

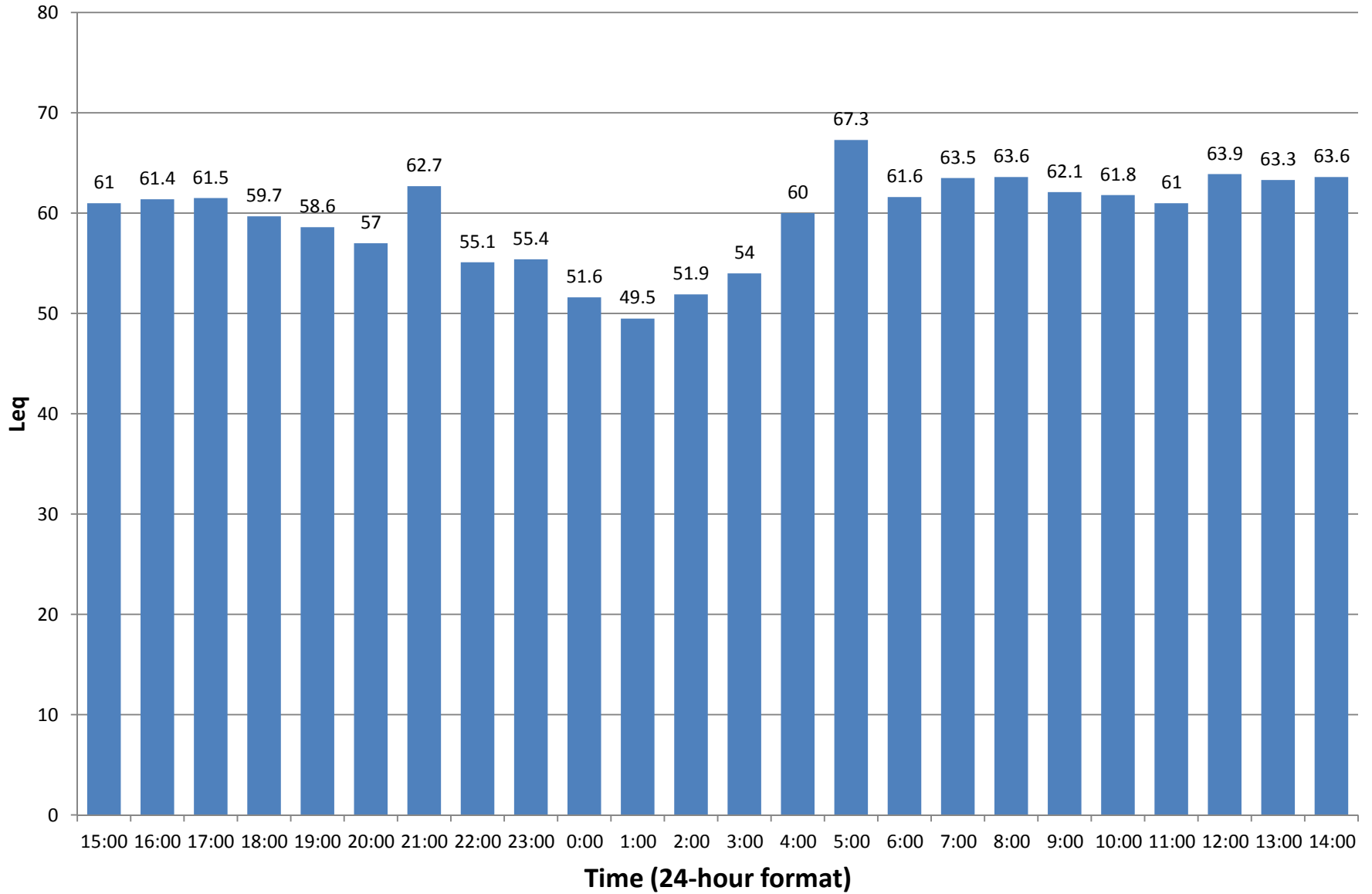
APPENDIX E:  
NOISE DATA





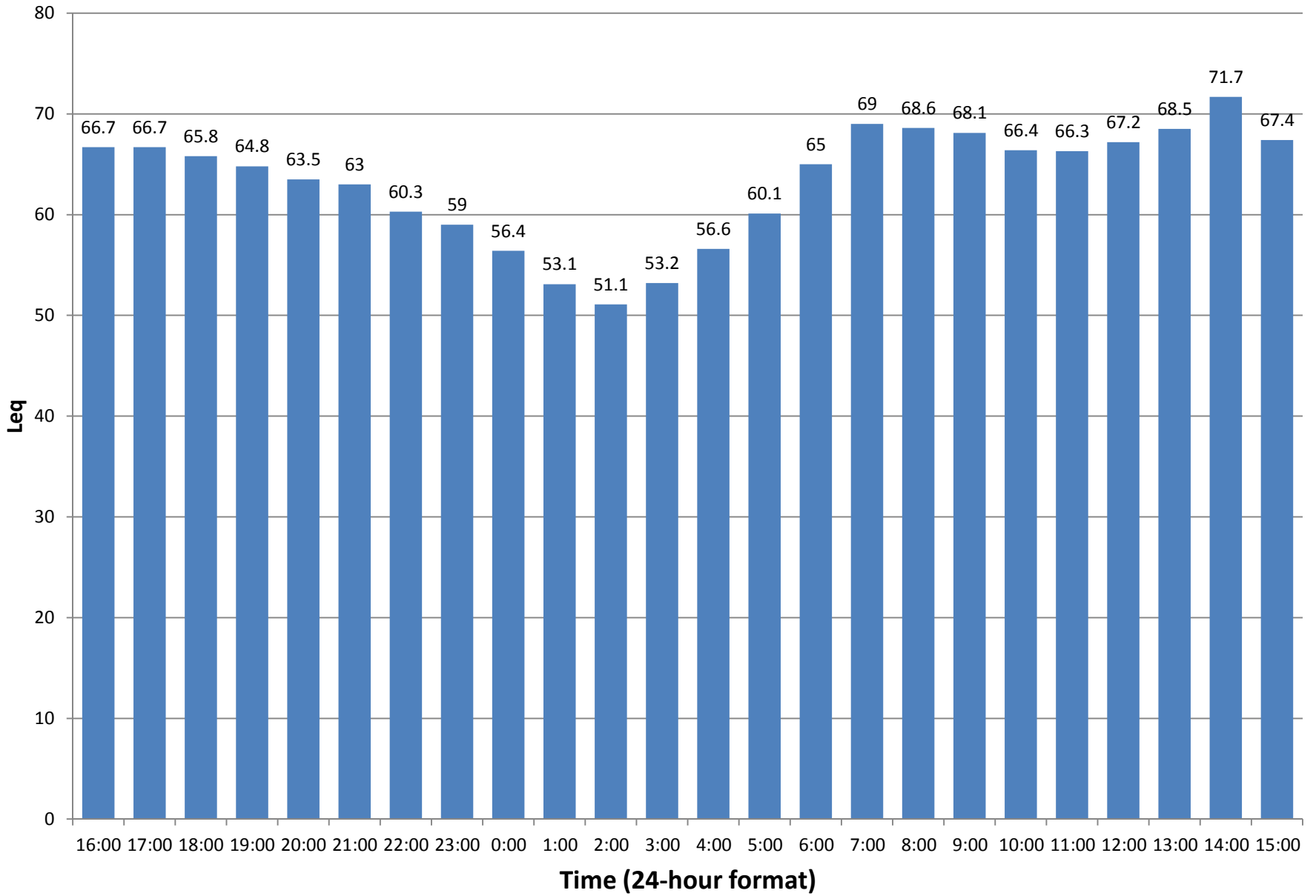
LT-1 Histogram

20 Feet from Centerline of Bohannon Road,  
and 64 Feet from Railroad Tracks



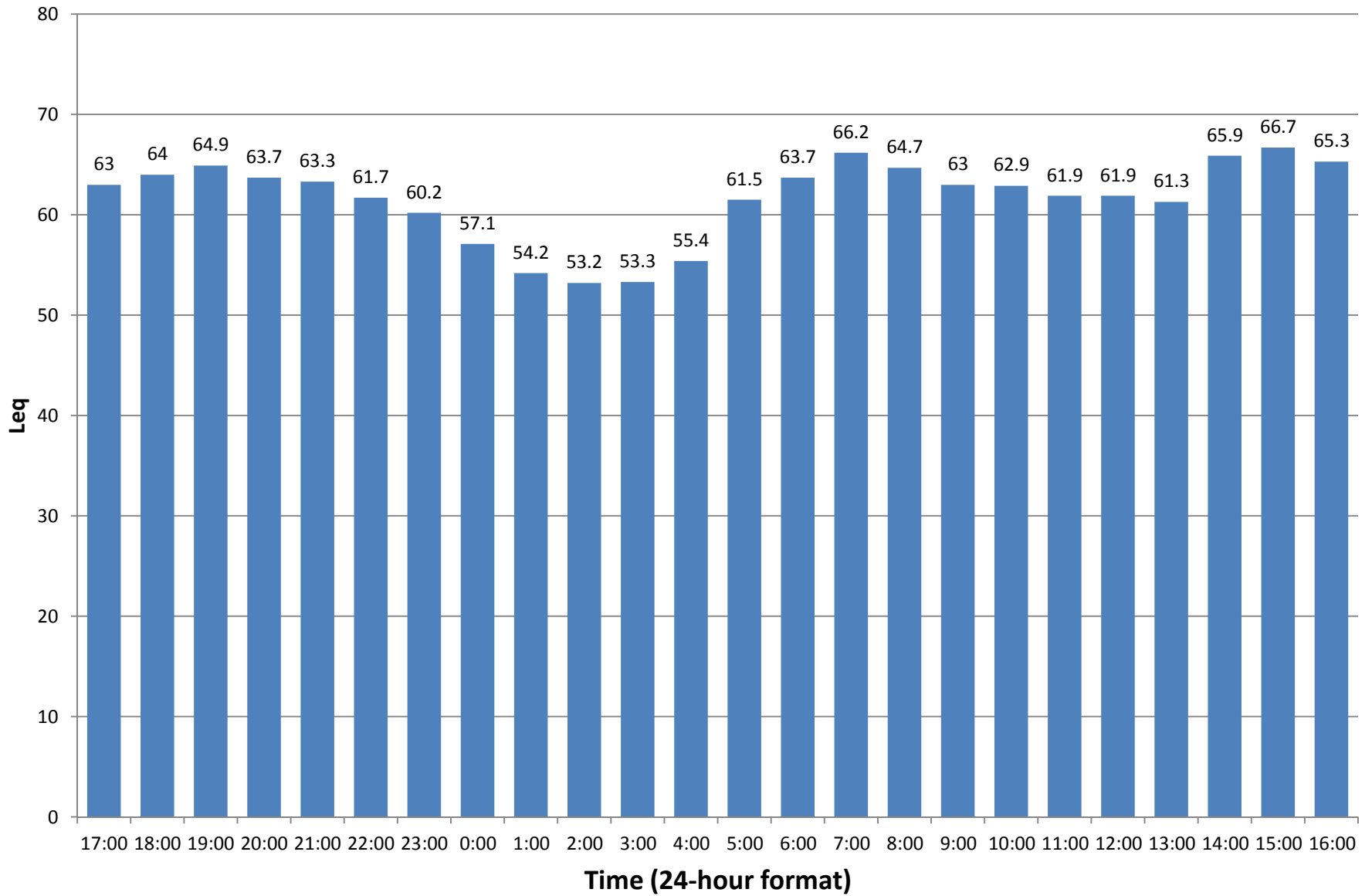
LT-2 Histogram

55 Feet from centerline of Middlefield Road, and 40 Feet from centerline of Linfield Road



LT-3 Histogram

**160 Feet from centerline of westbound lanes of Sand Hill Road, and 780 feet from the centerline of I-280**



Site: ST-1

Number of one-minute measurements 15

Average Leq: 67.31478

Minute	Leq
1	66.2
2	69.5
3	66.2
4	69.2
5	65.7
6	69
7	67.4
8	67
9	62.1
10	67.7
11	65.9
12	69.5
13	65.1
14	68.1
15	64.9

