

**PM Peak Turning Movements to Roadway Segment Volumes: Existing**

Turning Movement Count

60 Minute Counts

DATE	TIME	INTID	North/South	East/West	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	ADT Volumes assuming K Factor of 10			
																	North Leg	South Leg	East Leg	West Leg
5/6/2013	1700	1	State College	Yorba Linda	31	928	707	204	506	50	47	121	28	537	164	243	19780	27370	19760	4410
5/6/2013	1700	2	SR-57 SB Off-Ramp	Yorba Linda				374		147		885			1125		5210	0	23840	21570
5/6/2013	1700	3	SR-57 NB Ramp	Yorba Linda	475		536					1085				1140	11400	10110	27610	15600
5/6/2013	1700	4	Placentia	Yorba Linda	166	528	219	86	328	297	272	1171		138	214	847	23580	13790	26750	21200
5/6/2013	1700	5	Placentia	Madison	124	986	193	89	605	25	27	13	82	145	18	46	17780	21350	5040	2890
5/6/2013	1700	6	State College	Nutwood	46	1162	242	235	1093	52	61	71	43	458	163	367	29700	30440	15360	4360
5/6/2013	1700	7	Commonwealth	Nutwood	217		295					699	54	153	756		0	7190	19030	17260
5/6/2013	1700	8	Folino	Nutwood				600		245	264	799			636	485	15940	0	25200	19440
5/6/2013	1700	9	SR-57 SB Ramps	Nutwood				130	192	456		736	693	165	730		7780	10500	17610	26150
5/6/2013	1700	10	SR-57 NB Ramp	Nutwood	485	317	247				298	530			487	80	6950	10490	13440	18000
5/6/2013	1700	11	Placentia	Nutwood	113	915	19	16	555	251	588	43	235	21	49	16	23410	18580	1640	12790
5/6/2013	1700	12	State College	Chapman	214	867	96	189	818	467	403	840	96	194	907	132	28760	22850	23580	29270
5/6/2013	1700	13	Commonwealth	Chapman	20	178	275	41	166	123	92	1065	19	204	1117	105	7050	8620	28070	24360
5/6/2013	1700	14	SR-57 SB Ramps	Chapman				95	56	182		935	426	330	1241		3330	8120	26010	27840
5/6/2013	1700	15	SR-57 NB Ramp	Chapman	523	11	406				195	831			1022	242	4480	9400	25010	25710
5/6/2013	1700	16	Placentia	Chapman	259	609	149	185	410	214	295	804	116	126	754	123	18360	16690	21410	24420
5/6/2013	1700	17	State College	Commonwealth	173	938	93	32	805	225	192	313	78	95	258	26	22180	21820	8170	12390
5/6/2013	1700	18	State College	Orangethorpe	216	955	128	104	944	144	160	665	279	210	746	140	24470	27320	19930	22100
5/6/2013	1700	19	SR-57 SB Ramps	Orangethorpe	5	10	11	189	1	244	247	777	4	6	998	291	9820	370	22720	22750
5/6/2013	1700	20	SR-57 NB Ramp	Orangethorpe	204		454				166	808			1082	504	6700	6580	28480	22600

**PM Peak Turning Movements to Roadway Segment Volumes: Existing Plus Project**

Turning Movement Count

60 Minute Counts

ADT Volumes assuming K Factor of 10

DATE	TIME	INTID	North/South	East/West	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	North Leg	South Leg	East Leg	West Leg
5/6/2013	1700	1	State College	Yorba Linda	31	987	747	204	610	50	47	121	28	762	164	258	21560	31650	22560	4410
5/6/2013	1700	2	SR-57 SB Off-Ramp	Yorba Linda				374		162		925			1350		5360	0	26490	24370
5/6/2013	1700	3	SR-57 NB Ramp	Yorba Linda	475		536					1105			1263		0	10110	29040	28430
5/6/2013	1700	4	Placentia	Yorba Linda	181	588	219	86	330	404	292	1171	138	214	847	103	18030	16700	26400	30330
5/6/2013	1700	5	Placentia	Madison	124	1061	193	89	607	25	27	13	82	145	18	46	18550	22120	5040	2890
5/6/2013	1700	6	State College	Nutwood	80	1326	234	97	1355	67	121	6	48	439	114	282	32480	34820	11720	4360
			Commonwealth	Nutwood													0	0	0	0
			Folino	Nutwood													0	0	0	0
5/6/2013	1700	9	SR-57 SB Ramps	Nutwood				130	314	420		740	503	165	653		8640	9820	16880	23160
5/6/2013	1700	10	SR-57 NB Ramp	Nutwood	455	407	247				342	490			441	80	8290	11090	12580	17280
5/6/2013	1700	11	Placentia	Nutwood	113	928	39	16	573	236	635	23	168	36	18	31	24190	18570	1630	11930
5/6/2013	1700	12	State College	Chapman	221	928	122	423	843	486	476	862	105	228	958	241	33970	24470	28340	31080
5/6/2013	1700	13	Commonwealth	Chapman	20	217	322	254	246	123	45	1390	19	204	1348	319	12040	10280	38370	29450
5/6/2013	1700	14	SR-57 SB Ramps	Chapman				95	148	304		1202	662	330	1600		5470	11400	32270	37680
5/6/2013	1700	15	SR-57 NB Ramp	Chapman	744	11	406				285	1008			1159	242	5380	11610	28150	31960
5/6/2013	1700	16	Placentia	Chapman	259	609	149	185	343	247	328	881	183	126	858	123	18350	16690	23220	27560
5/6/2013	1700	17	State College	Commonwealth	173	1017	136	48	865	238	210	400	78	127	322	63	24410	23960	10960	14210
5/6/2013	1700	18	State College	Orangethorpe	216	1059	128	117	1023	144	160	665	279	210	746	158	26610	29150	20240	22100
5/6/2013	1700	19	SR-57 SB Ramps	Orangethorpe	5	10	11	189	1	244	260	777	4	6	1016	291	9950	370	22900	23060
5/6/2013	1700	20	SR-57 NB Ramp	Orangethorpe	222		454				166	808			1082	504	6700	6760	28480	22780

**PM Peak Turning Movements to Roadway Segment Volumes: Cumulative No Project**

Turning Movement Count

60 Minute Counts

DATE	TIME	INTID	North/South	East/West	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	ADT Volumes assuming K Factor of 10			
																	North Leg	South Leg	East Leg	West Leg
5/6/2013	1700	1	State College	Yorba Linda	34	1249	853	217	662	53	49	133	29	648	180	261	24910	34750	22920	4780
5/6/2013	1700	2	SR-57 SB Off-Ramp	Yorba Linda				429		196		1144			1351		6250	0	29240	26910
5/6/2013	1700	3	SR-57 NB Ramp	Yorba Linda	549		602				11	1300			1357	246	2570	11510	35050	32170
5/6/2013	1700	4	Placentia	Yorba Linda	210	589	270	90	365	314	290	1393	177	271	1033	108	17560	18820	31650	34170
5/6/2013	1700	5	Placentia	Madison	130	1236	211	93	825	26	28	14	86	159	20	48	22560	26470	5450	3040
5/6/2013	1700	6	State College	Nutwood	48	1601	266	264	1395	55	64	78	45	509	179	404	37830	38640	17000	4690
5/6/2013	1700	7	Commonwealth	Nutwood	243		319						801	71	179	854	0	8120	21530	19690
5/6/2013	1700	8	Folino	Nutwood				643		271	283	873			694	515	17120	0	27250	21210
5/6/2013	1700	9	SR-57 SB Ramps	Nutwood				139	399	493		799	748	250	784		10310	13970	19720	28240
5/6/2013	1700	10	SR-57 NB Ramp	Nutwood	518	559	330				328	571			596	85	9720	14070	15820	20130
5/6/2013	1700	11	Placentia	Nutwood	122	1084	20	17	693	348	699	47	250	22	54	17	28580	21910	1770	15200
5/6/2013	1700	12	State College	Chapman	260	1139	193	255	995	559	521	1511	117	241	1514	191	36600	29450	39050	44820
5/6/2013	1700	13	Commonwealth	Chapman	21	206	321	51	201	137	101	1807	20	232	1785	117	8130	10010	43130	38710
5/6/2013	1700	14	SR-57 SB Ramps	Chapman				104	59	388			1502	602	351	1687	5510	10120	36440	41790
5/6/2013	1700	15	SR-57 NB Ramp	Chapman	697	12	431				431	1141			1263	256	6990	11400	30910	35320
5/6/2013	1700	16	Placentia	Chapman	332	674	228	211	490	263	349	1048	192	190	923	146	21330	21060	27460	31070
5/6/2013	1700	17	State College	Commonwealth	276	1275	98	34	980	291	270	379	131	100	317	27	28770	28600	9550	16640
5/6/2013	1700	18	State College	Orangethorpe	383	300	1185	219	308	1386	193	191	1033	160	227	984	33900	33690	29660	34130
5/6/2013	1700	19			9	11	12	198	1	281	423	1223	13	6	1298	306	12200	520	30430	32470
5/6/2013	1700	20			259		477				293	1135			1341	529	8220	7360	34820	30280

**PM Peak Turning Movements to Roadway Segment Volumes: Cumulative Plus Project**

Turning Movement Count  
60 Minute Counts

DATE	TIME	INTID	North/South	East/West	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	ADT Volumes assuming K Factor of 10			
																	North Leg	South Leg	East Leg	West Leg
5/6/2013	1700	1	State College	Yorba Linda	34	1306	912	217	766	53	49	133	29	893	180	277	26680	39400	26120	4780
5/6/2013	1700	2	SR-57 SB Off-Ramp	Yorba Linda				429		217		1203			1593		6460	0	32250	30130
5/6/2013	1700	3	SR-57 NB Ramp	Yorba Linda	549		602				21	1328			1490		210	11510	34200	33880
5/6/2013	1700	4	Placentia	Yorba Linda	226	639	270	90	353	430	318	1393	177	271	1033	108	19380	19360	31650	35770
5/6/2013	1700	5	Placentia	Madison	130	1302	211	93	812	26	28	14	86	159	20	48	23090	27000	5450	3040
5/6/2013	1700	6	State College	Nutwood	85	1785	266	113	1691	70	127	7	51	489	125	311	40970	43670	13110	4650
			Commonwealth	Nutwood													0	0	0	0
			Folino	Nutwood													0	0	0	0
5/6/2013	1700	9	SR-57 SB Ramps	Nutwood				139	521	445		774	536	250	674		11050	13070	18370	24290
5/6/2013	1700	10	SR-57 NB Ramp	Nutwood	479	649	330				359	513			540	85	10930	14580	14680	18910
5/6/2013	1700	11	Placentia	Nutwood	122	1097	41	17	711	323	738	25	177	38	20	33	29190	21860	1740	14050
5/6/2013	1700	12	State College	Chapman	267	1206	219	512	1023	578	598	1527	126	275	1565	315	42320	31160	44130	46610
5/6/2013	1700	13	Commonwealth	Chapman	21	232	371	267	276	137	50	2165	20	232	2038	338	13000	11520	54110	44310
5/6/2013	1700	14	SR-57 SB Ramps	Chapman				104	154	510		1774	859	351	2069		7680	13640	42980	52120
5/6/2013	1700	15	SR-57 NB Ramp	Chapman	941	12	431				521	1323			1401	256	7890	13840	34110	41860
5/6/2013	1700	16	Placentia	Chapman	332	674	228	211	414	296	383	1125	263	190	1027	146	21240	21010	29270	34260
5/6/2013	1700	17	State College	Commonwealth	276	1354	141	53	1040	304	288	465	131	132	381	69	31080	30740	12410	18450
5/6/2013	1700	18	State College	Orangethorpe	293	1297	160	306	1478	275	193	1033	383	227	984	237	37860	38380	29470	31610
5/6/2013	1700	19	SR-57 SB Ramps	Orangethorpe	9	11	12	198	1	281	436	1223	13	6	1316	306	12330	520	30610	32780
5/6/2013	1700	20	SR-57 NB Ramp	Orangethorpe	277		477				293	1135			1341	529	8220	7540	34820	30460

