Appendix G: Noise Modeling

Appendices

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Midtown Long Beach COLB-05

EXISTING NO PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Long Beach Blvd	36th to 35th	30,372	35	48	Soft	4D	**0%**	1
2	Pacific Ave	29th to 28th	14,703	40	48	Soft	4D	**0%**	2
3	Atlantic Ave	29th to 28th	26,673	30	48	Soft	4D	**0%**	3
4	Pacific Ave	20th to 19th	16,051	30	48	Soft	4D	**0%**	4
5	Atlantic Ave	20th to 19th	21,646	30	48	Soft	4D	**0%**	5
6	Pacific Coast Hwy	Magnolia to Chestnut	35,551	35	84	Soft	6D	**0%**	6
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	34,327	35	84	Soft	6D	**0%**	7
8	Pacific Ave	16th to 15th	12,952	30	48	Soft	4D	**0%**	8
9	Atlantic Ave	16th to 15th	19,672	30	48	Soft	4D	**0%**	9
10	Long Beach Blvd	11th to 10th	17,835	30	66	Soft	4D	**0%**	10
11	Atlantic Ave	North of Wardlow	24,524	30	48	Soft	4D	**0%**	11
12	Spring St	East of Atlantic	18,846	40	48	Soft	4D	**0%**	12
13	Willow St	East of Atlantic	26,273	35	84	Soft	6D	**0%**	13
14	Atlantic Ave	South of Willow	19,896	30	48	Soft	4D	**0%**	14
15									15
16									16
17									17
18									18
19									19
20									20
21									21
22									22
23									23
24									24
25									25
26									26
27									27
28									28
29									29
30									30

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE		
2U	40	12	73.6	75.55%
4U	40	36	13.6	13.96%
4D	45	48	10.22	10.49%
6D	45	84		
2D	40	24		

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Trat

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM tc	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Midtown Long Beach COLB-05
EXISTING NO PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTACE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Long Beach Blvd	36th to 35th	30,372	71.0	59	126	272
2	Pacific Ave	29th to 28th	14,703	69.3	45	97	208
3	Atlantic Ave	29th to 28th	26,673	68.9	42	91	196
4	Pacific Ave	20th to 19th	16,051	66.7	30	65	140
5	Atlantic Ave	20th to 19th	21,646	68.0	37	79	171
6	Pacific Coast Hwy	Magnolia to Chestnut	35,551	74.9	105	227	489
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	34,327	74.7	103	222	477
8	Pacific Ave	16th to 15th	12,952	65.8	26	56	121
9	Atlantic Ave	16th to 15th	19,672	67.6	35	74	160
10	Long Beach Blvd	11th to 10th	17,835	68.2	38	81	175
11	Atlantic Ave	North of Wardlow	24,524	68.5	40	86	186
12	Spring St	East of Atlantic	18,846	70.4	53	114	246
13	Willow St	East of Atlantic	26,273	73.5	86	185	400
14	Atlantic Ave	South of Willow	19,896	67.6	35	75	161

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	36th to 35th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	30,372
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1863	35	14	1377	26	10	345	7	3
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	2.0	-15.3	-19.2	0.6	-16.6	-20.6	-5.4	-22.6	-26.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	67.8	60.3	61.6	66.5	59.0	60.2	60.5	53.0	54.2
VEHICULAR NOISE	DAY=	69.3	Leq	EVENING=	68.0	Leq	NIGHT=	62.0	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.4**
					CNEL=	**71.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**53**	**115**	**247**
			CNEL:	**59**	**126**	**272**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	14,703
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	902	17	7	667	13	5	167	3	1
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	-1.8	-19.0	-23.0	-3.1	-20.3	-24.3	-9.1	-26.3	-30.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.3	58.0	58.9	65.0	56.7	57.6	59.0	50.7	51.6
VEHICULAR NOISE	DAY=	67.6	Leq	EVENING=	66.3	Leq	NIGHT=	60.2	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.7**
					CNEL=	**69.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**41**	**88**	**189**
			CNEL:	**45**	**97**	**208**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	26,673
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1636	31	12	1209	23	9	303	6	2
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	2.1	-15.2	-19.1	0.7	-16.5	-20.4	-5.3	-22.5	-26.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	65.3	58.7	60.4	64.0	57.4	59.1	58.0	51.4	53.1
VEHICULAR NOISE	DAY=	67.2	Leq	EVENING=	65.9	Leq	NIGHT=	59.9	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.3**
					CNEL=	**68.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**38**	**83**	**178**
			CNEL:	**42**	**91**	**196**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	16,051
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	984	19	7	728	14	6	182	3	1
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	-0.1	-17.4	-21.3	-1.5	-18.7	-22.7	-7.5	-24.7	-28.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	63.1	56.5	58.2	61.8	55.2	56.9	55.8	49.2	50.8
VEHICULAR NOISE	DAY=	65.0	Leq	EVENING=	63.7	Leq	NIGHT=	57.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**66.1**
					CNEL=	**66.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**27**	**59**	**127**
			CNEL:	**30**	**65**	**140**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	21,646
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1328	25	10	981	19	7	246	5	2
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	1.2	-16.1	-20.0	-0.2	-17.4	-21.4	-6.2	-23.4	-27.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	57.8	59.5	63.1	56.5	58.2	57.1	50.5	52.1
VEHICULAR NOISE	DAY=	66.3	Leq	EVENING=	65.0	Leq	NIGHT=	59.0	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.4**
					CNEL=	**68.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**33**	**72**	**155**
			CNEL:	**37**	**79**	**171**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Magnolia to Chestnut	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	35,551
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2180	41	17	1612	30	12	404	8	3
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	2.6	-14.6	-18.6	1.3	-15.9	-19.9	-4.7	-21.9	-25.9
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	71.6	64.1	65.4	70.3	62.8	64.1	64.3	56.8	58.0
VEHICULAR NOISE	DAY=	73.1	Leq	EVENING=	71.8	Leq	NIGHT=	65.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.2**
					CNEL=	**74.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**96**	**206**	**444**
			CNEL:	**105**	**227**	**489**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Myrtle to Martin Luther King Jr	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	34,327
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2105	40	16	1556	29	12	390	7	3
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	2.5	-14.8	-18.7	1.2	-16.1	-20.0	-4.8	-22.1	-26.0
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	71.5	64.0	65.2	70.2	62.6	63.9	64.1	56.6	57.9
VEHICULAR NOISE	DAY=	73.0	Leq	EVENING=	71.7	Leq	NIGHT=	65.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.1**
					CNEL=	**74.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**93**	**201**	**434**
			CNEL:	**103**	**222**	**477**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	12,952
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	794	15	6	587	11	4	147	3	1
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	-18.3	-22.3	-2.4	-19.6	-23.6	-8.4	-25.6	-29.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	55.5	57.2	60.9	54.2	55.9	54.9	48.2	49.9
VEHICULAR NOISE	DAY=	64.1	Leq	EVENING=	62.7	Leq	NIGHT=	56.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.1**
					CNEL=	**65.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**24**	**51**	**110**
			CNEL:	**26**	**56**	**121**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	19,672
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1207	23	9	892	17	7	223	4	2
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	-16.5	-20.5	-0.6	-17.8	-21.8	-6.6	-23.8	-27.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	57.4	59.1	62.7	56.0	57.7	56.7	50.0	51.7
VEHICULAR NOISE	DAY=	65.9	Leq	EVENING=	64.6	Leq	NIGHT=	58.5	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.0**
					CNEL=	**67.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**31**	**68**	**146**
			CNEL:	**35**	**74**	**160**