Site: ST-2

Number of one-minute measurements 15

Average Leq: 63.46009

Minute	Leq
1	59.2
2	64.3
3	58.2
4	58.8
5	60.9
6	62.9
7	62.1
8	59.9
9	65.8
10	69.7
11	61.8
12	60.8
13	58.3
14	67.8
15	60.5

Site: ST-3

Number of one-minute measurements 15

Average Leq: 56.47022

Minute	Leq
1	56.7
2	57.8
3	57.4
4	54.4
5	57.1
6	55.9
7	56.2
8	55.4 * Original minute 8 excluded due to uncharacteristic noise occurrence
9	57.7
10	57.6
11	55.1
12	57
13	56.2
14	55
15	55.7



Site: ST-4

Number of one-minute measurements 15

Average Leq: 59.5463

Minute	Leq
1	60.2
2	57.5
3	55.5
4	58.9
5	54.5
6	56.7
7	60.9
8	57.9
9	57.9
10	57.7 *Original minute 10 excluded due to uncharacteristic noise occurrence
11	59.3
12	62.9
13	57.4
14	61.4
15	63.5

Site: ST-5

Number of one-minute measurements 15

Average Leq: 55.86592

Minute	Leq
1	47.2
2	47.3
3	56
4	51.2
5	62.8
6	49.7
7	55
8	56.3
9	54.1
10	56.5
11	57.7
12	55.6
13	54.8
14	49.2
15	55.7

Site: ST-6

Number of one-minute measurements 15

Average Leq: 62.93902

Minute	Leq
1	60.5
2	62.3
3	67.5
4	60.3
5	61.1
6	62.2
7	66.3
8	62.9
9	64.4
10	61.1
11	60.6
12	62.6
13	60.8
14	60.7
15	61.6

Site: ST-7

Number of one-minute measurements 15

Average Leq: 69.05477

Minute	Leq
1	69.2
2	66.9
3	68.8
4	71.8
5	72.8
6	69.6
7	67
8	68.1
9	69.7
10	69.7
11	68.8
12	68.6
13	66.4
14	66.5
15	64.4

Site: ST-8

Number of one-minute measurements 15

Average Leq: 69.8392

Minute	Leq
1	70
2	71.1
3	71.3
4	66.3
5	71.7
6	71.8
7	68.6
8	68.6
9	68.4
10	70
11	68.9
12	69.4
13	66.2
14	70.3
15	70.5

Site: ST-9

Number of one-minute measurements 15

Average Leq: 60.85531

Minute	Leq
1	50.6
2	61.2
3	59.7
4	61.7
5	59.4
6	58.6
7	56
8	61.7
9	59.8
10	55.1
11	55.5
12	58.5
13	69
14	55.3
15	55.1

Site: ST-10

Number of one-minute measurements 15

Average Leq: 49.20649

Minute	Leq
1	45.1
2	45.9
3	47.3
4	43.4
5	45.8
6	51.7
7	56
8	44.5
9	46.7
10	44.5
11	45.6
12	47.8
13	54.2
14	45.5
15	43.1

Site: ST-11

Number of one-minute measurements 15

Average Leq: 66.7697

Minute	Leq
1	67.1
2	66.2
3	65.8
4	67.9
5	66.3
6	67.5
7	65.7
8	64.2
9	64.3
10	67.3
11	67.7
12	68
13	63.2
14	69.2
15	67.1



Site: ST-12

Number of one-minute measurements

15

Average Leq: 54.57726

Minute	Leq
1	54.3
2	59.2
3	58.1
4	54.3
5	54.6
6	56.9
7	50.9
8	57.2
9	52.6
10	52.5
11	49.1
12	50.5
13	46.7
14	46.8
15	53.3

Site: ST-13

Number of one-minute measurements 15

Average Leq: 57.44173

Minute	Leq
1	57.9
2	57.9
3	53
4	53
5	57.4
6	58.4
7	53.1
8	57.9
9	53.9
10	56.5
11	58
12	58.1
13	62.9
14	54.2
15	56.5

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS Project: CITY OF MENLO PARK UPD,  
 Roadway: Haven Ave Analyst FJS  
 Segment: City Limits-Bayfront Expwy/Marsh Date: 30-Jan-13

ROADWAY INPUTS	
ADT	5,751
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	289	61	24	135	28	11	63	13	5
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-5.5	-12.3	-16.2	-8.8	-15.6	-19.5	-12.1	-18.8	-22.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.4	56.3	57.9	49.1	52.9	54.6	45.9	49.7	51.3
VEHICULAR NOISE	DAY=	60.9	Leq	EVENING=	57.5	Leq	NIGHT=	54.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.3</b>	
		<b>CNEL= 62.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 30</b>	<b>66 142</b>
		<b>CNEL: 32</b>	<b>70 150</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD**  
 Roadway: **Marsh Rd** Analyst **FJS**  
 Segment: **Bay Rd-Bohannon Dr/Florence St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	27,013
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1358	285	114	632	132	53	298	62	25
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	0.6	-6.2	-10.2	-2.7	-9.5	-13.5	-6.0	-12.8	-16.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	61.1	64.1	65.3	57.8	60.7	62.0	54.5	57.5	58.7
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	65.3	Leq	NIGHT=	62.0	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.0</b>	
		<b>CNEL= 70.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>100</b>	<b>215 464</b>
	<b>CNEL:</b>	<b>106</b>	<b>228 491</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Marsh Rd** Analyst **FJS**  
 Segment: **Bohannon Dr/Florence St-Scott Dr** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	32,768
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1648	345	139	767	161	64	362	76	30
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	1.4	-5.4	-9.3	-1.9	-8.7	-12.7	-5.2	-11.9	-15.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	62.0	64.9	66.1	58.6	61.6	62.8	55.4	58.3	59.6
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	66.1	Leq	NIGHT=	62.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.8</b>	
		<b>CNEL= 71.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>114</b>	<b>245 527</b>
	<b>CNEL:</b>	<b>120</b>	<b>259 559</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Hamilton Ave**  
 Segment: **Chilco St-Willow Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	3,010
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	151	32	13	70	15	6	33	7	3
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-8.3	-15.1	-19.0	-11.6	-18.4	-22.4	-14.9	-21.6	-25.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	49.6	53.4	55.1	46.3	50.1	51.8	43.0	46.9	48.5
VEHICULAR NOISE	DAY=	58.0	Leq	EVENING=	54.7	Leq	NIGHT=	51.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 59.5</b>	
		<b>CNEL= 59.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 20</b>	<b>43 92</b>
		<b>CNEL: 21</b>	<b>45 97</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Willow Rd**  
 Segment: **Laurel St-Middlefield Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	5,181
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	261	55	22	121	25	10	57	12	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-5.1	-11.9	-15.9	-8.4	-15.2	-19.2	-11.7	-18.5	-22.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	49.7	54.6	56.8	46.4	51.2	53.4	43.1	48.0	50.2
VEHICULAR NOISE	DAY=	59.3	Leq	EVENING=	56.0	Leq	NIGHT=	52.7	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 60.7</b>	
		<b>CNEL= 61.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 24</b>	<b>52 112</b>
		<b>CNEL: 25</b>	<b>55 118</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Willow Rd**  
 Segment: **Middlefield Rd-Gilbert Ave**