**COLLEGETOWN SP  
EXISTING**

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION
1	State College Boulevard	Yorba Linda Blvd to Nutwood Av	29,700	40	66	Soft
2	State College Boulevard	Nutwood Av to Chapman Av	30,400	40	66	Soft
3	State College Boulevard	Chapman Av to Commonwealth Av	22,900	40	66	Soft
4	State College Boulevard	Commonwealth Av to Orangethorpe Av	21,800	40	66	Soft
5	Commonwealth Avenue	Nutwood Av to Chapman Av	7,000	35	50	Soft
6	Commonwealth Avenue	south of Chapman Av	8,600	35	50	Soft
7	Derek Drive	Nutwood Av to Chapman Av	3,300	35	12	Soft
8	Derek Drive	south of Chapman Av	8,100	35	12	Soft
9	Placentia Avenue	north of Primose Av	23,400	40	42	Soft
10	Placentia Avenue	Primose Av to Chapman Av	18,600	40	42	Soft
11	Placentia Avenue	south of Chapman Av	16,700	40	42	Soft
12	Nutwood Avenue	State College Blvd to Commonwealth Av	17,300	35	70	Soft
13	Nutwood Avenue	Commonwealth Av to Derek Dr	26,100	35	70	Soft
14	Nutwood Avenue	Derek Dr to Placentia Av	13,400	35	70	Soft
15	Chapman Avenue	State College Blvd to Commonwealth Av	24,400	35	42	Soft
16	Chapman Avenue	Commonwealth to Derek Dr	28,100	35	42	Soft
17	Chapman Avenue	Derek Dr to Placentia Av	25,000	35	42	Soft
18	Chapman Avenue	east of Placentia Av	21,400	35	42	Soft
19	Yorba Linda Boulevard	east of State College Blvd	19,800	40	68	Soft

COLLEGETOWN SP  
EXISTING CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	State College Boulevard	Yorba Linda Blvd to Nutwood Av	29,700	73.7	89	191	411
2	State College Boulevard	Nutwood Av to Chapman Av	30,400	73.8	90	194	418
3	State College Boulevard	Chapman Av to Commonwealth Av	22,900	72.6	75	161	346
4	State College Boulevard	Commonwealth Av to Orangethorpe Av	21,800	72.4	72	155	335
5	Commonwealth Avenue	Nutwood Av to Chapman Av	7,000	65.1	24	51	110
6	Commonwealth Avenue	south of Chapman Av	8,600	66.0	27	58	126
7	Derek Drive	Nutwood Av to Chapman Av	3,300	61.0	12	27	58
8	Derek Drive	south of Chapman Av	8,100	64.9	23	49	105
9	Placentia Avenue	north of Primose Av	23,400	71.5	63	135	290
10	Placentia Avenue	Primose Av to Chapman Av	18,600	70.5	54	116	249
11	Placentia Avenue	south of Chapman Av	16,700	70.0	50	108	232
12	Nutwood Avenue	State College Blvd to Commonwealth Av	17,300	70.3	52	113	243
13	Nutwood Avenue	Commonwealth Av to Derek Dr	26,100	72.1	69	148	320
14	Nutwood Avenue	Derek Dr to Placentia Av	13,400	69.2	44	95	205
15	Chapman Avenue	State College Blvd to Commonwealth Av	24,400	70.2	52	112	241
16	Chapman Avenue	Commonwealth to Derek Dr	28,100	70.8	57	123	264
17	Chapman Avenue	Derek Dr to Placentia Av	25,000	70.3	53	114	245
18	Chapman Avenue	east of Placentia Av	21,400	69.7	48	102	220
19	Yorba Linda Boulevard	east of State College Blvd	19,800	72.1	69	149	322

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING Project: COLLEGETOWN SP  
 Roadway: State College Boulevard Analyst FJS  
 Segment: Yorba Linda Blvd to Nutwood Av Date: 13-Nov-13

ROADWAY INPUTS	
ADT	29,700
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1774	34	13	1311	25	10	411	8	3
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	1.2	-16.1	-20.0	-0.1	-17.4	-21.3	-5.2	-22.4	-26.4
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	70.3	62.0	62.9	69.0	60.7	61.6	63.9	55.6	56.5
VEHICULAR NOISE	DAY=	71.5	Leq	EVENING=	70.2	Leq	NIGHT=	65.2	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 73.2	
		CNEL= 73.7	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 81	175 378
		CNEL: 89	191 411

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **State College Boulevard**  
 Segment: **Nutwood Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	30,400
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1816	34	14	1342	25	10	421	8	3
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	-16.0	-19.9	0.0	-17.3	-21.2	-5.1	-22.3	-26.3
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	70.4	62.1	63.0	69.1	60.8	61.7	64.0	55.8	56.6
VEHICULAR NOISE	DAY=	71.6	Leq	EVENING=	70.3	Leq	NIGHT=	65.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 73.3</b>
			<b>CNEL= 73.8</b>
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>83</b>	<b>178</b>
	<b>CNEL:</b>	<b>90</b>	<b>194</b>
		<b>384</b>	<b>418</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Chapman Av to Commonwealth A** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	22,900
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1368	26	10	1011	19	8	317	6	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	-17.2	-21.2	-1.3	-18.5	-22.5	-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	69.2	60.9	61.8	67.8	59.6	60.4	62.8	54.5	55.4
VEHICULAR NOISE	DAY=	70.4	Leq	EVENING=	69.1	Leq	NIGHT=	64.0	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 72.0</b>
			<b>CNEL= 72.6</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>68</b>	<b>147 318</b>
	<b>CNEL:</b>	<b>75</b>	<b>161 346</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Commonwealth Av to Orangethorpe** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	21,800
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1302	25	10	963	18	7	302	6	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	-0.2	-17.4	-21.4	-1.5	-18.7	-22.7	-6.5	-23.8	-27.7
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	68.9	60.7	61.5	67.6	59.3	60.2	62.6	54.3	55.2
VEHICULAR NOISE	DAY=	70.2	Leq	EVENING=	68.9	Leq	NIGHT=	63.8	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 71.8</b>	
		<b>CNEL= 72.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 66</b>	<b>143 307</b>
		<b>CNEL: 72</b>	<b>155 335</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Commonwealth Avenue**  
 Segment: **Nutwood Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	7,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	50
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	418	8	3	309	6	2	97	2	1
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	-4.5	-21.8	-25.7	-5.8	-23.1	-27.0	-10.9	-28.1	-32.1
Distance	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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	61.4	53.9	55.2	60.1	52.6	53.8	55.1	47.5	48.8
VEHICULAR NOISE	DAY=	62.9	Leq	EVENING=	61.6	Leq	NIGHT=	56.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.6</b>	
		<b>CNEL= 65.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 22</b>	<b>47</b>
		<b>CNEL: 24</b>	<b>110</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Commonwealth Avenue**  
 Segment: **south of Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	8,600
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	50
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	514	10	4	380	7	3	119	2	1
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	-3.6	-20.9	-24.8	-5.0	-22.2	-26.1	-10.0	-27.2	-31.2
Distance	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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	62.3	54.8	56.0	61.0	53.5	54.7	56.0	48.4	49.7
VEHICULAR NOISE	DAY=	63.8	Leq	EVENING=	62.5	Leq	NIGHT=	57.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 65.5</b>
			<b>CNEL= 66.0</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>25</b>	<b>54 116</b>
	<b>CNEL:</b>	<b>27</b>	<b>58 126</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Derek Drive**  
 Segment: **Nutwood Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	3,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	12
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	197	4	1	146	3	1	46	1	0
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	-7.8	-25.0	-29.0	-9.1	-26.3	-30.3	-14.1	-31.4	-35.3
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
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	57.3	49.7	51.0	55.9	48.4	49.7	50.9	43.4	44.6
VEHICULAR NOISE	DAY=	58.8	Leq	EVENING=	57.4	Leq	NIGHT=	52.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 60.4</b>
			<b>CNEL= 61.0</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>11</b>	<b>25 53</b>
	<b>CNEL:</b>	<b>12</b>	<b>27 58</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Derek Drive**  
 Segment: **south of Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	8,100
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	12
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	484	9	4	358	7	3	112	2	1
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	-3.9	-21.1	-25.1	-5.2	-22.4	-26.4	-10.2	-27.5	-31.4
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
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	61.2	53.6	54.9	59.8	52.3	53.6	54.8	47.3	48.5
VEHICULAR NOISE	DAY=	62.7	Leq	EVENING=	61.3	Leq	NIGHT=	56.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 64.3</b>	
		<b>CNEL= 64.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 21</b>	<b>45</b>
		<b>CNEL: 23</b>	<b>105</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Placentia Avenue**  
 Segment: **north of Primose Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	23,400
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1398	26	11	1033	20	8	324	6	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	-17.1	-21.1	-1.2	-18.4	-22.4	-6.2	-23.5	-27.4
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	61.7	53.4	54.3
VEHICULAR NOISE	DAY=	69.3	Leq	EVENING=	67.9	Leq	NIGHT=	62.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.9</b>	
		<b>CNEL= 71.5</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>57</b>	<b>124 267</b>
	<b>CNEL:</b>	<b>63</b>	<b>135 290</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Placentia Avenue**  
 Segment: **Primose Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	18,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1111	21	8	821	16	6	258	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	-0.9	-18.1	-22.1	-2.2	-19.4	-23.4	-7.2	-24.5	-28.4
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	58.7	59.6	65.7	57.4	58.3	60.7	52.4	53.3
VEHICULAR NOISE	DAY=	68.3	Leq	EVENING=	66.9	Leq	NIGHT=	61.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 69.9</b>	
		<b>CNEL= 70.5</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 49</b>	<b>106</b>
		<b>CNEL: 54</b>	<b>229</b>
			<b>249</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Placentia Avenue**  
 Segment: **south of Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	16,700
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	998	19	8	737	14	6	231	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	-1.3	-18.6	-22.5	-2.6	-19.9	-23.8	-7.7	-24.9	-28.9
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	66.6	58.3	59.2	65.2	57.0	57.8	60.2	51.9	52.8
VEHICULAR NOISE	DAY=	67.8	Leq	EVENING=	66.5	Leq	NIGHT=	61.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 69.4</b>	
		<b>CNEL= 70.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 46</b>	<b>99 213</b>
		<b>CNEL: 50</b>	<b>108 232</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst **FJS**  
 Segment: **State College Blvd to Commonwealth** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	17,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1033	20	8	764	14	6	240	5	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	-0.6	-17.8	-21.8	-1.9	-19.2	-23.1	-7.0	-24.2	-28.1
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	66.6	59.1	60.3	65.3	57.8	59.0	60.2	52.7	54.0
VEHICULAR NOISE	DAY=	68.1	Leq	EVENING=	66.8	Leq	NIGHT=	61.8	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 69.7</b>
			<b>CNEL= 70.3</b>
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>48</b>	<b>104</b>
	<b>CNEL:</b>	<b>52</b>	<b>113</b>
		<b>223</b>	<b>243</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst **FJS**  
 Segment: **Commonwealth Av to Derek Dr** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	26,100
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1559	29	12	1152	22	9	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	1.2	-16.1	-20.0	-0.1	-17.4	-21.3	-5.2	-22.4	-26.4
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	62.0	54.5	55.8
VEHICULAR NOISE	DAY=	69.9	Leq	EVENING=	68.6	Leq	NIGHT=	63.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.5	
		CNEL= 72.1	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 63	136 294
		CNEL: 69	148 320