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	11th to 10th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	17,835
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	66
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1094	21	8	809	15	6	203	4	2
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	0.3	-16.9	-20.9	-1.0	-18.2	-22.2	-7.0	-24.3	-28.2
Distance	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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	64.6	57.9	59.6	63.3	56.6	58.3	57.3	50.6	52.3
VEHICULAR NOISE	DAY=	66.5	Leq	EVENING=	65.1	Leq	NIGHT=	59.1	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.5**
					CNEL=	**68.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**34**	**74**	**159**
			CNEL:	**38**	**81**	**175**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	North of Wardlow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	24,524
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1504	28	11	1112	21	8	278	5	2
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	1.7	-15.5	-19.5	0.4	-16.9	-20.8	-5.6	-22.9	-26.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	65.0	58.3	60.0	63.6	57.0	58.7	57.6	51.0	52.7
VEHICULAR NOISE	DAY=	66.8	Leq	EVENING=	65.5	Leq	NIGHT=	59.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.9**
			CNEL=	**68.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**36**	**78**	**169**
	CNEL:	**40**	**86**	**186**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Spring St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	18,846
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1156	22	9	854	16	6	214	4	2
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	-0.7	-17.9	-21.9	-2.0	-19.2	-23.2	-8.0	-25.3	-29.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	67.4	59.1	60.0	66.1	57.8	58.7	60.1	51.8	52.7
VEHICULAR NOISE	DAY=	68.7	Leq	EVENING=	67.3	Leq	NIGHT=	61.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.7**
			CNEL=	**70.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**48**	**104**	**223**
	CNEL:	**53**	**114**	**246**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Willow St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	26,273
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1611	30	12	1191	22	9	298	6	2
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	1.3	-15.9	-19.9	0.0	-17.2	-21.2	-6.0	-23.2	-27.2
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	70.3	62.8	64.1	69.0	61.5	62.7	63.0	55.5	56.7
VEHICULAR NOISE	DAY=	71.8	Leq	EVENING=	70.5	Leq	NIGHT=	64.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**72.9**
			CNEL=	**73.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**78**	**168**	**363**
	CNEL:	**86**	**185**	**400**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	South of Willow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	19,896
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1220	23	9	902	17	7	226	4	2
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	-16.5	-20.4	-0.5	-17.8	-21.7	-6.5	-23.8	-27.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	57.4	59.1	62.7	56.1	57.8	56.7	50.1	51.8
VEHICULAR NOISE	DAY=	65.9	Leq	EVENING=	64.6	Leq	NIGHT=	58.6	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.0**
			CNEL=	**67.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**32**	**68**	**147**
	CNEL:	**35**	**75**	**161**