Project: **CITY OF MENLO PARK UPD,**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	26,213
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1318	276	111	613	129	52	289	61	24
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	1.9	-4.9	-8.8	-1.4	-8.2	-12.2	-4.7	-11.5	-15.4
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.8	61.6	63.8	53.5	58.3	60.5	50.2	55.1	57.2
VEHICULAR NOISE	DAY=	66.4	Leq	EVENING=	63.1	Leq	NIGHT=	59.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 67.8</b>	
		<b>CNEL= 68.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 71</b>	<b>153 331</b>
		<b>CNEL: 75</b>	<b>163 350</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Willow Rd**  
 Segment: **Gilbert Ave-Coleman Ave**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	26,336
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1324	278	111	616	129	52	291	61	24
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	1.9	-4.9	-8.8	-1.4	-8.2	-12.1	-4.7	-11.4	-15.4
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.8	61.7	63.8	53.5	58.3	60.5	50.2	55.1	57.3
VEHICULAR NOISE	DAY=	66.4	Leq	EVENING=	63.1	Leq	NIGHT=	59.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 67.8</b>	
		<b>CNEL= 68.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 71</b>	<b>154 332</b>
		<b>CNEL: 76</b>	<b>163 351</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD**  
 Roadway: **Willow Rd** Analyst **FJS**  
 Segment: **Coleman Ave-Durham St/Hospital** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	28,038
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1410	295	119	656	137	55	309	65	26
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	2.2	-4.6	-8.5	-1.1	-7.9	-11.9	-4.4	-11.2	-15.1
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	57.1	61.9	64.1	53.8	58.6	60.8	50.5	55.3	57.5
VEHICULAR NOISE	DAY=	66.7	Leq	EVENING=	63.4	Leq	NIGHT=	60.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.1</b>	
		<b>CNEL= 68.5</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 74</b>	<b>160 346</b>
		<b>CNEL: 79</b>	<b>170 366</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Willow Rd** Analyst **FJS**  
 Segment: **Durham St/Hospital Ave-Bay Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	32,148
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1617	339	136	752	158	63	355	74	30
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	2.8	-4.0	-8.0	-0.5	-7.3	-11.3	-3.8	-10.6	-14.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	57.7	62.5	64.7	54.3	59.2	61.4	51.1	55.9	58.1
VEHICULAR NOISE	DAY=	67.3	Leq	EVENING=	63.9	Leq	NIGHT=	60.7	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.7</b>	
		<b>CNEL= 69.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 82</b>	<b>176 379</b>
		<b>CNEL: 86</b>	<b>186 401</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Middlefield Rd** Analyst **FJS**  
 Segment: **Ravenswood Ave-Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	20,668
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1039	218	87	484	101	41	228	48	19
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	-0.6	-7.4	-11.3	-3.9	-10.7	-14.7	-7.2	-14.0	-17.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.0	62.9	64.1	56.6	59.6	60.8	53.4	56.3	57.6
VEHICULAR NOISE	DAY=	67.4	Leq	EVENING=	64.1	Leq	NIGHT=	60.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.8</b>	
		<b>CNEL= 69.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 84</b>	<b>180 388</b>
		<b>CNEL: 89</b>	<b>191 411</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Laurel St** Analyst **FJS**  
 Segment: **Glenwood Ave-Oak Grove Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	3,916
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	197	41	17	92	19	8	43	9	4
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-6.3	-13.1	-17.1	-9.7	-16.5	-20.4	-12.9	-19.7	-23.7
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	48.5	53.3	55.5	45.2	50.0	52.2	41.9	46.8	49.0
VEHICULAR NOISE	DAY=	58.1	Leq	EVENING=	54.8	Leq	NIGHT=	51.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 59.5</b>	
		<b>CNEL= 59.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 20</b>	<b>43 93</b>
		<b>CNEL: 21</b>	<b>46 98</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Laurel St** Analyst **FJS**  
 Segment: **Oak Grove Ave-Ravenswood Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	4,404
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	221	46	19	103	22	9	49	10	4
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-5.8	-12.6	-16.6	-9.2	-15.9	-19.9	-12.4	-19.2	-23.2
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	49.0	53.9	56.0	45.7	50.5	52.7	42.4	47.3	49.5
VEHICULAR NOISE	DAY=	58.6	Leq	EVENING=	55.3	Leq	NIGHT=	52.0	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 60.0</b>	
		<b>CNEL= 60.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 22</b>	<b>46 100</b>
		<b>CNEL: 23</b>	<b>49 106</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Laurel St** Analyst **FJS**  
 Segment: **Ravenswood Ave-Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	4,917
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	247	52	21	115	24	10	54	11	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-5.4	-12.1	-16.1	-8.7	-15.5	-19.4	-11.9	-18.7	-22.7
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	49.5	54.3	56.5	46.2	51.0	53.2	42.9	47.8	49.9
VEHICULAR NOISE	DAY=	59.1	Leq	EVENING=	55.8	Leq	NIGHT=	52.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 60.5</b>	
		<b>CNEL= 60.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 23</b>	<b>50 108</b>
		<b>CNEL: 25</b>	<b>53 114</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **University Dr**  
 Segment: **Middle Ave-Menlo Ave**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	5,666
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	285	60	24	133	28	11	63	13	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-4.7	-11.5	-15.5	-8.1	-14.8	-18.8	-11.3	-18.1	-22.1
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	50.1	55.0	57.1	46.8	51.6	53.8	43.5	48.4	50.6
VEHICULAR NOISE	DAY=	59.7	Leq	EVENING=	56.4	Leq	NIGHT=	53.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 61.1</b>	
		<b>CNEL= 61.5</b>	
NOISE CONTOUR:		<i>70 dBA</i>	<i>65 dBA</i> <i>60 dBA</i>
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 26</b>	<b>55 118</b>
		<b>CNEL: 27</b>	<b>58 125</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **University Dr**  
 Segment: **Menlo Ave-Santa Cruz Ave**

Project: **CITY OF MENLO PARK UPD,**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	17,641
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	887	186	75	413	87	35	195	41	16
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	0.2	-6.6	-10.6	-3.1	-9.9	-13.9	-6.4	-13.2	-17.1
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.0	59.9	62.1	51.7	56.6	58.8	48.4	53.3	55.5
VEHICULAR NOISE	DAY=	64.6	Leq	EVENING=	61.3	Leq	NIGHT=	58.0	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 66.0</b>	
		<b>CNEL= 66.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 54</b>	<b>117 252</b>
		<b>CNEL: 58</b>	<b>124 268</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **University Dr** Analyst **FJS**  
 Segment: **Santa Cruz Ave-Oak Grove Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	7,052
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	355	74	30	165	35	14	78	16	7
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.8	-10.6	-14.5	-7.1	-13.9	-17.9	-10.4	-17.2	-21.1
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.0	55.9	58.1	47.7	52.6	54.8	44.5	49.3	51.5
VEHICULAR NOISE	DAY=	60.6	Leq	EVENING=	57.3	Leq	NIGHT=	54.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.1</b>	
		<b>CNEL= 62.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 30</b>	<b>64 137</b>
		<b>CNEL: 31</b>	<b>67 145</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **University Dr** Analyst: **FJS**  
 Segment: **Oak Grove Ave-Valparaiso Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	5,376
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	270	57	23	126	26	11	59	12	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-5.0	-11.8	-15.7	-8.3	-15.1	-19.0	-11.6	-18.3	-22.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	49.9	54.7	56.9	46.5	51.4	53.6	43.3	48.1	50.3
VEHICULAR NOISE	DAY=	59.5	Leq	EVENING=	56.1	Leq	NIGHT=	52.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 60.9</b>	
		<b>CNEL= 61.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 25</b>	<b>53 114</b>
		<b>CNEL: 26</b>	<b>56 121</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Valparaiso Ave/Glenwood Ave** Analyst: **FJS**  
 Segment: **University Dr-El Camino Rea** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	13,238
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	666	140	56	310	65	26	146	31	12
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-1.1	-7.8	-11.8	-4.4	-11.2	-15.1	-7.6	-14.4	-18.4
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.8	58.7	60.9	50.5	55.4	57.5	47.2	52.1	54.3
VEHICULAR NOISE	DAY=	63.4	Leq	EVENING=	60.1	Leq	NIGHT=	56.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 64.8</b>
			<b>CNEL= 65.2</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>45</b>	<b>97 210</b>
	<b>CNEL:</b>	<b>48</b>	<b>103 222</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Valparaiso Ave/Glenwood Ave** Analyst **FJS**  
 Segment: **El Camino Real-Laurel St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	5,899
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	297	62	25	138	29	12	65	14	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-4.6	-11.3	-15.3	-7.9	-14.7	-18.6	-11.1	-17.9	-21.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	50.3	55.2	57.4	47.0	51.8	54.0	43.7	48.6	50.8
VEHICULAR NOISE	DAY=	59.9	Leq	EVENING=	56.6	Leq	NIGHT=	53.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 61.3</b>	
		<b>CNEL= 61.7</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 26</b>	<b>57 122</b>
		<b>CNEL: 28</b>	<b>60 130</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Oak Grove Ave** Analyst **FJS**  
 Segment: **University Dr -El Camino Rea** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	10,038
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	505	106	42	235	49	20	111	23	9
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.3	-9.0	-13.0	-5.6	-12.4	-16.3	-8.8	-15.6	-19.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.6	57.4	59.6	49.3	54.1	56.3	46.0	50.9	53.0
VEHICULAR NOISE	DAY=	62.2	Leq	EVENING=	58.9	Leq	NIGHT=	55.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.6</b>	
		<b>CNEL= 64.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 37</b>	<b>80 173</b>
		<b>CNEL: 40</b>	<b>85 184</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Oak Grove Ave**  
 Segment: **El Camino Real-Laurel St**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	9,677
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	487	102	41	226	47	19	107	22	9
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.4	-9.2	-13.2	-5.7	-12.5	-16.5	-9.0	-15.8	-19.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.4	57.3	59.5	49.1	54.0	56.1	45.8	50.7	52.9
VEHICULAR NOISE	DAY=	62.0	Leq	EVENING=	58.7	Leq	NIGHT=	55.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.4</b>	
		<b>CNEL= 63.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 36</b>	<b>79 169</b>
		<b>CNEL: 39</b>	<b>83 179</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Oak Grove Ave**  
 Segment: **Laurel St-Middlefield Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	8,556
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	430	90	36	200	42	17	94	20	8
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.9	-9.7	-13.7	-6.3	-13.1	-17.0	-9.5	-16.3	-20.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.9	56.7	58.9	48.6	53.4	55.6	45.3	50.2	52.3
VEHICULAR NOISE	DAY=	61.5	Leq	EVENING=	58.2	Leq	NIGHT=	54.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.9</b>	
		<b>CNEL= 63.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 34</b>	<b>72 156</b>
		<b>CNEL: 36</b>	<b>77 165</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Ravenswood Ave**  
 Segment: **El Camino Real-Alma St**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	24,076
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1211	254	102	563	118	47	266	56	22
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	0.8	-6.0	-10.0	-2.6	-9.4	-13.3	-5.8	-12.6	-16.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.7	62.5	64.2	55.4	59.2	60.9	52.1	55.9	57.6
VEHICULAR NOISE	DAY=	67.1	Leq	EVENING=	63.8	Leq	NIGHT=	60.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 68.5</b>
			<b>CNEL= 68.9</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>80</b>	<b>172 370</b>
	<b>CNEL:</b>	<b>84</b>	<b>182 392</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Ravenswood Ave**  
 Segment: **Alma St-Laurel St**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	19,912
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1001	210	84	466	98	39	220	46	18
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	0.7	-6.1	-10.0	-2.6	-9.4	-13.4	-5.9	-12.7	-16.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.6	60.4	62.6	52.3	57.1	59.3	49.0	53.9	56.0
VEHICULAR NOISE	DAY=	65.2	Leq	EVENING=	61.9	Leq	NIGHT=	58.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 66.6</b>	
		<b>CNEL= 67.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 59</b>	<b>128 275</b>
		<b>CNEL: 63</b>	<b>135 292</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Ravenswood Ave**  
 Segment: **Laurel St-Middlefield Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	17,977
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	904	189	76	421	88	35	198	42	17
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-0.5	-7.3	-11.3	-3.8	-10.6	-14.6	-7.1	-13.9	-17.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	57.4	61.2	62.9	54.1	57.9	59.6	50.8	54.7	56.3
VEHICULAR NOISE	DAY=	65.8	Leq	EVENING=	62.5	Leq	NIGHT=	59.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 67.2</b>	
		<b>CNEL= 67.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 66</b>	<b>141 304</b>
		<b>CNEL: 69</b>	<b>150 322</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **Alameda de las Pulgas- Avy Ave/C** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	9,238
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	465	97	39	216	45	18	102	21	9
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-3.4	-10.2	-14.2	-6.7	-13.5	-17.5	-10.0	-16.8	-20.7
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	54.5	58.3	60.0	51.2	55.0	56.7	47.9	51.8	53.4
VEHICULAR NOISE	DAY=	63.0	Leq	EVENING=	59.6	Leq	NIGHT=	56.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.4</b>	
		<b>CNEL= 64.7</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 42</b>	<b>91 195</b>
		<b>CNEL: 45</b>	<b>96 207</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **Avy Ave/Orange Ave-Olive St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	16,097
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	809	170	68	377	79	32	178	37	15
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-1.0	-7.8	-11.7	-4.3	-11.1	-15.1	-7.6	-14.4	-18.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.9	60.8	62.4	53.6	57.4	59.1	50.4	54.2	55.9
VEHICULAR NOISE	DAY=	65.4	Leq	EVENING=	62.0	Leq	NIGHT=	58.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 66.8</b>
			<b>CNEL= 67.1</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>61</b>	<b>131 283</b>
	<b>CNEL:</b>	<b>65</b>	<b>139 300</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Santa Cruz Ave**  
 Segment: **Olive St-University Dr**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	17,179
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	864	181	73	402	84	34	190	40	16
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-0.7	-7.5	-11.5	-4.0	-10.8	-14.8	-7.3	-14.1	-18.1
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	57.2	61.0	62.7	53.9	57.7	59.4	50.6	54.5	56.1
VEHICULAR NOISE	DAY=	65.6	Leq	EVENING=	62.3	Leq	NIGHT=	59.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		Ldn= 67.1	
		CNEL= 67.4	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 64	137 295
		CNEL: 67	145 313