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Nutwood Avenue**  
 Segment: **Derek Dr to Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	13,400
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	800	15	6	592	11	4	186	4	1
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	-19.0	-22.9	-3.0	-20.3	-24.2	-8.1	-25.3	-29.3
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	65.5	58.0	59.2	64.2	56.7	57.9	59.1	51.6	52.9
VEHICULAR NOISE	DAY=	67.0	Leq	EVENING=	65.7	Leq	NIGHT=	60.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 68.6</b>
			<b>CNEL= 69.2</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>41</b>	<b>87 188</b>
	<b>CNEL:</b>	<b>44</b>	<b>95 205</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING** Project: **COLLEGETOWN SP**  
 Roadway: **Chapman Avenue** Analyst **FJS**  
 Segment: **State College Blvd to Commonwealth** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	24,400
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1458	28	11	1077	20	8	338	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	0.9	-16.3	-20.3	-0.4	-17.7	-21.6	-5.5	-22.7	-26.7
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	59.0	60.3	65.2	57.7	59.0	60.2	52.7	53.9
VEHICULAR NOISE	DAY=	68.0	Leq	EVENING=	66.7	Leq	NIGHT=	61.7	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 69.7</b>	
		<b>CNEL= 70.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 48</b>	<b>103</b>
		<b>CNEL: 52</b>	<b>241</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Chapman Avenue**  
 Segment: **Commonwealth to Derek Dr**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	28,100
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1679	32	13	1241	23	9	389	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	1.5	-15.7	-19.7	0.2	-17.0	-21.0	-4.8	-22.1	-26.0
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	67.1	59.6	60.9	65.8	58.3	59.6	60.8	53.3	54.5
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	67.3	Leq	NIGHT=	62.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= <b>70.3</b>	
		CNEL= <b>70.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: <b>52</b>	<b>113</b>
		CNEL: <b>57</b>	<b>243</b>
			<b>264</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Chapman Avenue**  
 Segment: **Derek Dr to Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	25,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1493	28	11	1104	21	8	346	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	1.0	-16.2	-20.2	-0.3	-17.6	-21.5	-5.4	-22.6	-26.5
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	66.6	59.1	60.4	65.3	57.8	59.1	60.3	52.8	54.0
VEHICULAR NOISE	DAY=	68.1	Leq	EVENING=	66.8	Leq	NIGHT=	61.8	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 69.8</b>
			<b>CNEL= 70.3</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>48</b>	<b>104 225</b>
	<b>CNEL:</b>	<b>53</b>	<b>114 245</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Chapman Avenue**  
 Segment: **east of Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst: **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	21,400
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1278	24	10	945	18	7	296	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	0.3	-16.9	-20.9	-1.0	-18.2	-22.2	-6.0	-23.3	-27.2
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	66.0	58.4	59.7	64.6	57.1	58.4	59.6	52.1	53.4
VEHICULAR NOISE	DAY=	67.5	Leq	EVENING=	66.1	Leq	NIGHT=	61.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 69.1</b>
			<b>CNEL= 69.7</b>
NOISE CONTOUR:			70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			<b>Ldn: 44 94 202</b>
			<b>CNEL: 48 102 220</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING**  
 Roadway: **Yorba Linda Boulevard**  
 Segment: **east of State College Blvd**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	19,800
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	68
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1183	22	9	874	17	7	274	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	-0.6	-17.8	-21.8	-1.9	-19.1	-23.1	-6.9	-24.2	-28.1
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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	68.7	60.4	61.3	67.4	59.1	60.0	62.3	54.0	54.9
VEHICULAR NOISE	DAY=	69.9	Leq	EVENING=	68.6	Leq	NIGHT=	63.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.6	
		CNEL= 72.1	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 64	137 295
		CNEL: 69	149 322





FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: EXISTING PLUS PROJECT Project: COLLEGETOWN SP  
 Roadway: State College Boulevard Analyst FJS  
 Segment: Yorba Linda Blvd to Nutwood Av Date: 13-Nov-13

ROADWAY INPUTS	
ADT	32,500
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1942	37	15	1435	27	11	450	9	3
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	-15.7	-19.6	0.2	-17.0	-21.0	-4.8	-22.0	-26.0
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	70.7	62.4	63.3	69.4	61.1	62.0	64.3	56.0	56.9
VEHICULAR NOISE	DAY=	71.9	Leq	EVENING=	70.6	Leq	NIGHT=	65.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 73.6	
		CNEL= 74.1	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 86	186 401
		CNEL: 94	203 437

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Nutwood Av to Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	34,800
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2079	39	16	1537	29	12	482	9	4
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	1.9	-15.4	-19.3	0.5	-16.7	-20.7	-4.5	-21.7	-25.7
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	71.0	62.7	63.6	69.7	61.4	62.3	64.6	56.3	57.2
VEHICULAR NOISE	DAY=	72.2	Leq	EVENING=	70.9	Leq	NIGHT=	65.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 73.9</b>	
		<b>CNEL= 74.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>90</b>	<b>195 420</b>
	<b>CNEL:</b>	<b>98</b>	<b>212 457</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Chapman Av to Commonwealth A** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	24,500
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1464	28	11	1082	20	8	339	6	3
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	0.3	-16.9	-20.9	-1.0	-18.2	-22.2	-6.0	-23.3	-27.2
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	69.4	61.2	62.1	68.1	59.8	60.7	63.1	54.8	55.7
VEHICULAR NOISE	DAY=	70.7	Leq	EVENING=	69.4	Leq	NIGHT=	64.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.3</b>	
		<b>CNEL= 72.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 72</b>	<b>154 332</b>
		<b>CNEL: 78</b>	<b>168 362</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Commonwealth Av to Orangethorpe** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	24,000
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1434	27	11	1060	20	8	332	6	3
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	0.2	-17.0	-21.0	-1.1	-18.3	-22.3	-6.1	-23.3	-27.3
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	69.4	61.1	62.0	68.0	59.8	60.6	63.0	54.7	55.6
VEHICULAR NOISE	DAY=	70.6	Leq	EVENING=	69.3	Leq	NIGHT=	64.2	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.2</b>	
		<b>CNEL= 72.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 71</b>	<b>152 328</b>
		<b>CNEL: 77</b>	<b>166 357</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Commonwealth Avenue** Analyst **FJS**  
 Segment: **Nutwood Av to Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	12,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	50
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	717	14	5	530	10	4	166	3	1
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	-19.4	-23.4	-3.5	-20.7	-24.7	-8.5	-25.8	-29.7
Distance	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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	63.7	56.2	57.5	62.4	54.9	56.2	57.4	49.9	51.1
VEHICULAR NOISE	DAY=	65.3	Leq	EVENING=	63.9	Leq	NIGHT=	58.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 66.9</b>
			<b>CNEL= 67.5</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>31</b>	<b>67 144</b>
	<b>CNEL:</b>	<b>34</b>	<b>73 157</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Commonwealth Avenue** Analyst: **FJS**  
 Segment: **south of Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	10,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	50
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	615	12	5	455	9	3	143	3	1
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	-2.9	-20.1	-24.0	-4.2	-21.4	-25.4	-9.2	-26.4	-30.4
Distance	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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	63.1	55.6	56.8	61.8	54.3	55.5	56.7	49.2	50.5
VEHICULAR NOISE	DAY=	64.6	Leq	EVENING=	63.3	Leq	NIGHT=	58.2	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 66.2</b>	
		<b>CNEL= 66.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>28</b>	<b>60 130</b>
	<b>CNEL:</b>	<b>31</b>	<b>66 142</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Derek Drive** Analyst **FJS**  
 Segment: **Nutwood Av to Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	5,500
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	12
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	329	6	2	243	5	2	76	1	1
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	-5.6	-22.8	-26.8	-6.9	-24.1	-28.1	-11.9	-29.2	-33.1
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
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	59.5	52.0	53.2	58.2	50.6	51.9	53.1	45.6	46.9
VEHICULAR NOISE	DAY=	61.0	Leq	EVENING=	59.7	Leq	NIGHT=	54.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 62.6</b>	
		<b>CNEL= 63.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 16</b>	<b>35 75</b>
		<b>CNEL: 18</b>	<b>38 81</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Derek Drive** Analyst **FJS**  
 Segment: **south of Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	11,400
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	12
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	681	13	5	503	10	4	158	3	1
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	-2.4	-19.7	-23.6	-3.7	-21.0	-24.9	-8.8	-26.0	-30.0
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
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	62.6	55.1	56.4	61.3	53.8	55.1	56.3	48.8	50.0
VEHICULAR NOISE	DAY=	64.1	Leq	EVENING=	62.8	Leq	NIGHT=	57.8	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 65.8</b>
			<b>CNEL= 66.3</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>26</b>	<b>56 122</b>
	<b>CNEL:</b>	<b>29</b>	<b>61 132</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Placentia Avenue** Analyst: **FJS**  
 Segment: **north of Primose Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	24,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1446	27	11	1069	20	8	335	6	3
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	0.3	-17.0	-20.9	-1.0	-18.3	-22.2	-6.1	-23.3	-27.3
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	68.2	59.9	60.8	66.8	58.6	59.5	61.8	53.5	54.4
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	68.1	Leq	NIGHT=	63.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.1	
		CNEL= 71.6	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn:	59 127 273
		CNEL:	64 138 297