Midtown Long Beach COLB-05

EXISTING PLUS PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Long Beach Blvd	36th to 35th	30,300	35	48	Soft	4D	**0%**	1
2	Pacific Ave	29th to 28th	16,200	40	48	Soft	4D	**0%**	2
3	Atlantic Ave	29th to 28th	32,300	30	48	Soft	4D	**0%**	3
4	Pacific Ave	20th to 19th	15,400	30	48	Soft	4D	**0%**	4
5	Atlantic Ave	20th to 19th	21,100	30	48	Soft	4D	**0%**	5
6	Pacific Coast Hwy	Magnolia to Chestnut	35,200	35	84	Soft	6D	**0%**	6
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	36,500	35	84	Soft	6D	**0%**	7
8	Pacific Ave	16th to 15th	13,800	30	48	Soft	4D	**0%**	8
9	Atlantic Ave	16th to 15th	20,500	30	48	Soft	4D	**0%**	9
10	Long Beach Blvd	11th to 10th	17,900	30	66	Soft	4D	**0%**	10
11	Atlantic Ave	North of Wardlow	30,400	30	48	Soft	4D	**0%**	11
12	Spring St	East of Atlantic	19,000	40	48	Soft	4D	**0%**	12
13	Willow St	East of Atlantic	28,700	35	84	Soft	6D	**0%**	13
14	Atlantic Ave	South of Willow	21,100	30	48	Soft	4D	**0%**	14
15									15
16									16
17									17
18									18
19									19
20									20
21									21
22									22
23									23
24									24
25									25
26									26
27									27
28									28
29									29
30									30

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE		
2U	40	12	73.6	75.55%
4U	40	36	13.6	13.96%
4D	45	48	10.22	10.49%
6D	45	84		
2D	40	24		

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Trat

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM to	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Midtown Long Beach COLB-05
EXISTING PLUS PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTACE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Long Beach Blvd	36th to 35th	30,300	71.0	59	126	272
2	Pacific Ave	29th to 28th	16,200	69.7	48	103	222
3	Atlantic Ave	29th to 28th	32,300	69.7	48	104	223
4	Pacific Ave	20th to 19th	15,400	66.5	29	63	136
5	Atlantic Ave	20th to 19th	21,100	67.9	36	78	168
6	Pacific Coast Hwy	Magnolia to Chestnut	35,200	74.8	105	225	486
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	36,500	75.0	107	231	497
8	Pacific Ave	16th to 15th	13,800	66.0	27	59	127
9	Atlantic Ave	16th to 15th	20,500	67.8	35	76	165
10	Long Beach Blvd	11th to 10th	17,900	68.2	38	82	176
11	Atlantic Ave	North of Wardlow	30,400	69.5	46	99	214
12	Spring St	East of Atlantic	19,000	70.4	53	115	247
13	Willow St	East of Atlantic	28,700	73.9	91	197	424
14	Atlantic Ave	South of Willow	21,100	67.9	36	78	168

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	36th to 35th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	30,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1858	35	14	1374	26	10	344	6	3
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	1.9	-15.3	-19.2	0.6	-16.6	-20.6	-5.4	-22.6	-26.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	67.8	60.3	61.5	66.5	59.0	60.2	60.5	53.0	54.2
VEHICULAR NOISE	DAY=	69.3	Leq	EVENING=	68.0	Leq	NIGHT=	62.0	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.4**
					CNEL=	**71.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**53**	**115**	**247**
			CNEL:	**59**	**126**	**272**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	16,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	994	19	8	734	14	6	184	3	1
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	-1.4	-18.6	-22.5	-2.7	-19.9	-23.9	-8.7	-25.9	-29.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.8	58.5	59.4	65.4	57.2	58.0	59.4	51.1	52.0
VEHICULAR NOISE	DAY=	68.0	Leq	EVENING=	66.7	Leq	NIGHT=	60.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.1**
					CNEL=	**69.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**43**	**94**	**202**
			CNEL:	**48**	**103**	**222**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	32,300
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1981	37	15	1464	28	11	367	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	2.9	-14.3	-18.3	1.6	-15.7	-19.6	-4.4	-21.7	-25.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.2	59.5	61.2	64.8	58.2	59.9	58.8	52.2	53.9
VEHICULAR NOISE	DAY=	68.0	Leq	EVENING=	66.7	Leq	NIGHT=	60.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.1**
					CNEL=	**69.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**44**	**94**	**203**
			CNEL:	**48**	**104**	**223**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	15,400
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	945	18	7	698	13	5	175	3	1
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	-0.3	-17.6	-21.5	-1.6	-18.9	-22.8	-7.6	-24.9	-28.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	62.9	56.3	58.0	61.6	55.0	56.7	55.6	49.0	50.7
VEHICULAR NOISE	DAY=	64.8	Leq	EVENING=	63.5	Leq	NIGHT=	57.5	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.9**
					CNEL=	**66.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**27**	**57**	**124**
			CNEL:	**29**	**63**	**136**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	21,100
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1294	24	10	957	18	7	240	5	2
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	-16.2	-20.2	-0.3	-17.5	-21.5	-6.3	-23.5	-27.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.3	57.7	59.4	63.0	56.4	58.0	57.0	50.3	52.0
VEHICULAR NOISE	DAY=	66.2	Leq	EVENING=	64.9	Leq	NIGHT=	58.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.3**
					CNEL=	**67.9**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**33**	**71**	**153**
			CNEL:	**36**	**78**	**168**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Magnolia to Chestnut	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	35,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2159	41	16	1596	30	12	400	8	3
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	2.6	-14.6	-18.6	1.3	-16.0	-19.9	-4.7	-22.0	-25.9
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	71.6	64.1	65.3	70.3	62.8	64.0	64.3	56.7	58.0
VEHICULAR NOISE	DAY=	73.1	Leq	EVENING=	71.8	Leq	NIGHT=	65.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.2**
					CNEL=	**74.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**95**	**205**	**441**
			CNEL:	**105**	**225**	**486**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Myrtle to Martin Luther King Jr	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	36,500
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2239	42	17	1655	31	13	414	8	3
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	-14.5	-18.4	1.4	-15.8	-19.8	-4.6	-21.8	-25.8
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	71.7	64.2	65.5	70.4	62.9	64.2	64.4	56.9	58.2
VEHICULAR NOISE	DAY=	73.2	Leq	EVENING=	71.9	Leq	NIGHT=	65.9	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.3**
					CNEL=	**75.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**97**	**210**	**452**
			CNEL:	**107**	**231**	**497**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	13,800
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	846	16	6	626	12	5	157	3	1
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	-18.0	-22.0	-2.1	-19.4	-23.3	-8.1	-25.4	-29.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	62.5	55.8	57.5	61.1	54.5	56.2	55.1	48.5	50.2
VEHICULAR NOISE	DAY=	64.3	Leq	EVENING=	63.0	Leq	NIGHT=	57.0	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**65.4**
					CNEL=	**66.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**25**	**53**	**115**
			CNEL:	**27**	**59**	**127**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	20,500
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1257	24	10	929	18	7	233	4	2
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	-16.3	-20.3	-0.4	-17.6	-21.6	-6.4	-23.6	-27.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.2	57.5	59.2	62.9	56.2	57.9	56.9	50.2	51.9
VEHICULAR NOISE	DAY=	66.0	Leq	EVENING=	64.7	Leq	NIGHT=	58.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.1**
					CNEL=	**67.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**32**	**69**	**150**
			CNEL:	**35**	**76**	**165**