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Santa Cruz Ave**  
 Segment: **University Dr-Crane St**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	8,895
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	447	94	38	208	44	18	98	21	8
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.8	-9.6	-13.5	-6.1	-12.9	-16.9	-9.4	-16.2	-20.1
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.1	56.9	59.1	48.8	53.6	55.8	45.5	50.4	52.5
VEHICULAR NOISE	DAY=	61.7	Leq	EVENING=	58.4	Leq	NIGHT=	55.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.1</b>	
		<b>CNEL= 63.5</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 35</b>	<b>75 161</b>
		<b>CNEL: 37</b>	<b>79 170</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Santa Cruz Ave**  
 Segment: **Crane St-El Camino Real**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	8,074
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	406	85	34	189	40	16	89	19	7
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.2	-10.0	-14.0	-6.5	-13.3	-17.3	-9.8	-16.6	-20.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.7	56.5	58.7	48.3	53.2	55.4	45.1	49.9	52.1
VEHICULAR NOISE	DAY=	61.3	Leq	EVENING=	57.9	Leq	NIGHT=	54.7	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.7</b>	
		<b>CNEL= 63.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 32</b>	<b>70 151</b>
		<b>CNEL: 34</b>	<b>74 160</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Middle Ave**  
 Segment: **Olive St-University Dr**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	7,222
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	363	76	31	169	35	14	80	17	7
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-4.5	-11.3	-15.2	-7.8	-14.6	-18.6	-11.1	-17.8	-21.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.4	57.2	58.9	50.1	53.9	55.6	46.8	50.7	52.3
VEHICULAR NOISE	DAY=	61.8	Leq	EVENING=	58.5	Leq	NIGHT=	55.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.3</b>	
		<b>CNEL= 63.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 35</b>	<b>76 165</b>
		<b>CNEL: 38</b>	<b>81 175</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Middle Ave** Analyst **FJS**  
 Segment: **University Dr-El Camino Rea** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	7,519
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	378	79	32	176	37	15	83	17	7
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-4.3	-11.1	-15.1	-7.6	-14.4	-18.4	-10.9	-17.7	-21.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.6	57.4	59.1	50.3	54.1	55.8	47.0	50.8	52.5
VEHICULAR NOISE	DAY=	62.0	Leq	EVENING=	58.7	Leq	NIGHT=	55.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.4</b>	
		<b>CNEL= 63.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 36</b>	<b>79 169</b>
		<b>CNEL: 39</b>	<b>83 179</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Alpine Rd/Santa Cruz Ave** Analyst **FJS**  
 Segment: **Junipero Serra Blvd-City Limits** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	23,406
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1177	247	99	548	115	46	258	54	22
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	-0.6	-7.4	-11.4	-3.9	-10.7	-14.7	-7.2	-14.0	-18.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	62.2	64.3	65.2	58.8	61.0	61.9	55.6	57.7	58.6
VEHICULAR NOISE	DAY=	68.9	Leq	EVENING=	65.5	Leq	NIGHT=	62.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 70.3</b>
			<b>CNEL= 70.6</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>104</b>	<b>224 483</b>
	<b>CNEL:</b>	<b>110</b>	<b>238 512</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Alpine Rd/Santa Cruz Ave** Analyst **FJS**  
 Segment: **Sand Hill Rd-Junipero Serra Blvd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	30,187
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1518	318	128	706	148	59	333	70	28
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.5	-6.3	-10.3	-2.8	-9.6	-13.6	-6.1	-12.9	-16.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.3	65.4	66.3	60.0	62.1	63.0	56.7	58.9	59.7
VEHICULAR NOISE	DAY=	70.0	Leq	EVENING=	66.6	Leq	NIGHT=	63.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 71.4</b>
			<b>CNEL= 71.7</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>123</b>	<b>266 572</b>
	<b>CNEL:</b>	<b>131</b>	<b>281 606</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Linfield Dr**  
 Segment: **Middlefield Rd - Laurel St**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	1,583
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	80	17	7	37	8	3	17	4	1
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-10.3	-17.1	-21.0	-13.6	-20.4	-24.4	-16.9	-23.6	-27.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	44.6	49.4	51.6	41.2	46.1	48.3	38.0	42.8	45.0
VEHICULAR NOISE	DAY=	54.2	Leq	EVENING=	50.8	Leq	NIGHT=	47.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 55.6</b>	
		<b>CNEL= 55.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 11</b>	<b>23 51</b>
		<b>CNEL: 12</b>	<b>25 54</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **Oak Ave**  
 Segment: **Sand Hill Rd - Olive St**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	2,518
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	127	27	11	59	12	5	28	6	2
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-8.3	-15.0	-19.0	-11.6	-18.4	-22.3	-14.8	-21.6	-25.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	46.6	51.4	53.6	43.2	48.1	50.3	40.0	44.8	47.0
VEHICULAR NOISE	DAY=	56.2	Leq	EVENING=	52.9	Leq	NIGHT=	49.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 57.6</b>	
		<b>CNEL= 58.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 15</b>	<b>32 69</b>
		<b>CNEL: 16</b>	<b>34 73</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **El Camino Real**  
 Segment: **Oak Grove - Ravenswood**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	29,500
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	72
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1484	311	125	690	145	58	326	68	27
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	1.0	-5.8	-9.8	-2.4	-9.1	-13.1	-5.6	-12.4	-16.4
Distance	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	61.9	64.8	66.1	58.6	61.5	62.8	55.3	58.3	59.5
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	66.1	Leq	NIGHT=	62.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 70.8</b>
			<b>CNEL= 71.2</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>113</b>	<b>243 523</b>
	<b>CNEL:</b>	<b>119</b>	<b>257 555</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **US 101**  
 Segment: **N/O Marsh Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	12539	238	364	5834	111	169	2752	52	80
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	7.5	-9.7	-7.8	4.2	-13.0	-11.1	1.0	-16.3	-14.4
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	79.2	68.2	73.5	75.9	64.8	70.2	72.6	61.6	66.9
VEHICULAR NOISE	DAY=	80.5	Leq	EVENING=	77.2	Leq	NIGHT=	73.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 81.9</b>	
		<b>CNEL= 82.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>622</b>	<b>1339 2885</b>
	<b>CNEL:</b>	<b>659</b>	<b>1419 3058</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **US 101**  
 Segment: **S/O Marsh Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	11236	213	326	5228	99	152	2466	47	72
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	7.1	-10.1	-8.3	3.7	-13.5	-11.6	0.5	-16.7	-14.9
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.7	67.7	73.0	75.4	64.4	69.7	72.1	61.1	66.4
VEHICULAR NOISE	DAY=	80.0	Leq	EVENING=	76.7	Leq	NIGHT=	73.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 81.4</b>	
		<b>CNEL= 81.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>578</b>	<b>1245 2682</b>
	<b>CNEL:</b>	<b>612</b>	<b>1319 2842</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **US 101**  
 Segment: **S/O Willow Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	11732	223	340	5459	104	158	2575	49	75
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	7.3	-10.0	-8.1	3.9	-13.3	-11.4	0.7	-16.5	-14.7
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.9	67.9	73.2	75.6	64.5	69.9	72.3	61.3	66.6
VEHICULAR NOISE	DAY=	80.2	Leq	EVENING=	76.9	Leq	NIGHT=	73.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 81.6</b>	
		<b>CNEL= 82.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>595</b>	<b>1281 2760</b>
	<b>CNEL:</b>	<b>630</b>	<b>1358 2925</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **US 101**  
 Segment: **S/O University**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	11795	224	342	5488	104	159	2589	49	75
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	7.3	-9.9	-8.1	4.0	-13.3	-11.4	0.7	-16.5	-14.7
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.9	67.9	73.2	75.6	64.6	69.9	72.4	61.3	66.6
VEHICULAR NOISE	DAY=	80.2	Leq	EVENING=	76.9	Leq	NIGHT=	73.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 81.6</b>	
		<b>CNEL= 82.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 597</b>	<b>1286 2770</b>
		<b>CNEL: 632</b>	<b>1363 2936</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **SR 84**  
 Segment: **Marsh Rd - Willow Rd**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	27,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	82
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1676	32	49	780	15	23	368	7	11
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	-0.1	-17.3	-15.4	-3.4	-20.6	-18.7	-6.6	-23.9	-22.0
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	67.0	57.5	63.6	63.7	54.2	60.2	60.5	50.9	57.0
VEHICULAR NOISE	DAY=	69.0	Leq	EVENING=	65.7	Leq	NIGHT=	62.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.4</b>	
		<b>CNEL= 70.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>106</b>	<b>228 492</b>
	<b>CNEL:</b>	<b>112</b>	<b>242 522</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **SR 84**  
 Segment: **Willow Rd - University Ave**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	50,000
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	82
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3104	59	90	1444	27	42	681	13	20
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.6	-14.6	-12.8	-0.7	-17.9	-16.1	-4.0	-21.2	-19.3
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.7	60.2	66.2	66.4	56.9	62.9	63.1	53.6	59.7
VEHICULAR NOISE	DAY=	71.7	Leq	EVENING=	68.3	Leq	NIGHT=	65.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 73.1</b>	
		<b>CNEL= 73.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 160</b>	<b>345 742</b>
		<b>CNEL: 169</b>	<b>365 787</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **SR 84**  
 Segment: **W/O University Ave**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	57,000
SPEED (mph)	55
ROAD NEAR-FAR LN. DIST.	82
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3538	67	103	1646	31	48	777	15	23
Speed in MPH	55	55	55	55	55	55	55	55	55
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	72.7	79.9	83.8	72.7	79.9	83.8	72.7	79.9	83.8
ADJUSTMENTS									
Flow	2.8	-14.4	-12.6	-0.5	-17.8	-15.9	-3.8	-21.0	-19.2
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.5	61.4	67.2	68.2	58.1	63.9	64.9	54.8	60.6
VEHICULAR NOISE	DAY=	73.2	Leq	EVENING=	69.8	Leq	NIGHT=	66.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 74.6</b>	
		<b>CNEL= 74.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>201</b>	<b>434 935</b>
	<b>CNEL:</b>	<b>213</b>	<b>460 991</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **I-280**  
 Segment: **N/O Sand Hill**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	120
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	6332	120	184	2946	56	85	1390	26	40
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	4.6	-12.6	-10.8	1.3	-16.0	-14.1	-2.0	-19.2	-17.4
Distance	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.0	65.9	71.2	73.6	62.6	67.9	70.4	59.3	64.7
VEHICULAR NOISE	DAY=	78.2	Leq	EVENING=	74.9	Leq	NIGHT=	71.7	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 79.7</b>	
		<b>CNEL= 80.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>440</b>	<b>948 2042</b>
	<b>CNEL:</b>	<b>466</b>	<b>1005 2165</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING CONDITIONS**  
 Roadway: **I-280**  
 Segment: **S/O Sand Hill**