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Placentia Avenue** Analyst **FJS**  
 Segment: **Primose Av to Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	18,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1111	21	8	821	16	6	258	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	-0.9	-18.1	-22.1	-2.2	-19.4	-23.4	-7.2	-24.5	-28.4
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	58.7	59.6	65.7	57.4	58.3	60.7	52.4	53.3
VEHICULAR NOISE	DAY=	68.3	Leq	EVENING=	66.9	Leq	NIGHT=	61.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= <b>69.9</b>	
		CNEL= <b>70.5</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: <b>49</b>	<b>106</b>
		CNEL: <b>54</b>	<b>229</b>
			<b>249</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Placentia Avenue** Analyst **FJS**  
 Segment: **south of Chapman Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	17,000
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1016	19	8	751	14	6	235	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	-1.3	-18.5	-22.5	-2.6	-19.8	-23.8	-7.6	-24.8	-28.8
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	66.6	58.3	59.2	65.3	57.0	57.9	60.3	52.0	52.9
VEHICULAR NOISE	DAY=	67.9	Leq	EVENING=	66.6	Leq	NIGHT=	61.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 69.5</b>	
		<b>CNEL= 70.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 46</b>	<b>100 216</b>
		<b>CNEL: 51</b>	<b>109 235</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst: **FJS**  
 Segment: **State College Blvd to Commonwealth** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	11,700
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	699	13	5	517	10	4	162	3	1
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	-19.5	-23.5	-3.6	-20.9	-24.8	-8.6	-25.9	-29.8
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	57.4	58.6	63.6	56.1	57.3	58.5	51.0	52.3
VEHICULAR NOISE	DAY=	66.4	Leq	EVENING=	65.1	Leq	NIGHT=	60.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 68.0</b>
			<b>CNEL= 68.6</b>
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>37</b>	<b>80</b>
	<b>CNEL:</b>	<b>40</b>	<b>187</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst: **FJS**  
 Segment: **Commonwealth Av to Derek Dr** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	23,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1386	26	11	1024	19	8	321	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	0.7	-16.6	-20.5	-0.6	-17.9	-21.8	-5.7	-22.9	-26.9
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	67.9	60.3	61.6	66.6	59.0	60.3	61.5	54.0	55.3
VEHICULAR NOISE	DAY=	69.4	Leq	EVENING=	68.1	Leq	NIGHT=	63.0	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 71.0</b>	
		<b>CNEL= 71.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 58</b>	<b>126</b>
		<b>CNEL: 64</b>	<b>272</b>
			<b>296</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst **FJS**  
 Segment: **Derek Dr to Placentia Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	12,600
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	753	14	6	556	11	4	175	3	1
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	-19.2	-23.2	-3.3	-20.5	-24.5	-8.3	-25.6	-29.5
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	65.2	57.7	59.0	63.9	56.4	57.6	58.9	51.4	52.6
VEHICULAR NOISE	DAY=	66.7	Leq	EVENING=	65.4	Leq	NIGHT=	60.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 68.4</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>39</b>	<b>84 181</b>
	<b>CNEL:</b>	<b>42</b>	<b>91 197</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Chapman Avenue** Analyst: **FJS**  
 Segment: **State College Blvd to Commonwealth** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	29,500
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1762	33	13	1303	25	10	409	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	1.7	-15.5	-19.5	0.4	-16.8	-20.8	-4.6	-21.9	-25.8
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	59.8	61.1	66.0	58.5	59.8	61.0	53.5	54.7
VEHICULAR NOISE	DAY=	68.9	Leq	EVENING=	67.5	Leq	NIGHT=	62.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= <b>70.5</b>	
		CNEL= <b>71.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: <b>54</b>	<b>116</b>
		CNEL: <b>59</b>	<b>127</b>
			<b>251</b>
			<b>273</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Chapman Avenue** Analyst: **FJS**  
 Segment: **Commonwealth to Derek Dr** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	38,400
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2294	43	17	1696	32	13	532	10	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	2.9	-14.4	-18.3	1.5	-15.7	-19.6	-3.5	-20.7	-24.7
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	68.5	61.0	62.2	67.2	59.7	60.9	62.1	54.6	55.9
VEHICULAR NOISE	DAY=	70.0	Leq	EVENING=	68.7	Leq	NIGHT=	63.7	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.6	
		CNEL= 72.2	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 64	139 299
		CNEL: 70	151 326

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Chapman Avenue** Analyst **FJS**  
 Segment: **Derek Dr to Placentia Av** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	28,100
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1679	32	13	1241	23	9	389	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	1.5	-15.7	-19.7	0.2	-17.0	-21.0	-4.8	-22.1	-26.0
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	67.1	59.6	60.9	65.8	58.3	59.6	60.8	53.3	54.5
VEHICULAR NOISE	DAY=	68.6	Leq	EVENING=	67.3	Leq	NIGHT=	62.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.3</b>	
		<b>CNEL= 70.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 52</b>	<b>113</b>
		<b>CNEL: 57</b>	<b>243</b>
			<b>264</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT**  
 Roadway: **Chapman Avenue**  
 Segment: **east of Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst: **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	23,200
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1386	26	11	1024	19	8	321	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	0.7	-16.6	-20.5	-0.6	-17.9	-21.8	-5.7	-22.9	-26.9
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	58.8	60.1	65.0	57.5	58.7	60.0	52.4	53.7
VEHICULAR NOISE	DAY=	67.8	Leq	EVENING=	66.5	Leq	NIGHT=	61.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 69.5</b>
			<b>CNEL= 70.0</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>46</b>	<b>99 214</b>
	<b>CNEL:</b>	<b>50</b>	<b>108 233</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **EXISTING PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Yorba Linda Boulevard** Analyst **FJS**  
 Segment: **east of State College Blvd** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	22,600
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	68
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1350	26	10	998	19	8	313	6	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	-1.3	-18.6	-22.5	-6.4	-23.6	-27.6
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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	69.3	61.0	61.9	67.9	59.7	60.5	62.9	54.6	55.5
VEHICULAR NOISE	DAY=	70.5	Leq	EVENING=	69.2	Leq	NIGHT=	64.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 72.1	
		CNEL= 72.7	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 69	150 323
		CNEL: 76	163 351

**COLLEGETOWN SP  
2030 PLUS PROJECT**

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION
1	State College Boulevard	Yorba Linda Blvd to Nutwood Av	41,000	40	66	Soft
2	State College Boulevard	Nutwood Av to Chapman Av	43,700	40	66	Soft
3	State College Boulevard	Chapman Av to Commonwealth Av	31,200	40	66	Soft
4	State College Boulevard	Commonwealth Av to Orangethorpe Av	30,700	40	66	Soft
5	Commonwealth Avenue	Nutwood Av to Chapman Av	11,500	35	50	Soft
6	Commonwealth Avenue	south of Chapman Av	13,000	35	50	Soft
7	Derek Drive	Nutwood Av to Chapman Av	7,700	35	12	Soft
8	Derek Drive	south of Chapman Av	13,600	35	12	Soft
9	Placentia Avenue	north of Primose Av	29,200	40	42	Soft
10	Placentia Avenue	Primose Av to Chapman Av	21,900	40	42	Soft
11	Placentia Avenue	south of Chapman Av	21,000	40	42	Soft
12	Nutwood Avenue	State College Blvd to Commonwealth Av	13,100	35	70	Soft
13	Nutwood Avenue	Commonwealth Av to Derek Dr	24,300	35	70	Soft
14	Nutwood Avenue	Derek Dr to Placentia Av	14,700	35	70	Soft
15	Chapman Avenue	State College Blvd to Commonwealth Av	44,300	35	42	Soft
16	Chapman Avenue	Commonwealth to Derek Dr	54,100	35	42	Soft
17	Chapman Avenue	Derek Dr to Placentia Av	34,300	35	42	Soft
18	Chapman Avenue	east of Placentia Av	29,300	35	42	Soft
19	Yorba Linda Boulevard	east of State College Blvd	26,100	40	68	Soft

COLLEGETOWN SP  
2030 PLUS PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

#	ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTACE TO NOISE CONTOUR (FT.)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	State College Boulevard	Yorba Linda Blvd to Nutwood Av	41,000	75.1	110	237	510
2	State College Boulevard	Nutwood Av to Chapman Av	43,700	75.4	115	247	532
3	State College Boulevard	Chapman Av to Commonwealth Av	31,200	73.9	92	197	425
4	State College Boulevard	Commonwealth Av to Orangethorpe Av	30,700	73.9	91	195	420
5	Commonwealth Avenue	Nutwood Av to Chapman Av	11,500	67.3	33	71	153
6	Commonwealth Avenue	south of Chapman Av	13,000	67.8	36	77	166
7	Derek Drive	Nutwood Av to Chapman Av	7,700	64.6	22	47	102
8	Derek Drive	south of Chapman Av	13,600	67.1	32	69	149
9	Placentia Avenue	north of Primose Av	29,200	72.4	73	156	337
10	Placentia Avenue	Primose Av to Chapman Av	21,900	71.2	60	129	278
11	Placentia Avenue	south of Chapman Av	21,000	71.0	58	125	270
12	Nutwood Avenue	State College Blvd to Commonwealth Av	13,100	69.1	44	94	202
13	Nutwood Avenue	Commonwealth Av to Derek Dr	24,300	71.8	66	142	305
14	Nutwood Avenue	Derek Dr to Placentia Av	14,700	69.6	47	101	218
15	Chapman Avenue	State College Blvd to Commonwealth Av	44,300	72.8	77	166	358
16	Chapman Avenue	Commonwealth to Derek Dr	54,100	73.7	88	190	409
17	Chapman Avenue	Derek Dr to Placentia Av	34,300	71.7	65	140	302
18	Chapman Avenue	east of Placentia Av	29,300	71.0	59	126	272
19	Yorba Linda Boulevard	east of State College Blvd	26,100	73.3	83	179	387



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2030 PLUS PROJECT Project: COLLEGETOWN SP  
 Roadway: State College Boulevard Analyst FJS  
 Segment: Yorba Linda Blvd to Nutwood Av Date: 13-Nov-13

ROADWAY INPUTS	
ADT	41,000
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2449	46	19	1810	34	14	568	11	4
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	2.6	-14.7	-18.6	1.3	-16.0	-19.9	-3.8	-21.0	-25.0
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	71.7	63.4	64.3	70.4	62.1	63.0	65.3	57.1	57.9
VEHICULAR NOISE	DAY=	72.9	Leq	EVENING=	71.6	Leq	NIGHT=	66.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 74.6	
		CNEL= 75.1	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 101	217 468
		CNEL: 110	237 510

