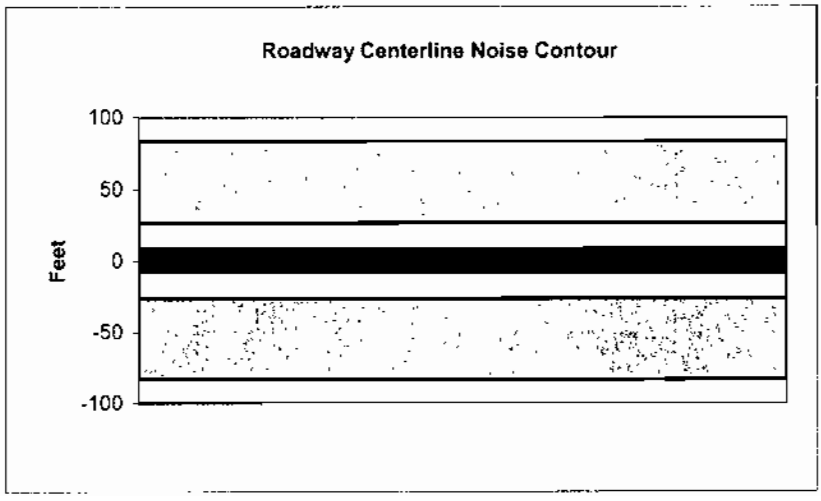
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.6	55.4	53.6	47.5	56.2	56.8
Medium Trucks:	57.2	49.2	42.8	41.2	49.7	49.9
Heavy Trucks:	62.9	50.9	41.9	43.1	53.2	53.3
Vehicle Noise:	**65.4**	**57.9**	**54.3**	**50.0**	**58.6**	**59.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	84
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Pine Street		
Road Segment:	Pine Street south of Broadway		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	6610
Receiver Barrier Dist:	0	Peak Hour Traffic:	**661**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	30
Barrier Near Lane CL Dist:	0	Centerline Separation:	12
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: **90**	Lft View: **-90**		
NOISE SOURCE ELEVATIONS (Feet)			
Autos:	0		
Medium Trucks:	**2.3**		
Heavy Trucks:	**8**		

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

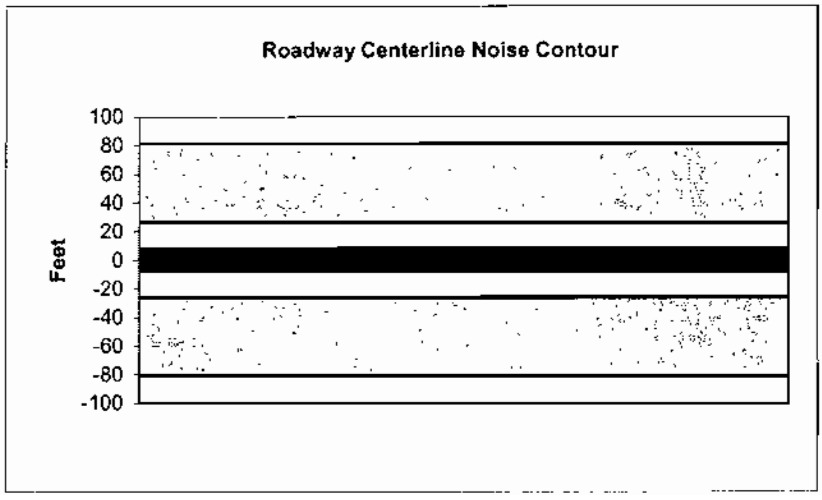
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.5	55.3	53.5	47.4	56.1	56.7
Medium Trucks:	57.1	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	62.8	50.8	41.8	43.0	53.1	53.2
Vehicle Noise:	**65.3**	**57.8**	**54.2**	**49.9**	**58.5**	**58.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	82
65 dBA	26
	8
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive South of Ocean Street		

PROJECT DATA	
Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14640
Peak Hour Traffic:	**1464**
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

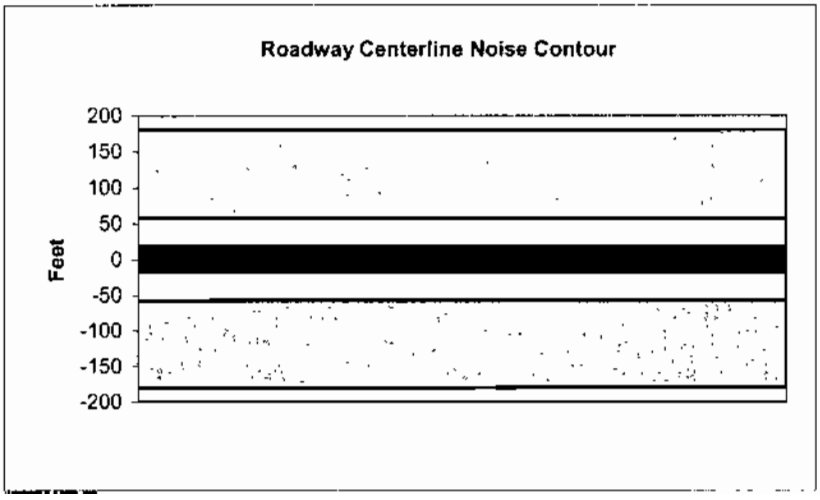
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.4	58.1	56.4	50.3	58.9	59.5
Medium Trucks:	60.0	51.9	45.5	43.9	52.4	52.7
Heavy Trucks:	65.6	53.7	44.6	45.8	56.0	56.1
Vehicle Noise:	**68.1**	**60.6**	**57.1**	**52.8**	**61.3**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	181
65 dBA	57
	18
Mitigated	
60 dBA	
65 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Shoreline Gateway	Scenario:	Future Plus Project
Analyst:	Libby Wood	Job #:	10-104514
Roadway:	Shoreline Drive		
Road Segment:	Shoreline Drive South of Intersection 68		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14670
Peak Hour Traffic:	1467
Vehicle Speed:	30
Centerline Separation:	48

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
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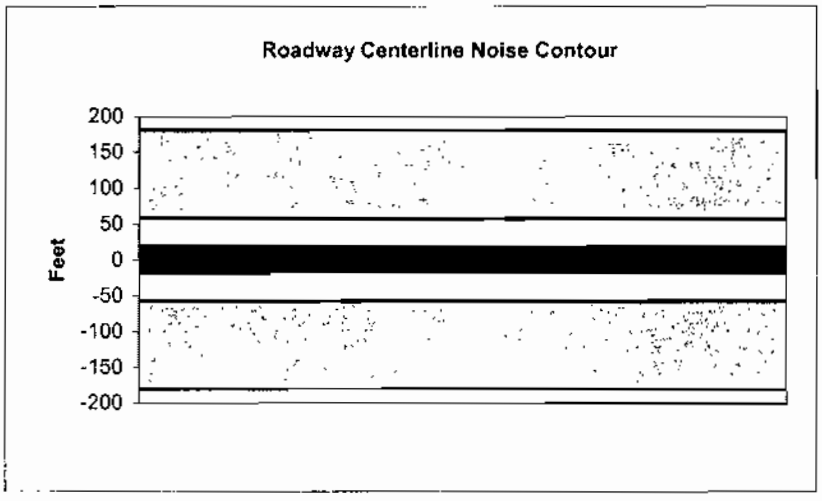
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	181
65 dBA	57
	18
Mitigated	
60 dBA	
65 dBA