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	11th to 10th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	17,900
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	66
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1098	21	8	811	15	6	203	4	2
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	0.3	-16.9	-20.9	-1.0	-18.2	-22.2	-7.0	-24.2	-28.2
Distance	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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	64.6	58.0	59.7	63.3	56.6	58.3	57.3	50.6	52.3
VEHICULAR NOISE	DAY=	66.5	Leq	EVENING=	65.2	Leq	NIGHT=	59.1	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.6**
					CNEL=	**68.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**34**	**74**	**160**
			CNEL:	**38**	**82**	**176**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	North of Wardlow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	30,400
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1865	35	14	1378	26	10	345	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	2.6	-14.6	-18.6	1.3	-15.9	-19.9	-4.7	-21.9	-25.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	65.9	59.3	60.9	64.6	57.9	59.6	58.6	51.9	53.6
VEHICULAR NOISE	DAY=	67.8	Leq	EVENING=	66.4	Leq	NIGHT=	60.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.9**
			CNEL=	**69.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**42**	**90**	**195**
	CNEL:	**46**	**99**	**214**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Spring St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	19,000
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1165	22	9	861	16	7	216	4	2
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	-0.7	-17.9	-21.9	-2.0	-19.2	-23.2	-8.0	-25.2	-29.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	67.4	59.2	60.1	66.1	57.8	58.7	60.1	51.8	52.7
VEHICULAR NOISE	DAY=	68.7	Leq	EVENING=	67.4	Leq	NIGHT=	61.4	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.8**
			CNEL=	**70.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**48**	**104**	**224**
	CNEL:	**53**	**115**	**247**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Willow St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	28,700
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1760	33	13	1301	25	10	326	6	2
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	1.7	-15.5	-19.5	0.4	-16.8	-20.8	-5.6	-22.9	-26.8
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	70.7	63.2	64.4	69.4	61.9	63.1	63.4	55.9	57.1
VEHICULAR NOISE	DAY=	72.2	Leq	EVENING=	70.9	Leq	NIGHT=	64.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**73.3**
			CNEL=	**73.9**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**83**	**179**	**385**
	CNEL:	**91**	**197**	**424**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	EXISTING PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	South of Willow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	21,100
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1294	24	10	957	18	7	240	5	2
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	-16.2	-20.2	-0.3	-17.5	-21.5	-6.3	-23.5	-27.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.3	57.7	59.4	63.0	56.4	58.0	57.0	50.3	52.0
VEHICULAR NOISE	DAY=	66.2	Leq	EVENING=	64.9	Leq	NIGHT=	58.8	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.3**
			CNEL=	**67.9**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**33**	**71**	**153**
	CNEL:	**36**	**78**	**168**

Midtown Long Beach COLB-05

CUMULATIVE NO PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Long Beach Blvd	36th to 35th	31,500	35	48	Soft	4D	**0%**	1
2	Pacific Ave	29th to 28th	16,400	40	48	Soft	4D	**0%**	2
3	Atlantic Ave	29th to 28th	34,000	30	48	Soft	4D	**0%**	3
4	Pacific Ave	20th to 19th	17,600	30	48	Soft	4D	**0%**	4
5	Atlantic Ave	20th to 19th	23,500	30	48	Soft	4D	**0%**	5
6	Pacific Coast Hwy	Magnolia to Chestnut	40,300	35	84	Soft	6D	**0%**	6
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	40,800	35	84	Soft	6D	**0%**	7
8	Pacific Ave	16th to 15th	15,900	30	48	Soft	4D	**0%**	8
9	Atlantic Ave	16th to 15th	23,800	30	48	Soft	4D	**0%**	9
10	Long Beach Blvd	11th to 10th	20,800	30	66	Soft	4D	**0%**	10
11	Atlantic Ave	North of Wardlow	33,500	30	48	Soft	4D	**0%**	11
12	Spring St	East of Atlantic	21,500	40	48	Soft	4D	**0%**	12
13	Willow St	East of Atlantic	31,900	35	84	Soft	6D	**0%**	13
14	Atlantic Ave	South of Willow	23,600	30	48	Soft	4D	**0%**	14
15									15
16									16
17									17
18									18
19									19
20									20
21									21
22									22
23									23
24									24
25									25
26									26
27									27
28									28
29									29
30									30