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **State College Boulevard**  
 Segment: **Nutwood Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	43,700
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2611	49	20	1930	36	15	605	11	5
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	2.8	-14.4	-18.4	1.5	-15.7	-19.7	-3.5	-20.7	-24.7
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	72.0	63.7	64.6	70.6	62.4	63.3	65.6	57.3	58.2
VEHICULAR NOISE	DAY=	73.2	Leq	EVENING=	71.9	Leq	NIGHT=	66.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 74.8</b>	
		<b>CNEL= 75.4</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 105</b>	<b>227 489</b>
		<b>CNEL: 115</b>	<b>247 532</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Chapman Av to Commonwealth A** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	31,200
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1864	35	14	1378	26	10	432	8	3
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	-15.9	-19.8	0.1	-17.2	-21.1	-5.0	-22.2	-26.2
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	70.5	62.2	63.1	69.2	60.9	61.8	64.1	55.9	56.8
VEHICULAR NOISE	DAY=	71.7	Leq	EVENING=	70.4	Leq	NIGHT=	65.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 73.4</b>	
		<b>CNEL= 73.9</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 84</b>	<b>181 390</b>
		<b>CNEL: 92</b>	<b>197 425</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **State College Boulevard** Analyst **FJS**  
 Segment: **Commonwealth Av to Orangethorpe** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	30,700
SPEED (mph)	40
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1834	35	14	1356	26	10	425	8	3
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	-15.9	-19.9	0.0	-17.2	-21.2	-5.0	-22.3	-26.2
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	70.4	62.1	63.0	69.1	60.8	61.7	64.1	55.8	56.7
VEHICULAR NOISE	DAY=	71.7	Leq	EVENING=	70.4	Leq	NIGHT=	65.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 73.3</b>
			<b>CNEL= 73.9</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>83</b>	<b>179 386</b>
	<b>CNEL:</b>	<b>91</b>	<b>195 420</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Commonwealth Avenue**  
 Segment: **Nutwood Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	11,500
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	50
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	687	13	5	508	10	4	159	3	1
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	-2.4	-19.6	-23.6	-3.7	-20.9	-24.9	-8.7	-26.0	-29.9
Distance	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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	63.6	56.0	57.3	62.3	54.7	56.0	57.2	49.7	51.0
VEHICULAR NOISE	DAY=	65.1	Leq	EVENING=	63.8	Leq	NIGHT=	58.7	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 66.7</b>
			<b>CNEL= 67.3</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>30</b>	<b>65 140</b>
	<b>CNEL:</b>	<b>33</b>	<b>71 153</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Commonwealth Avenue**  
 Segment: **south of Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	13,000
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	50
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	777	15	6	574	11	4	180	3	1
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	-1.8	-19.1	-23.0	-3.2	-20.4	-24.4	-8.2	-25.4	-29.4
Distance	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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	64.1	56.6	57.8	62.8	55.3	56.5	57.7	50.2	51.5
VEHICULAR NOISE	DAY=	65.6	Leq	EVENING=	64.3	Leq	NIGHT=	59.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 67.3</b>	
		<b>CNEL= 67.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 33</b>	<b>71</b>
		<b>CNEL: 36</b>	<b>152</b>
			<b>60 dBA</b>
			<b>166</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Derek Drive**  
 Segment: **Nutwood Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	7,700
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	12
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	460	9	3	340	6	3	107	2	1
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	-4.1	-21.4	-25.3	-5.4	-22.7	-26.6	-10.5	-27.7	-31.7
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
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	60.9	53.4	54.7	59.6	52.1	53.4	54.6	47.1	48.3
VEHICULAR NOISE	DAY=	62.4	Leq	EVENING=	61.1	Leq	NIGHT=	56.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			Ldn= <b>64.1</b>
			CNEL= <b>64.6</b>
NOISE CONTOUR:			70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn:	<b>20 43 94</b>
		CNEL:	<b>22 47 102</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Derek Drive**  
 Segment: **south of Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	13,600
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	12
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	812	15	6	601	11	5	188	4	1
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	-1.6	-18.9	-22.8	-3.0	-20.2	-24.2	-8.0	-25.2	-29.2
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
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	63.4	55.9	57.1	62.1	54.6	55.8	57.1	49.5	50.8
VEHICULAR NOISE	DAY=	64.9	Leq	EVENING=	63.6	Leq	NIGHT=	58.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 66.6</b>	
		<b>CNEL= 67.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 29</b>	<b>63</b>
		<b>CNEL: 32</b>	<b>137</b>
			<b>60 dBA</b>
			<b>149</b>



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Placentia Avenue**  
 Segment: **north of Primose Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	29,200
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1744	33	13	1289	24	10	404	8	3
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	1.1	-16.1	-20.1	-0.2	-17.5	-21.4	-5.3	-22.5	-26.5
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	69.0	60.7	61.6	67.7	59.4	60.3	62.6	54.3	55.2
VEHICULAR NOISE	DAY=	70.2	Leq	EVENING=	68.9	Leq	NIGHT=	63.9	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.9	
		CNEL= 72.4	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 67	143 309
		CNEL: 73	156 337

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Placentia Avenue**  
 Segment: **Primose Av to Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	21,900
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1308	25	10	967	18	7	303	6	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	-0.2	-17.4	-21.4	-1.5	-18.7	-22.7	-6.5	-23.7	-27.7
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	67.7	59.4	60.3	66.4	58.1	59.0	61.4	53.1	54.0
VEHICULAR NOISE	DAY=	69.0	Leq	EVENING=	67.7	Leq	NIGHT=	62.6	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 70.6</b>	
		<b>CNEL= 71.2</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 55</b>	<b>118 255</b>
		<b>CNEL: 60</b>	<b>129 278</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Placentia Avenue**  
 Segment: **south of Chapman Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	21,000
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1255	24	10	927	18	7	291	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	-0.3	-17.6	-21.5	-1.7	-18.9	-22.8	-6.7	-23.9	-27.9
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	67.5	59.3	60.2	66.2	57.9	58.8	61.2	52.9	53.8
VEHICULAR NOISE	DAY=	68.8	Leq	EVENING=	67.5	Leq	NIGHT=	62.4	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= <b>70.4</b>	
		CNEL= <b>71.0</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: <b>53</b>	<b>115</b>
		CNEL: <b>58</b>	<b>248</b>
			<b>270</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst: **FJS**  
 Segment: **State College Blvd to Commonwealth** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	13,100
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	783	15	6	578	11	4	181	3	1
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	-1.8	-19.0	-23.0	-3.1	-20.4	-24.3	-8.2	-25.4	-29.4
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	65.4	57.9	59.1	64.1	56.6	57.8	59.0	51.5	52.8
VEHICULAR NOISE	DAY=	66.9	Leq	EVENING=	65.6	Leq	NIGHT=	60.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 68.5</b>	
		<b>CNEL= 69.1</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 40</b>	<b>86 185</b>
		<b>CNEL: 44</b>	<b>94 202</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Nutwood Avenue** Analyst: **FJS**  
 Segment: **Commonwealth Av to Derek Dr** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	24,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1452	27	11	1073	20	8	337	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	0.9	-16.4	-20.3	-0.4	-17.7	-21.6	-5.5	-22.7	-26.7
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	60.6	61.8	66.8	59.2	60.5	61.7	54.2	55.5
VEHICULAR NOISE	DAY=	69.6	Leq	EVENING=	68.3	Leq	NIGHT=	63.2	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.2	
		CNEL= 71.8	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 60	130 280
		CNEL: 66	142 305

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Nutwood Avenue**  
 Segment: **Derek Dr to Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	14,700
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	70
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	878	17	7	649	12	5	204	4	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	-18.5	-22.5	-2.6	-19.9	-23.8	-7.7	-24.9	-28.9
Distance	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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	58.4	59.6	64.6	57.1	58.3	59.5	52.0	53.3
VEHICULAR NOISE	DAY=	67.4	Leq	EVENING=	66.1	Leq	NIGHT=	61.0	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 69.0</b>	
		<b>CNEL= 69.6</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 43</b>	<b>93 200</b>
		<b>CNEL: 47</b>	<b>101 218</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Chapman Avenue** Analyst: **FJS**  
 Segment: **State College Blvd to Commonwealth** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	44,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2646	50	20	1956	37	15	614	12	5
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	-13.8	-17.7	2.2	-15.1	-19.0	-2.9	-20.1	-24.1
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	69.1	61.6	62.9	67.8	60.3	61.5	62.8	55.3	56.5
VEHICULAR NOISE	DAY=	70.6	Leq	EVENING=	69.3	Leq	NIGHT=	64.3	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.3</b>	
		<b>CNEL= 72.8</b>	
NOISE CONTOUR:		70 dBA	65 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>71</b>	<b>153</b>
	<b>CNEL:</b>	<b>77</b>	<b>329</b>
			<b>358</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT** Project: **COLLEGETOWN SP**  
 Roadway: **Chapman Avenue** Analyst **FJS**  
 Segment: **Commonwealth to Derek Dr** Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	54,100
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	3232	61	25	2389	45	18	749	14	6
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	4.3	-12.9	-16.8	3.0	-14.2	-18.2	-2.0	-19.2	-23.2
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	70.0	62.5	63.7	68.7	61.2	62.4	63.6	56.1	57.4
VEHICULAR NOISE	DAY=	71.5	Leq	EVENING=	70.2	Leq	NIGHT=	65.1	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 73.1	
		CNEL= 73.7	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 81	174 376
		CNEL: 88	190 409



FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Chapman Avenue**  
 Segment: **Derek Dr to Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	34,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	2049	39	16	1515	29	12	475	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	2.4	-14.9	-18.8	1.1	-16.2	-20.1	-4.0	-21.2	-25.2
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	59.2	60.4	61.7	54.1	55.4
VEHICULAR NOISE	DAY=	69.5	Leq	EVENING=	68.2	Leq	NIGHT=	63.2	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		Ldn= 71.2	
		CNEL= 71.7	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		Ldn: 60	129 277
		CNEL: 65	140 302

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Chapman Avenue**  
 Segment: **east of Placentia Av**

Project: **COLLEGETOWN SP**  
 Analyst: **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	29,300
SPEED (mph)	35
ROAD NEAR-FAR LN. DIST.	42
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1750	33	13	1294	24	10	406	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	1.7	-15.6	-19.5	0.4	-16.9	-20.8	-4.7	-21.9	-25.9
Distance	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	67.3	59.8	61.1	66.0	58.5	59.8	61.0	53.5	54.7
VEHICULAR NOISE	DAY=	68.8	Leq	EVENING=	67.5	Leq	NIGHT=	62.5	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):			<b>Ldn= 70.5</b>
			<b>CNEL= 71.0</b>
NOISE CONTOUR:			70 dBA 65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):			<b>Ldn: 54 116 250</b>
			<b>CNEL: 59 126 272</b>