Project: **CITY OF MENLO PARK UPD.**  
 Analyst **FJS**  
 Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	93,000
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	120
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	5773	110	167	2686	51	78	1267	24	37
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	4.2	-13.0	-11.2	0.9	-16.4	-14.5	-2.4	-19.6	-17.8
Distance	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	76.6	65.5	70.8	73.2	62.2	67.5	70.0	58.9	64.3
VEHICULAR NOISE	DAY=	77.8	Leq	EVENING=	74.5	Leq	NIGHT=	71.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 79.3</b>	
		<b>CNEL= 79.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>414</b>	<b>891 1920</b>
	<b>CNEL:</b>	<b>438</b>	<b>945 2035</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: LONG TERM 2035 WITH PROJE( Project: CITY OF MENLO PARK UPD,  
 Roadway: Haven Ave Analyst FJS  
 Segment: City Limits-Bayfront Expwy/Marsh Date: 30-Jan-13

ROADWAY INPUTS	
ADT	8,874
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	446	94	38	208	44	17	98	21	8
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-3.6	-10.4	-14.3	-6.9	-13.7	-17.7	-10.2	-17.0	-20.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	54.3	58.1	59.8	51.0	54.8	56.5	47.7	51.6	53.2
VEHICULAR NOISE	DAY=	62.7	Leq	EVENING=	59.4	Leq	NIGHT=	56.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		Ldn= 64.1	
		CNEL= 64.5	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 41	88 189
		CNEL: 43	93 200

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: LONG TERM 2035 WITH PROJECT (Project: CITY OF MENLO PARK UPD)  
 Roadway: Marsh Rd Analyst FJS  
 Segment: Bay Rd-Bohannon Dr/Florence St Date: 30-Jan-13

ROADWAY INPUTS	
ADT	44,616
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2244	470	189	1044	219	88	492	103	41
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.8	-4.0	-8.0	-0.6	-7.3	-11.3	-3.8	-10.6	-14.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.3	66.2	67.5	60.0	62.9	64.2	56.7	59.6	60.9
VEHICULAR NOISE	DAY=	70.8	Leq	EVENING=	67.4	Leq	NIGHT=	64.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		Ldn= 72.2	
		CNEL= 72.6	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	Ldn:	140	301 648
	CNEL:	148	319 687