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE		
2U	40	12	73.6	75.55%
4U	40	36	13.6	13.96%
4D	45	48	10.22	10.49%
6D	45	84		
2D	40	24		

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Trat

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM to	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Midtown Long Beach COLB-05

CUMULATIVE NO PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTACE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Long Beach Blvd	36th to 35th	31,500	71.2	60	129	279
2	Pacific Ave	29th to 28th	16,400	69.8	48	104	224
3	Atlantic Ave	29th to 28th	34,000	70.0	50	107	231
4	Pacific Ave	20th to 19th	17,600	67.1	32	69	149
5	Atlantic Ave	20th to 19th	23,500	68.4	39	84	180
6	Pacific Coast Hwy	Magnolia to Chestnut	40,300	75.4	114	247	531
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	40,800	75.4	115	249	536
8	Pacific Ave	16th to 15th	15,900	66.7	30	65	139
9	Atlantic Ave	16th to 15th	23,800	68.4	39	84	182
10	Long Beach Blvd	11th to 10th	20,800	68.8	42	90	194
11	Atlantic Ave	North of Wardlow	33,500	69.9	49	106	229
12	Spring St	East of Atlantic	21,500	70.9	58	125	268
13	Willow St	East of Atlantic	31,900	74.4	98	211	455
14	Atlantic Ave	South of Willow	23,600	68.4	39	84	181

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	36th to 35th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	31,500
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1932	36	15	1428	27	11	358	7	3
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	2.1	-15.1	-19.1	0.8	-16.4	-20.4	-5.2	-22.4	-26.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	68.0	60.5	61.7	66.7	59.1	60.4	60.6	53.1	54.4
VEHICULAR NOISE	DAY=	69.5	Leq	EVENING=	68.2	Leq	NIGHT=	62.2	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.6**
					CNEL=	**71.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**55**	**118**	**253**
			CNEL:	**60**	**129**	**279**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	16,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1006	19	8	743	14	6	186	4	1
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	-1.3	-18.5	-22.5	-2.6	-19.9	-23.8	-8.6	-25.9	-29.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.8	58.5	59.4	65.5	57.2	58.1	59.5	51.2	52.1
VEHICULAR NOISE	DAY=	68.0	Leq	EVENING=	66.7	Leq	NIGHT=	60.7	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.1**
					CNEL=	**69.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**44**	**94**	**203**
			CNEL:	**48**	**104**	**224**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	34,000
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2085	39	16	1541	29	12	386	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	3.1	-14.1	-18.1	1.8	-15.4	-19.4	-4.2	-21.4	-25.4
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.4	59.7	61.4	65.1	58.4	60.1	59.1	52.4	54.1
VEHICULAR NOISE	DAY=	68.2	Leq	EVENING=	66.9	Leq	NIGHT=	60.9	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.3**
					CNEL=	**70.0**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**45**	**97**	**210**
			CNEL:	**50**	**107**	**231**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	17,600
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1079	20	8	798	15	6	200	4	2
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	0.3	-17.0	-20.9	-1.1	-18.3	-22.3	-7.1	-24.3	-28.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	63.5	56.9	58.6	62.2	55.6	57.3	56.2	49.6	51.2
VEHICULAR NOISE	DAY=	65.4	Leq	EVENING=	64.1	Leq	NIGHT=	58.1	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**66.5**
					CNEL=	**67.1**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**29**	**63**	**135**
			CNEL:	**32**	**69**	**149**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	23,500
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1441	27	11	1065	20	8	267	5	2
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	1.5	-15.7	-19.7	0.2	-17.0	-21.0	-5.8	-23.1	-27.0
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.8	58.1	59.8	63.5	56.8	58.5	57.4	50.8	52.5
VEHICULAR NOISE	DAY=	66.6	Leq	EVENING=	65.3	Leq	NIGHT=	59.3	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.7**
					CNEL=	**68.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**35**	**76**	**164**
			CNEL:	**39**	**84**	**180**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Magnolia to Chestnut	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	40,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2472	47	19	1827	35	14	458	9	3
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	3.2	-14.1	-18.0	1.9	-15.4	-19.3	-4.1	-21.4	-25.3
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	72.2	64.7	65.9	70.9	63.3	64.6	64.8	57.3	58.6
VEHICULAR NOISE	DAY=	73.7	Leq	EVENING=	72.4	Leq	NIGHT=	66.3	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.8**
					CNEL=	**75.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**104**	**224**	**483**
			CNEL:	**114**	**247**	**531**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Myrtle to Martin Luther King Jr	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	40,800
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2502	47	19	1850	35	14	463	9	4
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	3.2	-14.0	-18.0	1.9	-15.3	-19.3	-4.1	-21.3	-25.3
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	72.2	64.7	66.0	70.9	63.4	64.7	64.9	57.4	58.6
VEHICULAR NOISE	DAY=	73.7	Leq	EVENING=	72.4	Leq	NIGHT=	66.4	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.8**
					CNEL=	**75.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**105**	**226**	**487**
			CNEL:	**115**	**249**	**536**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	15,900
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	975	18	7	721	14	5	181	3	1
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	-0.2	-17.4	-21.4	-1.5	-18.7	-22.7	-7.5	-24.7	-28.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	63.1	56.4	58.1	61.8	55.1	56.8	55.7	49.1	50.8
VEHICULAR NOISE	DAY=	64.9	Leq	EVENING=	63.6	Leq	NIGHT=	57.6	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**66.0**
					CNEL=	**66.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**27**	**59**	**126**
			CNEL:	**30**	**65**	**139**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	23,800
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1460	28	11	1079	20	8	270	5	2
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	1.6	-15.7	-19.6	0.3	-17.0	-20.9	-5.8	-23.0	-27.0
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.8	58.2	59.9	63.5	56.9	58.6	57.5	50.9	52.6
VEHICULAR NOISE	DAY=	66.7	Leq	EVENING=	65.4	Leq	NIGHT=	59.4	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.8**
					CNEL=	**68.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**36**	**77**	**165**
			CNEL:	**39**	**84**	**182**