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: **2030 PLUS PROJECT**  
 Roadway: **Yorba Linda Boulevard**  
 Segment: **east of State College Blvd**

Project: **COLLEGETOWN SP**  
 Analyst **FJS**  
 Date: **13-Nov-13**

ROADWAY INPUTS	
ADT	26,100
SPEED (mph)	40
ROAD NEAR-FAR LN. DIST.	68
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	73.6%
% MT	1.8%	EVENING	13.6%
% HT	0.7%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	1559	29	12	1152	22	9	362	7	3
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	-16.6	-20.6	-0.7	-17.9	-21.9	-5.7	-23.0	-26.9
Distance	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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	69.9	61.6	62.5	68.6	60.3	61.2	63.5	55.2	56.1
VEHICULAR NOISE	DAY=	71.1	Leq	EVENING=	69.8	Leq	NIGHT=	64.8	Leq

RESULTS			
NOISE LEVELS AT 50 FEET FROM CENTERLINE (dBA):		<b>Ldn= 72.8</b>	
		<b>CNEL= 73.3</b>	
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):		<b>Ldn: 76</b>	<b>165 355</b>
		<b>CNEL: 83</b>	<b>179 387</b>

**COLLEGETOWN SP**

**2030 PLUS PROJECT**

#	ROADWAY	SEGMENT	ADT	POSTED SPEED LIMIT	LANE DISTANCE	SITE CONDITION
20	SR-57 Freeway	Chapman to Orangethorpe	270,300	55	118	Soft

COLLEGETOWN SP  
2030 PLUS PROJECT CONDITIONS NOISE CONTOURS RESULT SUMMARY TABLE

ROADWAY	SEGMENT	DAILY TRAFFIC VOLUMES	NOISE LEVEL AT 50 FT. (dBA CNEL)	DISTANCE TO NOISE CONTOUR (FT.)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
SR-57 Freeway	Chapman to Orangethorpe	270,300	83.1	752	1,621	3,492

FHWA RD-77-108 NOISE PREDICTION MODEL

Scenario: 2030 PLUS PROJECT  
 Roadway: SR-57 Freeway  
 Segment: Chapman to Orangethorpe

Project: COLLEGETOWN SP  
 Analyst: FJS  
 Date: 13-Nov-13

ROADWAY INPUTS	
ADT	270,300
SPEED (mph)	55
ROAD NEAR-FAR LN. DIST.	118
DISTANCE ROAD CL (ft)	100
SOFT/HARD CONDITIONS	Soft
GRADE (%)	0%
LEFT VIEW	-90
RIGHT VIEW	90

VEHICLE MIX INPUTS			
DAILY		HOURLY	
% A	93.9%	DAY	73.6%
% MT	2.1%	EVENING	13.6%
% HT	4.1%	NIGHT	12.8%

CALCULATION AREA									
	DAYTIME			EVENING			NIGHT		
	AUTOS	MT	HT	AUTOS	MT	HT	AUTOS	MT	HT
Vehicles per hour	15560	343	675	11501	254	499	3608	80	156
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	9.2	-7.4	-4.4	7.9	-8.7	-5.7	2.9	-13.7	-10.8
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	78.7	69.3	76.2	77.4	68.0	74.9	72.4	62.9	69.8
VEHICULAR NOISE	DAY=	80.9	Leq	EVENING=	79.6	Leq	NIGHT=	74.6	Leq

RESULTS			
NOISE LEVELS AT 100 FEET FROM CENTERLINE (dBA):		<b>Ldn=</b>	<b>82.6</b>
		<b>CNEL=</b>	<b>83.1</b>
NOISE CONTOUR:		70 dBA	65 dBA 60 dBA
ROAD CENTERLINE DISTANCE TO NOISE CONTOUR (FEET):	<b>Ldn:</b>	<b>691</b>	<b>1488 3206</b>
	<b>CNEL:</b>	<b>752</b>	<b>1621 3492</b>

**Noise Contours for 2030 With Project**

Roadway	Segment	Daily Traffic Volumes	Noise level at 50 feet (dBA CNEL)	Distance to noise contour (feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Chapman Avenue	State College Blvd to Commonwealth Av	44,300	72.8	77	166	358
Chapman Avenue	Commonwealth to Derek Dr	54,100	73.7	88	190	409
Commonwealth Avenue	Nutwood Av to Chapman Av	11,500	67.3	33	71	153
Nutwood Avenue	State College Blvd to Titan	13,100	69.1	44	94	202
Nutwood Avenue	Folino to Derek Dr	24,300	71.8	66	142	305
SR-57 Freeway	Chapman Av to Orangethorpe	270,300	83.1	752	1,621	3,492
State College Boulevard	Nutwood Av to Chapman Av	43,700	75.4	115	247	532
State College Boulevard	Chapman Av to Commonwealth Av	31,200	73.9	92	197	425

**Location 1: Long Term**

Date	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L( 2)	L( 8)	L(16)	L(25)	L(50)	L(90)
7-Oct	13 16:00:00	3600	65.1	100.7	82.2	58.4	115.8	70.5	68.7	67.3	65.7	63.2	60.6
7-Oct	13 17:00:00	3600	65.4	100.9	80.9	59.5	94.8	69.8	68.4	67.3	66.2	63.9	61.6
7-Oct	13 18:00:00	3600	70.7	106.3	94.0	65.1	105.1	73.8	70.9	70.3	69.8	69.0	67.3
7-Oct	13 19:00:00	3600	68.8	104.3	75.9	65.3	89.7	70.9	70.2	69.8	69.4	68.6	67.2
7-Oct	13 20:00:00	3600	68.4	104.0	82.7	64.1	104.8	70.7	69.7	69.2	68.8	67.9	66.2
7-Oct	13 21:00:00	3600	68.1	103.7	82.0	63.9	94.4	70.9	69.8	69.1	68.7	67.8	66.2
7-Oct	13 22:00:00	3600	66.8	102.4	76.4	59.5	102.7	70.0	68.9	68.3	67.7	66.6	64.2
7-Oct	13 23:00:00	3600	65.0	100.6	72.1	57.2	87.4	69.0	67.5	66.6	65.9	64.3	61.4
8-Oct	13 0:00:00	3600	62.9	98.4	70.2	53.2	86.0	67.3	65.9	64.8	63.9	62.1	58.5
8-Oct	13 1:00:00	3600	61.4	97.0	74.9	50.5	94.9	67.0	64.6	63.2	62.1	60.2	56.1
8-Oct	13 2:00:00	3600	62.0	97.5	81.5	49.9	90.6	67.4	65.4	63.9	62.6	60.3	55.7
8-Oct	13 3:00:00	3600	63.5	99.0	71.3	51.6	87.0	68.2	66.6	65.5	64.7	62.6	58.5
8-Oct	13 4:00:00	3600	67.6	103.1	80.2	55.3	91.8	71.4	70.2	69.5	68.8	67.1	62.6
8-Oct	13 5:00:00	3600	69.3	104.9	78.9	61.8	100.8	72.4	71.5	70.9	70.4	69.3	65.3
8-Oct	13 6:00:00	3600	66.0	101.6	72.5	61.5	89.9	69.8	68.5	67.5	66.8	65.5	63.4
8-Oct	13 7:00:00	3600	64.6	100.2	75.9	57.9	92.5	68.3	66.7	65.9	65.3	64.2	62.1
8-Oct	13 8:00:00	3600	65.5	101.0	73.8	58.7	90.4	69.7	68.3	67.4	66.6	64.8	61.6
8-Oct	13 9:00:00	3600	66.1	101.7	75.3	59.8	90.8	69.5	68.1	67.4	66.8	65.7	63.6
8-Oct	13 10:00:00	3600	66.1	101.6	76.0	60.8	105.2	69.9	68.3	67.4	66.8	65.6	63.4
8-Oct	13 11:00:00	3600	65.6	101.1	73.5	60.9	87.5	69.5	67.9	66.9	66.3	65.0	63.0
8-Oct	13 12:00:00	3600	67.3	102.9	75.6	59.2	93.6	71.2	70.2	69.5	68.8	66.6	62.9
8-Oct	13 13:00:00	3600	63.8	99.4	76.1	59.0	94.2	67.5	65.8	65.0	64.5	63.3	61.0
8-Oct	13 14:00:00	3600	64.5	100.1	74.6	59.6	89.6	68.4	67.1	66.0	65.2	63.8	61.7
8-Oct	13 15:00:00	3600	63.9	99.5	72.7	58.5	91.8	67.4	65.9	65.2	64.6	63.5	61.3