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **Marsh Rd** Analyst **FJS**  
 Segment: **Bohannon Dr/Florence St-Scott Dr** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	52,817
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2656	557	223	1236	259	104	583	122	49
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	3.5	-3.3	-7.3	0.2	-6.6	-10.6	-3.1	-9.9	-13.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.0	67.0	68.2	60.7	63.6	64.9	57.4	60.4	61.6
VEHICULAR NOISE	DAY=	71.5	Leq	EVENING=	68.2	Leq	NIGHT=	64.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.9</b>	
		<b>CNEL= 73.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>156</b>	<b>337 725</b>
	<b>CNEL:</b>	<b>166</b>	<b>357 768</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Hamilton Ave** Analyst **FJS**  
 Segment: **Chilco St-Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	4,929
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	248	52	21	115	24	10	54	11	5
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-6.1	-12.9	-16.9	-9.5	-16.2	-20.2	-12.7	-19.5	-23.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.8	55.6	57.3	48.4	52.3	53.9	45.2	49.0	50.7
VEHICULAR NOISE	DAY=	60.2	Leq	EVENING=	56.9	Leq	NIGHT=	53.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 61.6</b>	
		<b>CNEL= 62.0</b>	
NOISE CONTOUR:		<i>70 dBA</i>	<i>65 dBA</i>
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 28</b>	<b>59</b>
		<b>CNEL: 29</b>	<b>128</b>
			<b>135</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Willow Rd** Analyst: **FJS**  
 Segment: **Laurel St-Middlefield Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	9,048
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	455	95	38	212	44	18	100	21	8
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.7	-9.5	-13.5	-6.0	-12.8	-16.8	-9.3	-16.1	-20.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.1	57.0	59.2	48.8	53.7	55.9	45.5	50.4	52.6
VEHICULAR NOISE	DAY=	61.7	Leq	EVENING=	58.4	Leq	NIGHT=	55.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.1</b>	
		<b>CNEL= 63.5</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 35</b>	<b>75 162</b>
		<b>CNEL: 37</b>	<b>80 171</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Willow Rd** Analyst **FJS**  
 Segment: **Middlefield Rd-Gilbert Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	45,626
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2294	481	193	1068	224	90	504	106	42
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	4.3	-2.5	-6.4	1.0	-5.8	-9.8	-2.3	-9.1	-13.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.2	64.0	66.2	55.9	60.7	62.9	52.6	57.5	59.7
VEHICULAR NOISE	DAY=	68.8	Leq	EVENING=	65.5	Leq	NIGHT=	62.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.2</b>	
		<b>CNEL= 70.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 103</b>	<b>222 478</b>
		<b>CNEL: 109</b>	<b>235 507</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Willow Rd** Analyst **FJS**  
 Segment: **Gilbert Ave-Coleman Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	45,747
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2301	482	193	1070	224	90	505	106	42
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	4.3	-2.5	-6.4	1.0	-5.8	-9.7	-2.3	-9.0	-13.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.2	64.1	66.2	55.9	60.7	62.9	52.6	57.5	59.7
VEHICULAR NOISE	DAY=	68.8	Leq	EVENING=	65.5	Leq	NIGHT=	62.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.2</b>	
		<b>CNEL= 70.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>103</b>	<b>222 479</b>
	<b>CNEL:</b>	<b>109</b>	<b>236 508</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **Willow Rd** Analyst **FJS**  
 Segment: **Coleman Ave-Durham St/Hospital** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	47,549
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2391	501	201	1113	233	94	525	110	44
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	4.5	-2.3	-6.3	1.2	-5.6	-9.6	-2.1	-8.9	-12.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.4	64.2	66.4	56.0	60.9	63.1	52.8	57.6	59.8
VEHICULAR NOISE	DAY=	69.0	Leq	EVENING=	65.6	Leq	NIGHT=	62.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.4</b>	
		<b>CNEL= 70.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>106</b>	<b>228 492</b>
	<b>CNEL:</b>	<b>112</b>	<b>242 521</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Willow Rd** Analyst **FJS**  
 Segment: **Durham St/Hospital Ave-Bay Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	52,108
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2620	549	220	1219	256	103	575	121	48
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	4.9	-1.9	-5.9	1.6	-5.2	-9.2	-1.7	-8.5	-12.4
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.8	64.6	66.8	56.4	61.3	63.5	53.2	58.0	60.2
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	66.0	Leq	NIGHT=	62.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 70.8</b>
			<b>CNEL= 71.2</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>113</b>	<b>243 523</b>
	<b>CNEL:</b>	<b>119</b>	<b>257 554</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Middlefield Rd** Analyst **FJS**  
 Segment: **Ravenswood Ave-Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	30,467
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1532	321	129	713	149	60	336	70	28
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	1.1	-5.7	-9.6	-2.2	-9.0	-13.0	-5.5	-12.3	-16.2
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	61.6	64.6	65.8	58.3	61.3	62.5	55.1	58.0	59.2
VEHICULAR NOISE	DAY=	69.1	Leq	EVENING=	65.8	Leq	NIGHT=	62.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.5</b>	
		<b>CNEL= 70.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 108</b>	<b>233 502</b>
		<b>CNEL: 115</b>	<b>247 532</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Laurel St** Analyst **FJS**  
 Segment: **Glenwood Ave-Oak Grove Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	5,840
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	294	62	25	137	29	11	64	14	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-4.6	-11.4	-15.4	-7.9	-14.7	-18.7	-11.2	-18.0	-21.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	50.2	55.1	57.3	46.9	51.8	53.9	43.6	48.5	50.7
VEHICULAR NOISE	DAY=	59.8	Leq	EVENING=	56.5	Leq	NIGHT=	53.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 61.2</b>	
		<b>CNEL= 61.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 26</b>	<b>56 121</b>
		<b>CNEL: 28</b>	<b>59 128</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **Laurel St** Analyst **FJS**  
 Segment: **Oak Grove Ave-Ravenswood Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	5,554
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	279	59	23	130	27	11	61	13	5
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-4.8	-11.6	-15.6	-8.1	-14.9	-18.9	-11.4	-18.2	-22.2
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	50.0	54.9	57.1	46.7	51.5	53.7	43.4	48.3	50.5
VEHICULAR NOISE	DAY=	59.6	Leq	EVENING=	56.3	Leq	NIGHT=	53.0	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 61.0</b>	
		<b>CNEL= 61.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 25</b>	<b>54 117</b>
		<b>CNEL: 27</b>	<b>57 124</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Laurel St** Analyst **FJS**  
 Segment: **Ravenswood Ave-Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	7,612
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	383	80	32	178	37	15	84	18	7
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.5	-10.2	-14.2	-6.8	-13.6	-17.5	-10.0	-16.8	-20.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.4	56.2	58.4	48.1	52.9	55.1	44.8	49.7	51.8
VEHICULAR NOISE	DAY=	61.0	Leq	EVENING=	57.7	Leq	NIGHT=	54.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.4</b>	
		<b>CNEL= 62.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 31</b>	<b>67 144</b>
		<b>CNEL: 33</b>	<b>71 153</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **University Dr** Analyst **FJS**  
 Segment: **Middle Ave-Menlo Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	8,372
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	421	88	35	196	41	16	92	19	8
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.0	-9.8	-13.8	-6.4	-13.2	-17.1	-9.6	-16.4	-20.4
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.8	56.6	58.8	48.5	53.3	55.5	45.2	50.1	52.3
VEHICULAR NOISE	DAY=	61.4	Leq	EVENING=	58.1	Leq	NIGHT=	54.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.8</b>	
		<b>CNEL= 63.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 33</b>	<b>71 154</b>
		<b>CNEL: 35</b>	<b>76 163</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **University Dr** Analyst: **FJS**  
 Segment: **Menlo Ave-Santa Cruz Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	24,930
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1254	263	105	583	122	49	275	58	23
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	1.7	-5.1	-9.1	-1.6	-8.4	-12.4	-4.9	-11.7	-15.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.5	61.4	63.6	53.2	58.1	60.3	49.9	54.8	57.0
VEHICULAR NOISE	DAY=	66.1	Leq	EVENING=	62.8	Leq	NIGHT=	59.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 67.5</b>	
		<b>CNEL= 67.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 69</b>	<b>148 318</b>
		<b>CNEL: 73</b>	<b>156 337</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **University Dr** Analyst: **FJS**  
 Segment: **Santa Cruz Ave-Oak Grove Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	9,335
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	469	98	39	218	46	18	103	22	9
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.6	-9.4	-13.3	-5.9	-12.7	-16.6	-9.2	-15.9	-19.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.3	57.1	59.3	48.9	53.8	56.0	45.7	50.5	52.7
VEHICULAR NOISE	DAY=	61.9	Leq	EVENING=	58.5	Leq	NIGHT=	55.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.3</b>	
		<b>CNEL= 63.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 36</b>	<b>77 165</b>
		<b>CNEL: 38</b>	<b>81 175</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **University Dr** Analyst **FJS**  
 Segment: **Oak Grove Ave-Valparaiso Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	7,253
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	365	76	31	170	36	14	80	17	7
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.7	-10.5	-14.4	-7.0	-13.8	-17.7	-10.3	-17.0	-21.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.2	56.0	58.2	47.8	52.7	54.9	44.6	49.4	51.6
VEHICULAR NOISE	DAY=	60.8	Leq	EVENING=	57.4	Leq	NIGHT=	54.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.2</b>	
		<b>CNEL= 62.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 30</b>	<b>65 140</b>
		<b>CNEL: 32</b>	<b>69 148</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Valparaiso Ave/Glenwood Ave** Analyst: **FJS**  
 Segment: **University Dr-El Camino Real** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	18,422
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	926	194	78	431	90	36	203	43	17
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	0.4	-6.4	-10.4	-2.9	-9.7	-13.7	-6.2	-13.0	-17.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.2	60.1	62.3	51.9	56.8	59.0	48.7	53.5	55.7
VEHICULAR NOISE	DAY=	64.9	Leq	EVENING=	61.5	Leq	NIGHT=	58.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 66.3</b>	
		<b>CNEL= 66.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 56</b>	<b>121 261</b>
		<b>CNEL: 60</b>	<b>129 277</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Valparaiso Ave/Glenwood Ave** Analyst: **FJS**  
 Segment: **El Camino Real-Laurel St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	7,957
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	400	84	34	186	39	16	88	18	7
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-3.3	-10.0	-14.0	-6.6	-13.4	-17.3	-9.8	-16.6	-20.6
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	51.6	56.5	58.7	48.3	53.1	55.3	45.0	49.9	52.1
VEHICULAR NOISE	DAY=	61.2	Leq	EVENING=	57.9	Leq	NIGHT=	54.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.6</b>	
		<b>CNEL= 63.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 32</b>	<b>69 149</b>
		<b>CNEL: 34</b>	<b>73 158</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Oak Grove Ave** Analyst **FJS**  
 Segment: **University Dr -El Camino Rea** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	12,851
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	646	135	54	301	63	25	142	30	12
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-1.2	-8.0	-11.9	-4.5	-11.3	-15.3	-7.8	-14.6	-18.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.7	58.5	60.7	50.3	55.2	57.4	47.1	51.9	54.1
VEHICULAR NOISE	DAY=	63.3	Leq	EVENING=	59.9	Leq	NIGHT=	56.7	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.7</b>	
		<b>CNEL= 65.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>44</b>	<b>95 204</b>
	<b>CNEL:</b>	<b>47</b>	<b>101 217</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Oak Grove Ave** Analyst **FJS**  
 Segment: **El Camino Real-Laurel St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	13,399
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	674	141	57	314	66	26	148	31	12
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-1.0	-7.8	-11.8	-4.3	-11.1	-15.1	-7.6	-14.4	-18.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.8	58.7	60.9	50.5	55.4	57.6	47.2	52.1	54.3
VEHICULAR NOISE	DAY=	63.4	Leq	EVENING=	60.1	Leq	NIGHT=	56.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.8</b>	
		<b>CNEL= 65.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 45</b>	<b>98 210</b>
		<b>CNEL: 48</b>	<b>103 223</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Oak Grove Ave** Analyst **FJS**  
 Segment: **Laurel St-Middlefield Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	10,742
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	540	113	45	251	53	21	119	25	10
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-2.0	-8.7	-12.7	-5.3	-12.1	-16.0	-8.5	-15.3	-19.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	52.9	57.7	59.9	49.5	54.4	56.6	46.3	51.1	53.3
VEHICULAR NOISE	DAY=	62.5	Leq	EVENING=	59.2	Leq	NIGHT=	55.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 63.9</b>	
		<b>CNEL= 64.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 39</b>	<b>84 181</b>
		<b>CNEL: 41</b>	<b>89 192</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Ravenswood Ave** Analyst **FJS**  
 Segment: **El Camino Real-Alma St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	38,474
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1935	405	163	900	189	76	425	89	36
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	2.8	-4.0	-8.0	-0.5	-7.3	-11.3	-3.8	-10.6	-14.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	60.7	64.5	66.2	57.4	61.2	62.9	54.1	58.0	59.6
VEHICULAR NOISE	DAY=	69.1	Leq	EVENING=	65.8	Leq	NIGHT=	62.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 70.6</b>
			<b>CNEL= 70.9</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>109</b>	<b>235 505</b>
	<b>CNEL:</b>	<b>115</b>	<b>249 535</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Ravenswood Ave** Analyst **FJS**  
 Segment: **Alma St-Laurel St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	30,219
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1520	318	128	707	148	59	334	70	28
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	2.5	-4.3	-8.2	-0.8	-7.6	-11.5	-4.1	-10.8	-14.8
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	57.4	62.3	64.4	54.1	58.9	61.1	50.8	55.7	57.9
VEHICULAR NOISE	DAY=	67.0	Leq	EVENING=	63.7	Leq	NIGHT=	60.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.4</b>	
		<b>CNEL= 68.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 78</b>	<b>169 363</b>
		<b>CNEL: 83</b>	<b>179 385</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Ravenswood Ave** Analyst **FJS**  
 Segment: **Laurel St-Middlefield Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	25,827
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1299	272	109	604	127	51	285	60	24
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	1.1	-5.7	-9.7	-2.3	-9.1	-13.0	-5.5	-12.3	-16.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	59.0	62.8	64.5	55.7	59.5	61.2	52.4	56.2	57.9
VEHICULAR NOISE	DAY=	67.4	Leq	EVENING=	64.1	Leq	NIGHT=	60.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.8</b>	
		<b>CNEL= 69.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 83</b>	<b>180 387</b>
		<b>CNEL: 88</b>	<b>191 411</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **Alameda de las Pulgas- Avy Ave/C** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	13,282
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	668	140	56	311	65	26	147	31	12
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-1.8	-8.6	-12.6	-5.2	-11.9	-15.9	-8.4	-15.2	-19.2
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	56.1	59.9	61.6	52.8	56.6	58.3	49.5	53.3	55.0
VEHICULAR NOISE	DAY=	64.5	Leq	EVENING=	61.2	Leq	NIGHT=	57.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 65.9</b>	
		<b>CNEL= 66.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 54</b>	<b>115 249</b>
		<b>CNEL: 57</b>	<b>122 263</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **Avy Ave/Orange Ave-Olive St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	23,644
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1189	249	100	553	116	47	261	55	22
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	0.7	-6.1	-10.1	-2.6	-9.4	-13.4	-5.9	-12.7	-16.7
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.6	62.4	64.1	55.3	59.1	60.8	52.0	55.8	57.5
VEHICULAR NOISE	DAY=	67.0	Leq	EVENING=	63.7	Leq	NIGHT=	60.4	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.4</b>	
		<b>CNEL= 68.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 79</b>	<b>170 365</b>
		<b>CNEL: 83</b>	<b>180 387</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **Olive St-University Dr** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	24,720
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1243	261	105	578	121	49	273	57	23
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	0.9	-5.9	-9.9	-2.5	-9.2	-13.2	-5.7	-12.5	-16.5
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	58.8	62.6	64.3	55.5	59.3	61.0	52.2	56.0	57.7
VEHICULAR NOISE	DAY=	67.2	Leq	EVENING=	63.9	Leq	NIGHT=	60.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.6</b>	
		<b>CNEL= 69.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 81</b>	<b>175 376</b>
		<b>CNEL: 86</b>	<b>185 399</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **University Dr-Crane St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	13,466
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	677	142	57	315	66	26	149	31	12
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-1.0	-7.8	-11.7	-4.3	-11.1	-15.1	-7.6	-14.4	-18.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.9	58.7	60.9	50.6	55.4	57.6	47.3	52.2	54.4
VEHICULAR NOISE	DAY=	63.5	Leq	EVENING=	60.2	Leq	NIGHT=	56.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.9</b>	
		<b>CNEL= 65.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>46</b>	<b>98 212</b>
	<b>CNEL:</b>	<b>48</b>	<b>104 225</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Santa Cruz Ave** Analyst **FJS**  
 Segment: **Crane St-El Camino Real** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	13,087
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	658	138	55	306	64	26	144	30	12
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-1.1	-7.9	-11.9	-4.4	-11.2	-15.2	-7.7	-14.5	-18.4
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	53.8	58.6	60.8	50.4	55.3	57.5	47.2	52.0	54.2
VEHICULAR NOISE	DAY=	63.4	Leq	EVENING=	60.0	Leq	NIGHT=	56.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 64.8</b>
			<b>CNEL= 65.2</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>45</b>	<b>97 208</b>
	<b>CNEL:</b>	<b>48</b>	<b>102 220</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **Middle Ave** Analyst **FJS**  
 Segment: **Olive St-University Dr** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	10,162
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	511	107	43	238	50	20	112	24	9
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-3.0	-9.8	-13.7	-6.3	-13.1	-17.1	-9.6	-16.4	-20.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	54.9	58.7	60.4	51.6	55.4	57.1	48.3	52.1	53.8
VEHICULAR NOISE	DAY=	63.3	Leq	EVENING=	60.0	Leq	NIGHT=	56.7	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.7</b>	
		<b>CNEL= 65.1</b>	
NOISE CONTOUR:		<i>70 dBA</i>	<i>65 dBA</i>
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 45</b>	<b>96</b>
		<b>CNEL: 47</b>	<b>207</b>
			<b>219</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Middle Ave** Analyst **FJS**  
 Segment: **University Dr-El Camino Real** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	10,530
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	530	111	45	246	52	21	116	24	10
Speed in MPH	30	30	30	30	30	30	30	30	30
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	62.5	73.1	78.8	62.5	73.1	78.8	62.5	73.1	78.8
ADJUSTMENTS									
Flow	-2.8	-9.6	-13.6	-6.2	-12.9	-16.9	-9.4	-16.2	-20.2
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	55.1	58.9	60.6	51.7	55.6	57.2	48.5	52.3	54.0
VEHICULAR NOISE	DAY=	63.5	Leq	EVENING=	60.2	Leq	NIGHT=	56.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 64.9</b>
			<b>CNEL= 65.3</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>46</b>	<b>98 212</b>
	<b>CNEL:</b>	<b>48</b>	<b>104 224</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Alpine Rd/Santa Cruz Ave** Analyst **FJS**  
 Segment: **Junipero Serra Blvd-City Limits** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	29,550
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1486	311	125	691	145	58	326	68	27
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	0.4	-6.4	-10.4	-2.9	-9.7	-13.7	-6.2	-13.0	-16.9
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.2	65.3	66.2	59.9	62.0	62.9	56.6	58.8	59.6
VEHICULAR NOISE	DAY=	69.9	Leq	EVENING=	66.5	Leq	NIGHT=	63.3	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 71.3</b>	
		<b>CNEL= 71.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>122</b>	<b>262 564</b>
	<b>CNEL:</b>	<b>129</b>	<b>278 598</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Alpine Rd/Santa Cruz Ave** Analyst **FJS**  
 Segment: **Sand Hill Rd-Junipero Serra Blvd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	39,026
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	24
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1963	411	165	913	191	77	431	90	36
Speed in MPH	40	40	40	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	67.4	76.3	81.2	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS									
Flow	1.6	-5.2	-9.2	-1.7	-8.5	-12.5	-5.0	-11.8	-15.7
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	64.4	66.6	67.4	61.1	63.2	64.1	57.8	60.0	60.8
VEHICULAR NOISE	DAY=	71.1	Leq	EVENING=	67.8	Leq	NIGHT=	64.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.5</b>	
		<b>CNEL= 72.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 146</b>	<b>315 679</b>
		<b>CNEL: 155</b>	<b>334 720</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Linfield Dr** Analyst **FJS**  
 Segment: **Middlefield Rd - Laurel St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	2,131
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	107	22	9	50	10	4	24	5	2
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-9.0	-15.8	-19.7	-12.3	-19.1	-23.1	-15.6	-22.4	-26.3
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	45.8	50.7	52.9	42.5	47.4	49.6	39.3	44.1	46.3
VEHICULAR NOISE	DAY=	55.5	Leq	EVENING=	52.1	Leq	NIGHT=	48.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 56.9</b>	
		<b>CNEL= 57.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 13</b>	<b>29</b>
		<b>CNEL: 14</b>	<b>30</b>
			<b>60 dBA</b>
			<b>62</b>
			<b>65</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **Oak Ave** Analyst **FJS**  
 Segment: **Sand Hill Rd - Olive St** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	3,645
SPEED (mph)	25
ROAD NEAR-FAR LN. DIST.	12
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	183	38	15	85	18	7	40	8	3
Speed in MPH	25	25	25	25	25	25	25	25	25
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	59.4	71.1	77.2	59.4	71.1	77.2	59.4	71.1	77.2
ADJUSTMENTS									
Flow	-6.7	-13.4	-17.4	-10.0	-16.8	-20.7	-13.2	-20.0	-24.0
Distance	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6	-4.6
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	48.2	53.0	55.2	44.9	49.7	51.9	41.6	46.5	48.6
VEHICULAR NOISE	DAY=	57.8	Leq	EVENING=	54.5	Leq	NIGHT=	51.2	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 59.2</b>	
		<b>CNEL= 59.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 19</b>	<b>41 88</b>
		<b>CNEL: 20</b>	<b>43 94</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **El Camino Real** Analyst **FJS**  
 Segment: **Oak Grove - Ravenswood** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	43,754
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	72
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	77.3%	DAY	78.1%
% MT	16.2%	EVENING	9.1%
% HT	6.5%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2200	461	185	1024	215	86	483	101	41
Speed in MPH	35	35	35	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	65.1	74.8	80.0	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS									
Flow	2.7	-4.1	-8.1	-0.6	-7.4	-11.4	-3.9	-10.7	-14.7
Distance	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	63.6	66.6	67.8	60.3	63.2	64.5	57.0	60.0	61.2
VEHICULAR NOISE	DAY=	71.1	Leq	EVENING=	67.8	Leq	NIGHT=	64.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.5</b>	
		<b>CNEL= 72.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 147</b>	<b>316 681</b>
		<b>CNEL: 155</b>	<b>335 721</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: LONG TERM 2035 WITH PROJECT (Project: CITY OF MENLO PARK UPD,  
 Roadway: US 101 Analyst FJS  
 Segment: N/O Marsh Rd Date: 30-Jan-13