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	11th to 10th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	20,800
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	66
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1276	24	10	943	18	7	236	4	2
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	-16.3	-20.2	-0.3	-17.6	-21.5	-6.3	-23.6	-27.5
Distance	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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	65.3	58.6	60.3	63.9	57.3	59.0	57.9	51.3	53.0
VEHICULAR NOISE	DAY=	67.1	Leq	EVENING=	65.8	Leq	NIGHT=	59.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.2**
					CNEL=	**68.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**38**	**82**	**176**
			CNEL:	**42**	**90**	**194**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	North of Wardlow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	33,500
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2055	39	16	1519	29	12	380	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	3.1	-14.2	-18.1	1.7	-15.5	-19.5	-4.3	-21.5	-25.5
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.3	59.7	61.4	65.0	58.4	60.1	59.0	52.3	54.0
VEHICULAR NOISE	DAY=	68.2	Leq	EVENING=	66.9	Leq	NIGHT=	60.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.3**
			CNEL=	**69.9**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**45**	**96**	**208**
	CNEL:	**49**	**106**	**229**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Spring St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	21,500
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1319	25	10	975	18	7	244	5	2
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	-0.1	-17.4	-21.3	-1.4	-18.7	-22.6	-7.4	-24.7	-28.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	68.0	59.7	60.6	66.7	58.4	59.3	60.7	52.4	53.3
VEHICULAR NOISE	DAY=	69.2	Leq	EVENING=	67.9	Leq	NIGHT=	61.9	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.3**
			CNEL=	**70.9**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**53**	**113**	**244**
	CNEL:	**58**	**125**	**268**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Willow St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	31,900
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1957	37	15	1446	27	11	362	7	3
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	2.2	-15.1	-19.0	0.9	-16.4	-20.3	-5.2	-22.4	-26.4
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	71.2	63.6	64.9	69.8	62.3	63.6	63.8	56.3	57.6
VEHICULAR NOISE	DAY=	72.7	Leq	EVENING=	71.3	Leq	NIGHT=	65.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**73.8**
			CNEL=	**74.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**89**	**192**	**413**
	CNEL:	**98**	**211**	**455**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE NO PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	South of Willow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	23,600
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1447	27	11	1070	20	8	268	5	2
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	1.5	-15.7	-19.7	0.2	-17.0	-21.0	-5.8	-23.0	-27.0
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.8	58.2	59.8	63.5	56.8	58.5	57.5	50.8	52.5
VEHICULAR NOISE	DAY=	66.7	Leq	EVENING=	65.3	Leq	NIGHT=	59.3	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.8**
			CNEL=	**68.4**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**35**	**76**	**164**
	CNEL:	**39**	**84**	**181**

Midtown Long Beach COLB-05

CUMULATIVE PLUS PROJECT

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION	LANES	GRADE (%)	
1	Long Beach Blvd	36th to 35th	34,600	35	48	Soft	4D	**0%**	1
2	Pacific Ave	29th to 28th	18,900	40	48	Soft	4D	**0%**	2
3	Atlantic Ave	29th to 28th	37,000	30	48	Soft	4D	**0%**	3
4	Pacific Ave	20th to 19th	17,900	30	48	Soft	4D	**0%**	4
5	Atlantic Ave	20th to 19th	24,300	30	48	Soft	4D	**0%**	5
6	Pacific Coast Hwy	Magnolia to Chestnut	41,000	35	84	Soft	6D	**0%**	6
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	42,200	35	84	Soft	6D	**0%**	7
8	Pacific Ave	16th to 15th	16,000	30	48	Soft	4D	**0%**	8
9	Atlantic Ave	16th to 15th	23,900	30	48	Soft	4D	**0%**	9
10	Long Beach Blvd	11th to 10th	20,800	30	66	Soft	4D	**0%**	10
11	Atlantic Ave	North of Wardlow	35,200	30	48	Soft	4D	**0%**	11
12	Spring St	East of Atlantic	21,900	40	48	Soft	4D	**0%**	12
13	Willow St	East of Atlantic	33,200	35	84	Soft	6D	**0%**	13
14	Atlantic Ave	South of Willow	24,500	30	48	Soft	4D	**0%**	14
15									15
16									16
17									17
18									18
19									19
20									20
21									21
22									22
23									23
24									24
25									25
26									26
27									27
28									28
29									29
30									30