Day 1

**Location 1: Long Term**

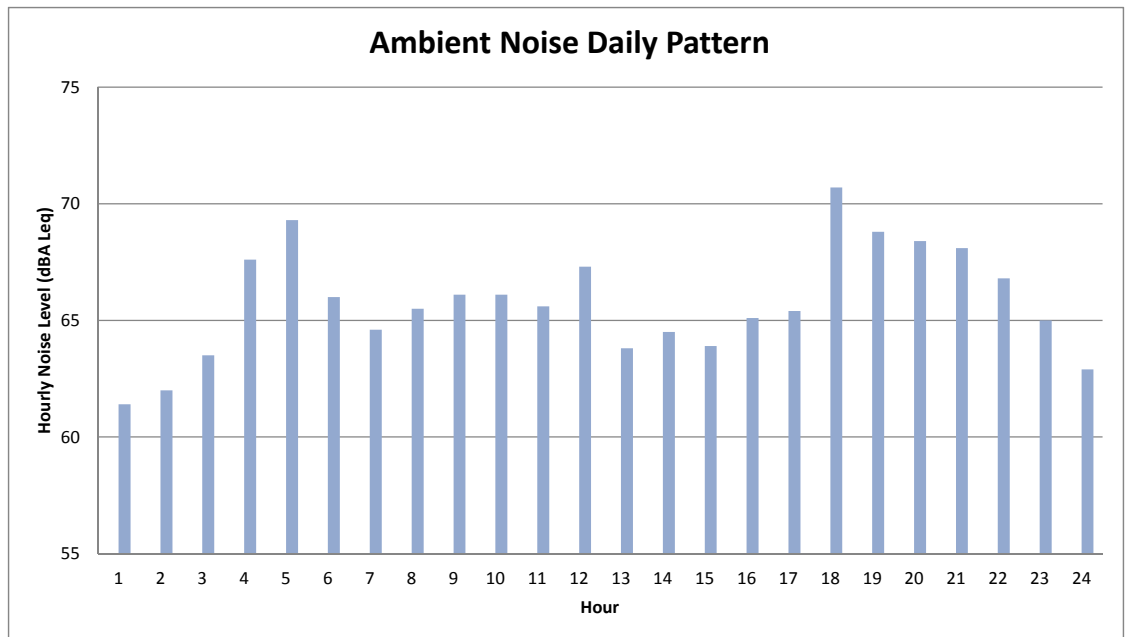
Time	1-h Leq	D/E/N	Energy	Penalty	Weighted	Weighted Energy
12:00 AM	62.9	N	1,949,845	10	72.9	19,498,446
1:00 AM	61.4	N	1,380,384	10	71.4	13,803,843
2:00 AM	62.0	N	1,584,893	10	72.0	15,848,932
3:00 AM	63.5	N	2,238,721	10	73.5	22,387,211
4:00 AM	67.6	N	5,754,399	10	77.6	57,543,994
5:00 AM	69.3	N	8,511,380	10	79.3	85,113,804
6:00 AM	66.0	N	3,981,072	10	76.0	39,810,717
7:00 AM	64.6	D	2,884,032	0	64.6	2,884,032
8:00 AM	65.5	D	3,548,134	0	65.5	3,548,134
9:00 AM	66.1	D	4,073,803	0	66.1	4,073,803
10:00 AM	66.1	D	4,073,803	0	66.1	4,073,803
11:00 AM	65.6	D	3,630,781	0	65.6	3,630,781
12:00 PM	67.3	D	5,370,318	0	67.3	5,370,318
1:00 PM	63.8	D	2,398,833	0	63.8	2,398,833
2:00 PM	64.5	D	2,818,383	0	64.5	2,818,383
3:00 PM	63.9	D	2,454,709	0	63.9	2,454,709
4:00 PM	65.1	D	3,235,937	0	65.1	3,235,937
5:00 PM	65.4	D	3,467,369	0	65.4	3,467,369
6:00 PM	70.7	D	11,748,976	0	70.7	11,748,976
7:00 PM	68.8	E	7,585,776	5	73.8	23,988,329
8:00 PM	68.4	E	6,918,310	5	73.4	21,877,616
9:00 PM	68.1	E	6,456,542	5	73.1	20,417,379
10:00 PM	66.8	N	4,786,301	10	76.8	47,863,009
11:00 PM	65.0	N	3,162,278	10	75.0	31,622,777
	<b>24h Leq</b>		<b>unweighted energy</b>		<b>CNEL</b>	<b>weighted energy</b>
	<b>63.7</b>		<b>56,653,489</b>		<b>70.8</b>	<b>285,259,741</b>

# LONG TERM NOISE MEASUREMENT RESULTS

**Location 1: Long Term**

## NOISE MONITORING LOCATION 1

HOUR	1-h Leq
1	61.4
2	62.0
3	63.5
4	67.6
5	69.3
6	66.0
7	64.6
8	65.5
9	66.1
10	66.1
11	65.6
12	67.3
13	63.8
14	64.5
15	63.9
16	65.1
17	65.4
18	70.7
19	68.8
20	68.4
21	68.1
22	66.8
23	65.0
24	62.9



Noise Peak Hour = 6PM  
 Peak Hour Noise (dBA Leq)= 70.7  
**Community Noise Equivalent Level (CNEL) = 70.8**

Site: 3 Model: 820 Firmware rev: 1.634  
 Location:  
 Date: 07Oct 13 15:08:07

	Overall	Current
Run Time	25:05:29.0	00:00:00.0
Start Time	07Oct 13 15:08:07	09Oct 13 09:16:29
TWA: Leq	51.4	Leq 0.0
SEL	101.0	0.0
Lmax	94.0	0.0
Lmax Time	07Oct 13 18:52:42	- - - - - 00:00:00
Lmin	49.9	0.0
Lmin Time	08Oct 13 02:30:12	- - - - - 00:00:00
Peak	120.2	0.0
Peak Time	07Oct 13 15:10:05	- - - - - 00:00:00
Unweighted Peak	119.6	0.0
Uwpk Time	07Oct 13 15:10:05	- - - - - 00:00:00
Dose	0.0	0.0
Projected Dose	0.0	0.0
Threshold	80	80
Criterion	90	90

Ln values  
 L 2 = 70.7 L 8 = 69.4 L16 = 68.4  
 L25 = 67.6 L50 = 65.2 L90 = 61.1

Ldn	72.1	Overall Leq	66.3	25:05:29.0
Cnel	72.6	Event Leq	67.3	18:17:27.4
Sound Exposure	0.0	Background Leq	61.7	06:48:01.6
Overloads	0			
Pause Time	00:00:00.0			

Records:  
 Run/Stop 2 Daily 0  
 Event 506 Calibration 2  
 Interval 26 Time History 1508

Short-Term

Date	Site	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(2)	L(8)	L(16)	L(25)	L(50)	L(90)	
7-Oct	2	15:32:42	1	60	65.6	83.4	69.7	57.8	82.2	69.7	69.0	68.5	67.9	65.1	58.5
7-Oct	2	15:33:42	2	60	63.1	80.9	67.5	53.9	82.8	67.5	65.9	65.1	64.5	62.8	56.2
7-Oct	2	15:34:42	3	60	67.1	84.9	70.9	55.7	84.5	70.7	70.0	69.0	68.5	67.4	56.9
7-Oct	2	15:35:42	4	60	66.3	84.0	71.2	60.0	93.2	70.8	69.2	67.6	67.0	65.8	61.7
7-Oct	2	15:36:42	5	60	65.7	83.5	68.8	62.2	86.0	68.7	67.8	67.0	66.7	65.6	63.1
7-Oct	2	15:37:42	6	60	66.8	84.6	73.9	55.2	96.8	72.2	70.0	69.3	68.6	65.7	59.1
7-Oct	2	15:38:42	7	60	65.3	83.0	70.2	57.9	86.4	69.8	68.9	66.9	66.3	64.1	60.7
7-Oct	2	15:39:42	8	60	66.3	84.0	70.1	57.7	98.3	68.9	68.5	67.9	67.5	66.4	61.2
7-Oct	2	15:40:42	9	60	64.8	82.5	68.6	54.0	89.5	67.9	67.4	66.9	66.4	64.7	57.7
7-Oct	2	15:41:42	10	60	66.6	84.4	69.9	62.5	91.3	69.7	68.8	68.0	67.6	66.4	64.2
7-Oct	2	15:42:42	11	60	67.8	85.6	74.5	56.9	98.2	74.5	72.3	69.6	68.7	65.9	61.1
7-Oct	2	15:43:42	12	60	64.3	82.1	68.2	57.4	83.1	68.0	66.9	66.5	65.9	63.7	59.3
7-Oct	2	15:44:42	13	60	64.9	82.7	72.3	53.9	100.4	70.1	67.7	67.0	66.4	64.7	56.4
7-Oct	2	15:45:42	14	60	64.2	82.0	67.4	59.3	88.2	67.4	66.7	66.0	65.5	63.9	60.5
7-Oct	2	15:46:42	15	60	68.3	86.1	80.4	57.8	113.2	76.1	71.3	69.5	68.7	65.9	62.0
					<b>66.0</b>		<b>80.4</b>	<b>53.9</b>							
7-Oct	3	15:56:50	1	60	72.5	90.3	81.3	66.1	102.7	80.5	76.0	74.4	72.6	70.4	66.9
7-Oct	3	15:57:50	2	60	69.2	87.0	75.9	62.8	89.1	75.4	71.8	70.9	70.0	68.3	65.3
7-Oct	3	15:58:50	3	60	67.0	84.8	70.0	62.1	88.2	70.0	69.1	68.5	68.0	67.0	64.2
7-Oct	3	15:59:50	4	60	67.2	85.0	70.6	62.9	83.6	70.0	69.6	69.1	68.5	66.8	64.2
7-Oct	3	16:00:50	5	60	67.7	85.5	76.4	61.4	94.2	72.9	71.6	70.4	69.1	65.6	62.3
7-Oct	3	16:01:50	6	60	66.3	84.1	69.2	61.4	86.1	69.2	68.7	68.2	67.7	66.2	62.3
7-Oct	3	16:02:50	7	60	66.8	84.5	71.6	60.5	89.2	71.4	70.3	69.5	68.4	64.7	61.7
7-Oct	3	16:03:50	8	60	71.4	89.2	82.2	62.9	95.5	81.5	75.2	71.3	69.8	66.2	64.3
7-Oct	3	16:04:50	9	60	73.5	91.2	87.0	62.9	99.2	82.8	76.7	74.3	71.8	70.1	65.5
7-Oct	3	16:05:50	10	60	68.7	86.5	76.3	62.1	95.7	75.3	72.8	71.2	69.8	66.3	63.5
7-Oct	3	16:06:50	11	60	63.3	81.1	68.7	61.1	89.3	67.7	65.2	64.3	63.6	62.6	61.4
7-Oct	3	16:07:50	12	60	63.9	81.7	70.5	60.0	85.9	70.0	68.4	65.6	64.5	61.7	60.3
7-Oct	3	16:08:50	13	60	66.7	84.5	76.2	57.6	92.7	74.6	69.3	68.1	67.0	65.3	58.5
					<b>69.0</b>		<b>87.0</b>	<b>57.6</b>							
8-Oct	4	15:32:43	1	60	68.6	86.4	77.3	60.8	89.9	76.2	71.5	70.3	69.7	67.1	61.4
8-Oct	4	15:33:43	2	60	64.7	82.4	72.1	60.8	88.5	69.8	66.9	66.0	65.3	63.9	62.0
8-Oct	4	15:34:43	3	60	70.7	88.5	80.9	62.8	92.2	79.9	75.1	71.8	70.9	66.3	63.4
8-Oct	4	15:35:43	4	60	69.2	86.9	78.1	61.3	91.9	77.3	73.3	70.4	69.5	67.8	61.6
8-Oct	4	15:36:43	5	60	73.1	90.9	81.4	67.3	95.9	81.3	78.6	73.8	71.3	69.8	68.4
8-Oct	4	15:37:43	6	60	71.1	88.9	76.5	62.9	90.1	76.1	74.3	73.1	72.3	70.5	65.6
8-Oct	4	15:38:43	7	60	67.5	85.3	78.8	60.7	93.6	75.6	72.0	68.7	67.2	65.0	61.5
8-Oct	4	15:39:43	8	60	69.4	87.2	80.0	60.0	93.8	79.2	72.6	70.8	68.9	65.6	61.7
8-Oct	4	15:40:43	9	60	66.1	83.9	71.4	59.4	84.6	70.8	69.4	68.6	67.9	65.5	60.3
8-Oct	4	15:41:43	10	60	64.2	82.0	69.2	59.3	86.4	67.6	66.5	65.8	65.3	64.1	60.6
8-Oct	4	15:42:43	11	60	68.3	86.0	72.3	60.1	86.1	72.1	71.6	71.0	70.1	66.8	64.2
8-Oct	4	15:43:43	12	60	71.3	89.1	82.4	63.9	95.8	80.7	73.0	70.8	70.2	69.5	65.6
8-Oct	4	15:44:43	13	60	72.2	90.0	82.4	61.8	93.8	81.9	78.1	75.1	68.2	65.9	63.2
8-Oct	4	15:45:43	14	60	67.8	85.6	74.6	61.1	87.2	72.8	70.9	69.9	69.4	66.9	62.5
8-Oct	4	15:46:43	15	60	66.6	84.4	74.1	59.8	88.5	73.1	70.8	68.6	67.1	65.2	61.1
8-Oct	4	15:47:43	16	60	67.0	84.8	71.9	60.2	97.3	71.7	70.4	69.2	67.9	66.0	63.4
8-Oct	4	15:48:43	17	60	64.2	82.0	69.6	61.3	81.8	68.5	66.5	65.2	64.7	63.8	61.8
8-Oct	4	15:49:43	18	60	69.8	87.5	72.4	67.1	86.5	72.2	71.5	70.8	70.4	69.6	68.1
8-Oct	4	15:50:43	19	60	69.6	87.4	75.7	65.2	89.9	74.7	73.2	70.7	69.8	68.7	66.2
					<b>69.2</b>		<b>82.4</b>	<b>59.3</b>							
8-Oct	5	15:55:32	1	60	64.5	82.3	71.2	54.9	97.0	69.7	67.7	66.8	66.0	64.4	55.8
8-Oct	5	15:56:32	2	60	63.0	80.8	65.8	59.4	81.4	65.7	64.9	64.5	64.0	62.7	61.1
8-Oct	5	15:57:32	3	60	64.1	81.8	69.9	56.9	86.4	69.6	68.5	66.5	65.0	62.4	58.0
8-Oct	5	15:58:32	4	60	68.4	86.2	78.1	58.7	94.6	77.4	73.0	67.9	67.3	65.4	59.7
8-Oct	5	15:59:32	5	60	60.9	78.7	65.6	55.3	81.3	64.9	63.7	62.9	61.7	60.0	58.2
8-Oct	5	16:00:32	6	60	64.4	82.2	68.7	56.7	82.1	68.7	68.0	66.7	65.9	63.8	59.5
8-Oct	5	16:01:32	7	60	65.4	83.2	71.5	55.8	86.4	71.5	70.3	67.9	66.5	63.6	58.0
8-Oct	5	16:02:32	8	60	64.1	81.9	68.0	56.4	80.3	67.9	67.5	66.9	65.8	63.4	58.1
8-Oct	5	16:03:32	9	60	64.4	82.2	67.0	56.5	83.4	66.9	66.6	66.2	65.8	64.4	60.0
8-Oct	5	16:04:32	10	60	63.2	81.0	66.9	57.4	83.4	66.6	65.7	64.9	64.2	63.0	59.7
8-Oct	5	16:05:32	11	60	64.8	82.6	73.2	56.7	89.9	72.6	69.7	65.6	64.7	63.1	58.1
8-Oct	5	16:06:32	12	60	61.8	79.5	67.0	53.9	80.3	66.7	65.5	64.2	63.3	60.5	56.1
8-Oct	5	16:07:32	13	60	63.6	81.4	67.7	54.7	80.3	67.7	67.4	66.7	65.6	62.6	56.2
8-Oct	5	16:08:32	14	60	64.7	82.4	69.7	55.2	88.7	68.7	67.7	67.1	66.6	63.5	57.9
8-Oct	5	16:09:32	15	60	62.5	80.2	66.8	54.7	80.5	65.9	64.9	64.5	63.9	62.2	56.9
8-Oct	5	16:10:32	16	60	66.3	84.0	71.2	57.5	87.0	70.8	69.9	69.0	67.7	65.8	60.2
					<b>64.5</b>		<b>78.1</b>	<b>53.9</b>							