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	15655	297	454	7284	138	211	3436	65	100
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	8.5	-8.7	-6.9	5.2	-12.0	-10.2	1.9	-15.3	-13.4
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.2	69.1	74.5	76.8	65.8	71.1	73.6	62.5	67.9
VEHICULAR NOISE	DAY=	81.5	Leq	EVENING=	78.1	Leq	NIGHT=	74.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		Ldn= 82.9	
		CNEL= 83.2	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 721	1553 3345
		CNEL: 764	1646 3545

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: LONG TERM 2035 WITH PROJECT (Project: CITY OF MENLO PARK UPD,  
 Roadway: US 101 Analyst FJS  
 Segment: S/O Marsh Rd Date: 30-Jan-13

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	14498	275	421	6746	128	196	3182	60	92
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	8.2	-9.0	-7.2	4.9	-12.4	-10.5	1.6	-15.6	-13.8
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	79.8	68.8	74.1	76.5	65.5	70.8	73.3	62.2	67.5
VEHICULAR NOISE	DAY=	81.1	Leq	EVENING=	77.8	Leq	NIGHT=	74.5	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		Ldn= 82.5	
		CNEL= 82.9	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 685	1475 3178
		CNEL: 726	1564 3369

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **US 101** Analyst **FJS**  
 Segment: **S/O Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	15363	292	446	7148	136	207	3372	64	98
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	8.4	-8.8	-6.9	5.1	-12.1	-10.3	1.8	-15.4	-13.5
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.1	69.0	74.4	76.8	65.7	71.1	73.5	62.5	67.8
VEHICULAR NOISE	DAY=	81.4	Leq	EVENING=	78.1	Leq	NIGHT=	74.8	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 82.8</b>	
		<b>CNEL= 83.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 712</b>	<b>1533 3304</b>
		<b>CNEL: 754</b>	<b>1625 3501</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **US 101** Analyst **FJS**  
 Segment: **S/O University** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	90
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	15673	298	455	7292	138	212	3440	65	100
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	8.5	-8.7	-6.9	5.2	-12.0	-10.2	1.9	-15.3	-13.4
Distance	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	80.2	69.1	74.5	76.9	65.8	71.1	73.6	62.5	67.9
VEHICULAR NOISE	DAY=	81.5	Leq	EVENING=	78.1	Leq	NIGHT=	74.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 82.9</b>	
		<b>CNEL= 83.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>721</b>	<b>1554 3348</b>
	<b>CNEL:</b>	<b>764</b>	<b>1647 3548</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **SR 84** Analyst: **FJS**  
 Segment: **Marsh Rd - Willow Rd** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	44,858
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	82
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY	HOURLY		
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2785	53	81	1296	25	38	611	12	18
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	2.2	-15.1	-13.2	-1.2	-18.4	-16.5	-4.4	-21.6	-19.8
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	69.3	59.7	65.8	65.9	56.4	62.5	62.7	53.1	59.2
VEHICULAR NOISE	DAY=	71.2	Leq	EVENING=	67.9	Leq	NIGHT=	64.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):			<b>Ldn= 72.6</b>
			<b>CNEL= 73.0</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>149</b>	<b>320 690</b>
	<b>CNEL:</b>	<b>158</b>	<b>340 732</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **SR 84** Analyst: **FJS**  
 Segment: **Willow Rd - University Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	75,460
SPEED (mph)	50
ROAD NEAR-FAR LN. DIST.	82
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4684	89	136	2179	41	63	1028	20	30
Speed in MPH	50	50	50	50	50	50	50	50	50
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	71.1	78.8	83.0	71.1	78.8	83.0	71.1	78.8	83.0
ADJUSTMENTS									
Flow	4.4	-12.8	-11.0	1.1	-16.1	-14.3	-2.2	-19.4	-17.5
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	71.5	62.0	68.0	68.2	58.6	64.7	64.9	55.4	61.5
VEHICULAR NOISE	DAY=	73.4	Leq	EVENING=	70.1	Leq	NIGHT=	66.9	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 74.8</b>	
		<b>CNEL= 75.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 210</b>	<b>453 977</b>
		<b>CNEL: 223</b>	<b>480 1035</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** (Project: **CITY OF MENLO PARK UPD.**)  
 Roadway: **SR 84** Analyst **FJS**  
 Segment: **W/O University Ave** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	80,486
SPEED (mph)	55
ROAD NEAR-FAR LN. DIST.	82
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	4996	95	145	2325	44	67	1097	21	32
Speed in MPH	55	55	55	55	55	55	55	55	55
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	72.7	79.9	83.8	72.7	79.9	83.8	72.7	79.9	83.8
ADJUSTMENTS									
Flow	4.3	-12.9	-11.1	1.0	-16.3	-14.4	-2.3	-19.5	-17.7
Distance	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	73.0	62.9	68.7	69.7	59.6	65.4	66.4	56.3	62.1
VEHICULAR NOISE	DAY=	74.7	Leq	EVENING=	71.3	Leq	NIGHT=	68.1	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 76.1</b>	
		<b>CNEL= 76.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 254</b>	<b>546 1177</b>
		<b>CNEL: 269</b>	<b>579 1247</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **I-280** Analyst: **FJS**  
 Segment: **N/O Sand Hill** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	120
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	8689	165	252	4043	77	117	1907	36	55
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	6.0	-11.3	-9.4	2.6	-14.6	-12.7	-0.6	-17.8	-16.0
Distance	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	78.3	67.3	72.6	75.0	64.0	69.3	71.7	60.7	66.0
VEHICULAR NOISE	DAY=	79.6	Leq	EVENING=	76.3	Leq	NIGHT=	73.0	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 81.0</b>	
		<b>CNEL= 81.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>543</b>	<b>1171 2522</b>
	<b>CNEL:</b>	<b>576</b>	<b>1241 2673</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **LONG TERM 2035 WITH PROJECT** Project: **CITY OF MENLO PARK UPD.**  
 Roadway: **I-280** Analyst: **FJS**  
 Segment: **S/O Sand Hill** Date: **30-Jan-13**