ANALYST
NJF

ROAD CLASSIFICATION	SPEED	LANE DISTANCE		
2U	40	12	73.6	75.55%
4U	40	36	13.6	13.96%
4D	45	48	10.22	10.49%
6D	45	84		
2D	40	24		

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.42%	DAY	75.5%
% MT	1.84%	EVENING	14.0%
% HT	0.74%	NIGHT	10.5%

Source: Riverside, County of, Department of Public Health, Office of Industrial Hygiene. 2009, November. For Determining and Mitigating Trat

Riverside County Fleet Mix: Secondary, Collectors, or Smaller

Vehicle	Overall %	Day (7 AM to	Evening (7	Night (10 PM to 7 AM)
Auto	97%	73.60	13.60	10.22
Medium Truck	2%	0.90	0.04	0.90
Heavy Truck	1%	0.35	0.04	0.35
		74.85	13.68	11.47

Midtown Long Beach COLB-05

CUMULATIVE PLUS PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTACE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Long Beach Blvd	36th to 35th	34,600	71.6	64	138	297
2	Pacific Ave	29th to 28th	18,900	70.4	53	114	246
3	Atlantic Ave	29th to 28th	37,000	70.3	53	113	244
4	Pacific Ave	20th to 19th	17,900	67.2	32	70	150
5	Atlantic Ave	20th to 19th	24,300	68.5	40	86	184
6	Pacific Coast Hwy	Magnolia to Chestnut	41,000	75.5	116	249	538
7	Pacific Coast Hwy	Myrtle to Martin Luther King Jr	42,200	75.6	118	254	548
8	Pacific Ave	16th to 15th	16,000	66.7	30	65	140
9	Atlantic Ave	16th to 15th	23,900	68.4	39	85	182
10	Long Beach Blvd	11th to 10th	20,800	68.8	42	90	194
11	Atlantic Ave	North of Wardlow	35,200	70.1	51	110	236
12	Spring St	East of Atlantic	21,900	71.0	59	126	272
13	Willow St	East of Atlantic	33,200	74.6	101	217	467
14	Atlantic Ave	South of Willow	24,500	68.5	40	86	185

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	36th to 35th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	34,600
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA

	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2122	40	16	1569	30	12	393	7	3
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	2.5	-14.7	-18.7	1.2	-16.0	-20.0	-4.8	-22.0	-26.0
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	68.4	60.9	62.1	67.1	59.5	60.8	61.1	53.5	54.8
VEHICULAR NOISE	DAY=	69.9	Leq	EVENING=	68.6	Leq	NIGHT=	62.6	Leq

RESULTS

NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**71.0**
			CNEL=	**71.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**58**	**125**	**270**
	CNEL:	**64**	**138**	**297**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	18,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1159	22	9	857	16	7	215	4	2
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	-0.7	-17.9	-21.9	-2.0	-19.2	-23.2	-8.0	-25.2	-29.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	67.4	59.1	60.0	66.1	57.8	58.7	60.1	51.8	52.7
VEHICULAR NOISE	DAY=	68.7	Leq	EVENING=	67.4	Leq	NIGHT=	61.3	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.8**
					CNEL=	**70.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**48**	**104**	**224**
			CNEL:	**53**	**114**	**246**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	29th to 28th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	37,000
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2269	43	17	1677	32	13	420	8	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	3.5	-13.8	-17.7	2.2	-15.1	-19.0	-3.8	-21.1	-25.0
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.7	60.1	61.8	65.4	58.8	60.5	59.4	52.8	54.5
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	67.3	Leq	NIGHT=	61.3	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.7**
					CNEL=	**70.3**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**48**	**103**	**222**
			CNEL:	**53**	**113**	**244**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	17,900
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1098	21	8	811	15	6	203	4	2
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	0.3	-16.9	-20.9	-1.0	-18.2	-22.2	-7.0	-24.2	-28.2
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	57.0	58.6	62.3	55.6	57.3	56.3	49.6	51.3
VEHICULAR NOISE	DAY=	65.5	Leq	EVENING=	64.1	Leq	NIGHT=	58.1	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**66.6**
					CNEL=	**67.2**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**29**	**63**	**137**
			CNEL:	**32**	**70**	**150**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	20th to 19th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	24,300
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1490	28	11	1102	21	8	276	5	2
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	1.7	-15.6	-19.5	0.3	-16.9	-20.9	-5.7	-22.9	-26.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.9	58.3	60.0	63.6	57.0	58.7	57.6	51.0	52.6
VEHICULAR NOISE	DAY=	66.8	Leq	EVENING=	65.5	Leq	NIGHT=	59.5	Leq

RESULTS					
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):		**Ldn=**	**67.9**
				CNEL=	**68.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**36**	**78**	**168**
			CNEL:	**40**	**86**	**184**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Magnolia to Chestnut	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	41,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2515	47	19	1859	35	14	466	9	4
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	3.3	-14.0	-17.9	1.9	-15.3	-19.2	-4.1	-21.3	-25.3
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	72.2	64.7	66.0	70.9	63.4	64.7	64.9	57.4	58.7
VEHICULAR NOISE	DAY=	73.7	Leq	EVENING=	72.4	Leq	NIGHT=	66.4	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**74.8**
					CNEL=	**75.5**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**105**	**227**	**488**
			CNEL:	**116**	**249**	**538**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Coast Hwy	Analyst:	NJF
Segment:	Myrtle to Martin Luther King Jr	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	42,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2588	49	20	1913	36	15	479	9	4
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	3.4	-13.9	-17.8	2.1	-15.2	-19.1	-3.9	-21.2	-25.1
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	72.4	64.9	66.1	71.1	63.5	64.8	65.0	57.5	58.8
VEHICULAR NOISE	DAY=	73.9	Leq	EVENING=	72.6	Leq	NIGHT=	66.6	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**75.0**
					CNEL=	**75.6**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**107**	**231**	**498**
			CNEL:	**118**	**254**	**548**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Pacific Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	16,000
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	981	19	7	725	14	6	182	3	1
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	-0.2	-17.4	-21.4	-1.5	-18.7	-22.7	-7.5	-24.7	-28.7
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	63.1	56.5	58.2	61.8	55.2	56.8	55.8	49.1	50.8
VEHICULAR NOISE	DAY=	65.0	Leq	EVENING=	63.7	Leq	NIGHT=	57.6	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**66.1**
					CNEL=	**66.7**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**27**	**59**	**127**
			CNEL:	**30**	**65**	**140**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	16th to 15th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	23,900
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1466	28	11	1083	20	8	271	5	2
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	1.6	-15.7	-19.6	0.3	-17.0	-20.9	-5.7	-23.0	-26.9
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	64.8	58.2	59.9	63.5	56.9	58.6	57.5	50.9	52.6
VEHICULAR NOISE	DAY=	66.7	Leq	EVENING=	65.4	Leq	NIGHT=	59.4	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.8**
					CNEL=	**68.4**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**36**	**77**	**166**
			CNEL:	**39**	**85**	**182**

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Long Beach Blvd	Analyst:	NJF
Segment:	11th to 10th	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	20,800
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	66
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1276	24	10	943	18	7	236	4	2
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	-16.3	-20.2	-0.3	-17.6	-21.5	-6.3	-23.6	-27.5
Distance	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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	65.3	58.6	60.3	63.9	57.3	59.0	57.9	51.3	53.0
VEHICULAR NOISE	DAY=	67.1	Leq	EVENING=	65.8	Leq	NIGHT=	59.8	Leq

RESULTS						
NOISE LEVELS AT	50	FEET FROM CENTERLINE (dBA):			**Ldn=**	**68.2**
					CNEL=	**68.8**
NOISE CONTOUR:				*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			**Ldn:**	**38**	**82**	**176**
			CNEL:	**42**	**90**	**194**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	North of Wardlow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	35,200
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2159	41	16	1596	30	12	400	8	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	3.3	-14.0	-17.9	2.0	-15.3	-19.2	-4.1	-21.3	-25.3
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	66.5	59.9	61.6	65.2	58.6	60.3	59.2	52.6	54.3
VEHICULAR NOISE	DAY=	68.4	Leq	EVENING=	67.1	Leq	NIGHT=	61.1	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**69.5**
			CNEL=	**70.1**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**46**	**100**	**215**
	CNEL:	**51**	**110**	**236**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Spring St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	21,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1343	25	10	993	19	8	249	5	2
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	0.0	-17.3	-21.2	-1.4	-18.6	-22.6	-7.4	-24.6	-28.6
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	68.1	59.8	60.7	66.8	58.5	59.4	60.7	52.5	53.3
VEHICULAR NOISE	DAY=	69.3	Leq	EVENING=	68.0	Leq	NIGHT=	62.0	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**70.4**
			CNEL=	**71.0**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**53**	**115**	**247**
	CNEL:	**59**	**126**	**272**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Willow St	Analyst:	NJF
Segment:	East of Atlantic	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	33,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	84
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2036	38	15	1505	28	11	377	7	3
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	2.3	-14.9	-18.9	1.0	-16.2	-20.2	-5.0	-22.2	-26.2
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	71.3	63.8	65.1	70.0	62.5	63.8	64.0	56.5	57.7
VEHICULAR NOISE	DAY=	72.8	Leq	EVENING=	71.5	Leq	NIGHT=	65.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**73.9**
			CNEL=	**74.6**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**91**	**197**	**424**
	CNEL:	**101**	**217**	**467**

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario:	CUMULATIVE PLUS PROJECT	Project:	Midtown Long Beach COLB-05
Roadway:	Atlantic Ave	Analyst:	NJF
Segment:	South of Willow	Date:	16-Jul-15

ROADWAY INPUTS	
ADT	24,500
SPEED (mph)	30
ROAD NEAR-FAR LN. DIST.	48
DISTANCE ROAD CL (ft)	50
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	97.4%	DAY	75.5%
% MT	1.8%	EVENING	14.0%
% HT	0.7%	NIGHT	10.5%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1503	28	11	1111	21	8	278	5	2
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	1.7	-15.5	-19.5	0.4	-16.9	-20.8	-5.6	-22.9	-26.8
Distance	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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	65.0	58.3	60.0	63.6	57.0	58.7	57.6	51.0	52.7
VEHICULAR NOISE	DAY=	66.8	Leq	EVENING=	65.5	Leq	NIGHT=	59.5	Leq

RESULTS				
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			**Ldn=**	**67.9**
			CNEL=	**68.5**
NOISE CONTOUR:		*70 dBA*	*65 dBA*	*60 dBA*
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	**Ldn:**	**36**	**78**	**168**
	CNEL:	**40**	**86**	**185**