ROADWAY INPUTS	
ADT	#####
SPEED (mph)	65
ROAD NEAR-FAR LN. DIST.	120
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	95.4%	DAY	78.1%
% MT	1.8%	EVENING	9.1%
% HT	2.8%	NIGHT	12.9%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	7922	150	230	3686	70	107	1739	33	50
Speed in MPH	65	65	65	65	65	65	65	65	65
Left angle	-90	-90	-90	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90	90	90	90
Reference levels (dBA)	75.5	81.7	85.2	75.5	81.7	85.2	75.5	81.7	85.2
ADJUSTMENTS									
Flow	5.6	-11.7	-9.8	2.2	-15.0	-13.1	-1.0	-18.2	-16.4
Distance	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Finite Roadway	0	0	0	0	0	0	0	0	0
Barrier	0	0	0	0	0	0	0	0	0
Grade	0	0	0	0	0	0	0	0	0
LEQ	77.9	66.9	72.2	74.6	63.6	68.9	71.3	60.3	65.6
VEHICULAR NOISE	DAY=	79.2	Leq	EVENING=	75.9	Leq	NIGHT=	72.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn= 80.6</b>	
		<b>CNEL= 81.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>511</b>	<b>1101 2371</b>
	<b>CNEL:</b>	<b>541</b>	<b>1167 2513</b>

Noise Model Based on Federal Transit Administration General Transit Noise Assessment  
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<b>RESULTS</b>			
Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
<b>All Sources</b>	60	57	52
Source 1	57	54	49
Source 2	56	54	49
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

<b>LAND USE CATEGORY</b>	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

<b>NOISE SOURCE PARAMETERS</b>					
Parameter	Source 1		Source 2		Source 3
<b>Source Num.</b>	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	
<b>Distance (source to receiver)</b>	distance (ft)	180	distance (ft)	180	
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	60	speed (mph)	60	
	trains/hour	5.2	trains/hour	5.2	
	locos/train	1	cars/train	5	
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	60	speed (mph)	60	
	trains/hour	1.55	trains/hour	1.55	
	locos/train	1	cars/train	5	
<b>Wheel Flats?</b>		0.00%	% of cars w/ wheel flats	0.00%	
<b>Jointed Track?</b>	Y/N	N	Y/N	n	
<b>Embedded Track?</b>	Y/N	N	Y/N	n	
<b>Aerial Structure?</b>	Y/N	N	Y/N	n	
<b>Barrier Present?</b>	Y/N	N	Y/N	n	
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	

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<b>RESULTS</b>			
<b>Noise Source</b>	<b>Ldn (dB)</b>	<b>Leq - daytime (dB)</b>	<b>Leq - nighttime (dB)</b>
<b>All Sources</b>	65	62	57
Source 1	62	59	54
Source 2	61	59	53
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

<b>LAND USE CATEGORY</b>	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

<b>NOISE SOURCE PARAMETERS</b>					
<b>Parameter</b>	<b>Source 1</b>		<b>Source 2</b>		<b>Source 3</b>
<b>Source Num.</b>	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	
<b>Distance (source to receiver)</b>	distance (ft)	84	distance (ft)	84	
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	60	speed (mph)	60	
	trains/hour	5.2	trains/hour	5.2	
	locos/train	1	cars/train	5	
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	60	speed (mph)	60	
	trains/hour	1.55	trains/hour	1.55	
	locos/train	1	cars/train	5	
<b>Wheel Flats?</b>		0.00%	% of cars w/ wheel flats	0.00%	
<b>Jointed Track?</b>	Y/N	N	Y/N	n	
<b>Embedded Track?</b>	Y/N	N	Y/N	n	
<b>Aerial Structure?</b>	Y/N	N	Y/N	n	
<b>Barrier Present?</b>	Y/N	N	Y/N	n	
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	



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<b>RESULTS</b>			
<b>Noise Source</b>	<b>Ldn (dB)</b>	<b>Leq - daytime (dB)</b>	<b>Leq - nighttime (dB)</b>
<b>All Sources</b>	70	67	62
Source 1	67	64	59
Source 2	66	64	58
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

<b>LAND USE CATEGORY</b>	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

<b>NOISE SOURCE PARAMETERS</b>					
<b>Parameter</b>	<b>Source 1</b>		<b>Source 2</b>		<b>Source 3</b>
<b>Source Num.</b>	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	
<b>Distance (source to receiver)</b>	distance (ft)	39	distance (ft)	39	
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	60	speed (mph)	60	
	trains/hour	5.2	trains/hour	5.2	
	locos/train	1	cars/train	5	
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	60	speed (mph)	60	
	trains/hour	1.55	trains/hour	1.55	
	locos/train	1	cars/train	5	
<b>Wheel Flats?</b>		0.00%	% of cars w/ wheel flats	0.00%	
<b>Jointed Track?</b>	Y/N	N	Y/N	n	
<b>Embedded Track?</b>	Y/N	N	Y/N	n	
<b>Aerial Structure?</b>	Y/N	N	Y/N	n	
<b>Barrier Present?</b>	Y/N	N	Y/N	n	
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	

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<b>RESULTS</b>			
<b>Noise Source</b>	<b>Ldn (dB)</b>	<b>Leq - daytime (dB)</b>	<b>Leq - nighttime (dB)</b>
<b>All Sources</b>	60	58	53
Source 1	57	54	49
Source 2	58	56	50
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

<b>LAND USE CATEGORY</b>	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

<b>NOISE SOURCE PARAMETERS</b>					
<b>Parameter</b>	<b>Source 1</b>		<b>Source 2</b>		<b>Source 3</b>
<b>Source Num.</b>	Commuter Electric Locomotive	1	Commuter Rail Cars	3	
<b>Distance (source to receiver)</b>	distance (ft)	247	distance (ft)	247	
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	85	speed (mph)	85	
	trains/hour	6.47	trains/hour	6.47	
	locos/train	1	cars/train	5	
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	85	speed (mph)	85	
	trains/hour	1.89	trains/hour	1.89	
	locos/train	1	cars/train	5	
<b>Wheel Flats?</b>		0.00%	% of cars w/ wheel flats	0.00%	
<b>Jointed Track?</b>	Y/N	N	Y/N	n	
<b>Embedded Track?</b>	Y/N	N	Y/N	n	
<b>Aerial Structure?</b>	Y/N	N	Y/N	n	
<b>Barrier Present?</b>	Y/N	N	Y/N	n	
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	

**Noise Model Based on Federal Transit Administration General Transit Noise Assessment  
Developed for Chicago Create Project  
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Case:

Metrolink San Bernardino

<b>RESULTS</b>			
<b>Noise Source</b>	<b>Ldn (dB)</b>	<b>Leq - daytime (dB)</b>	<b>Leq - nighttime (dB)</b>
<b>All Sources</b>	65	62	57
Source 1	61	58	53
Source 2	62	60	54
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

*Enter noise receiver land use category below.*

<b>LAND USE CATEGORY</b>	
Noise receiver land use category (1, 2 or 3)	2

*Enter data for up to 8 noise sources below - see reference list for source numbers.*

<b>NOISE SOURCE PARAMETERS</b>					
<b>Parameter</b>	<b>Source 1</b>		<b>Source 2</b>		<b>Source 3</b>
<b>Source Num.</b>	Commuter Electric Locomotive	1	Commuter Rail Cars	3	
<b>Distance (source to receiver)</b>	distance (ft)	132	distance (ft)	132	
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	85	speed (mph)	85	
	trains/hour	6.47	trains/hour	6.47	
	locos/train	1	cars/train	5	
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	85	speed (mph)	85	
	trains/hour	1.89	trains/hour	1.89	
	locos/train	1	cars/train	5	
<b>Wheel Flats?</b>		0.00%	% of cars w/ wheel flats	0.00%	
<b>Jointed Track?</b>	Y/N	N	Y/N	n	
<b>Embedded Track?</b>	Y/N	N	Y/N	n	
<b>Aerial Structure?</b>	Y/N	N	Y/N	n	
<b>Barrier Present?</b>	Y/N	N	Y/N	n	
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	

Noise Model Based on Federal Transit Administration General Transit Noise Assessment  
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 Case: Metrolink San Bernardino

<b>RESULTS</b>			
<b>Noise Source</b>	<b>Ldn (dB)</b>	<b>Leq - daytime (dB)</b>	<b>Leq - nighttime (dB)</b>
<b>All Sources</b>	70	68	63
Source 1	67	64	59
Source 2	68	66	60
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

<b>LAND USE CATEGORY</b>	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

<b>NOISE SOURCE PARAMETERS</b>					
<b>Parameter</b>	<b>Source 1</b>		<b>Source 2</b>		<b>Source 3</b>
<b>Source Num.</b>	Commuter Electric Locomotive	1	Commuter Rail Cars	3	
<b>Distance (source to receiver)</b>	distance (ft)	53	distance (ft)	53	
<b>Daytime Hours (7 AM - 10 PM)</b>	speed (mph)	85	speed (mph)	85	
	trains/hour	6.47	trains/hour	6.47	
	locos/train	1	cars/train	5	
<b>Nighttime Hours (10 PM - 7 AM)</b>	speed (mph)	85	speed (mph)	85	
	trains/hour	1.89	trains/hour	1.89	
	locos/train	1	cars/train	5	
<b>Wheel Flats?</b>		0.00%	% of cars w/ wheel flats	0.00%	
<b>Jointed Track?</b>	Y/N	N	Y/N	n	
<b>Embedded Track?</b>	Y/N	N	Y/N	n	
<b>Aerial Structure?</b>	Y/N	N	Y/N	n	
<b>Barrier Present?</b>	Y/N	N	Y/N	n	
<b>Intervening Rows of Buildings</b>	number of rows	0	number of rows	0	

EXISTING

	Ldn 100Feet	70 CNEL	65 CNEL	60 CNEL
Caltrain	63	39	84	180

2035\*

	Ldn 100Feet	70 CNEL	65 CNEL	60 CNEL
Electrified Caltrain	66	53	132	247

\*Assumptions:

Caltrain Assumptions:

Electrification of Caltrain by 2035

Increased frequency: 19 additional daytime trips, 3 additional nighttime trips

Increased speed: 42% increase in speed to average 85 mph by 2035

*Source: Caltrain Electrification Program -  
Environmental Assessment/Final  
Environmental Impact Report*