Date	Site	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L( 2)	L( 8)	L(16)	L(25)	L(50)	L(90)	
8-Oct	6	16:22:12	1	60	64.6	82.3	71.3	57.7	83.5	70.6	68.8	66.9	65.8	62.3	59.1
8-Oct	6	16:23:12	2	60	65.8	83.6	71.8	57.5	87.9	71.3	69.6	68.5	67.5	64.5	59.2
8-Oct	6	16:24:12	3	60	64.2	82.0	73.2	57.9	89.1	71.9	68.8	66.3	64.0	61.4	58.6
8-Oct	6	16:25:12	4	60	63.1	80.9	70.2	56.7	92.5	69.6	67.2	65.9	63.2	60.8	57.7
8-Oct	6	16:26:12	5	60	64.9	82.7	72.3	53.4	86.4	71.9	69.7	67.7	65.9	61.4	56.7
8-Oct	6	16:27:12	6	60	62.5	80.3	68.2	55.5	80.5	67.8	66.8	64.9	63.4	61.0	57.8
8-Oct	6	16:28:12	7	60	63.4	81.2	70.6	52.7	83.5	69.7	68.1	67.0	65.4	59.3	54.7
8-Oct	6	16:29:12	8	60	66.4	84.1	75.2	55.5	88.7	73.6	70.7	69.0	67.7	62.0	57.4
8-Oct	6	16:30:12	9	60	68.3	86.1	76.1	57.8	90.8	75.2	72.8	70.8	70.0	65.4	58.8
8-Oct	6	16:31:12	10	60	65.8	83.6	69.8	57.5	84.4	69.8	69.1	68.0	67.2	65.2	59.8
8-Oct	6	16:32:12	11	60	61.7	79.5	67.8	58.8	79.6	66.1	64.5	63.3	61.9	60.8	59.3
8-Oct	6	16:33:12	12	60	63.9	81.7	70.6	57.1	83.8	70.3	68.6	67.0	64.5	61.1	57.9
8-Oct	6	16:34:12	13	60	64.1	81.9	69.4	58.7	83.2	68.8	67.7	66.4	65.3	62.6	60.2
8-Oct	6	16:35:12	14	60	64.3	82.1	72.9	56.1	85.7	71.8	68.7	66.2	64.1	61.9	57.5
8-Oct	6	16:36:12	15	60	63.7	81.5	69.7	55.9	83.9	69.5	68.2	66.5	64.9	61.6	56.8
8-Oct	6	16:37:12	16	60	61.8	79.6	68.4	57.6	80.3	67.7	65.7	64.3	63.1	59.7	58.1
					<b>64.6</b>		<b>76.1</b>	<b>52.7</b>							
8-Oct	7	16:44:14	1	60	68.1	85.8	71.3	64.9	83.9	70.9	70.2	69.5	68.8	67.8	65.6
8-Oct	7	16:45:14	2	60	70.2	88.0	76.7	65.4	91.4	75.6	73.4	71.9	70.7	69.2	66.5
8-Oct	7	16:46:14	3	60	68.4	86.2	74.8	62.4	87.7	74.0	72.0	69.9	69.3	67.4	64.0
8-Oct	7	16:47:14	4	60	67.9	85.6	71.3	62.6	89.4	71.2	70.6	70.1	69.4	67.3	63.3
8-Oct	7	16:48:14	5	60	69.3	87.1	74.9	66.2	86.6	74.5	70.9	69.9	69.6	68.7	67.2
8-Oct	7	16:49:14	6	60	69.7	87.5	75.3	65.9	88.7	74.5	72.6	71.4	70.5	68.6	66.8
8-Oct	7	16:50:14	7	60	70.7	88.5	77.2	66.4	92.2	76.3	73.2	72.2	71.6	69.7	67.2
8-Oct	7	16:51:14	8	60	68.0	85.8	70.3	64.5	82.8	70.1	69.7	69.2	68.8	68.1	65.1
8-Oct	7	16:52:14	9	60	68.8	86.6	75.7	62.8	88.3	75.4	71.5	69.9	68.9	67.7	64.5
8-Oct	7	16:53:14	10	60	71.1	88.8	80.3	63.0	93.0	79.6	75.7	72.9	70.8	67.2	64.3
8-Oct	7	16:54:14	11	60	67.8	85.6	74.1	64.6	89.7	73.6	70.9	69.6	67.6	66.3	64.6
8-Oct	7	16:55:14	12	60	68.8	86.6	75.6	64.1	91.1	75.0	73.1	70.6	69.1	67.2	64.8
8-Oct	7	16:56:14	13	60	71.8	89.6	82.1	66.0	97.0	81.1	74.5	72.0	71.1	69.0	67.2
8-Oct	7	16:57:14	14	60	67.7	85.5	71.0	63.5	84.5	70.9	70.4	69.8	69.4	67.1	64.3
8-Oct	7	16:58:14	15	60	65.6	83.4	68.8	61.0	83.0	68.7	68.0	67.5	66.9	65.2	62.5
8-Oct	7	16:59:14	16	60	69.3	87.1	72.5	64.6	84.6	72.0	71.0	70.5	70.0	69.2	67.3
8-Oct	7	17:00:14	17	60	69.6	87.4	75.8	65.5	92.7	75.3	71.9	71.3	70.1	68.6	66.3
					<b>69.2</b>		<b>82.1</b>	<b>61.0</b>							
8-Oct	8	17:08:13	1	60	65.0	82.8	71.5	55.8	87.5	71.1	68.8	67.4	66.4	64.1	57.3
8-Oct	8	17:09:13	2	60	68.7	86.5	75.1	60.0	86.7	74.7	72.4	71.2	70.5	66.6	62.6
8-Oct	8	17:10:13	3	60	66.0	83.7	70.6	58.1	86.6	70.6	69.9	69.4	68.9	61.8	58.8
8-Oct	8	17:11:13	4	60	66.7	84.5	72.5	55.5	86.6	72.5	71.4	70.0	68.8	64.3	57.1
8-Oct	8	17:12:13	5	60	68.2	85.9	76.4	57.9	93.8	75.3	70.9	70.1	69.4	66.9	60.1
8-Oct	8	17:13:13	6	60	69.4	87.2	74.8	57.5	97.5	74.0	72.8	71.8	71.4	69.5	58.0
8-Oct	8	17:14:13	7	60	65.6	83.4	71.8	58.5	86.8	71.1	70.1	68.8	67.3	62.1	59.4
8-Oct	8	17:15:13	8	60	68.9	86.7	74.8	55.2	89.5	74.3	72.9	71.8	71.1	67.5	56.2
8-Oct	8	17:16:13	9	60	69.4	87.2	73.8	55.6	93.3	73.7	73.0	71.9	71.3	69.2	58.2
8-Oct	8	17:17:13	10	60	66.6	84.4	72.9	57.1	88.3	72.3	70.9	70.1	69.6	60.2	57.4
8-Oct	8	17:18:13	11	60	65.9	83.7	70.4	58.0	84.4	70.4	69.8	69.4	68.8	61.7	59.1
8-Oct	8	17:19:13	12	60	67.8	85.6	72.2	57.7	86.3	71.9	71.2	70.5	69.9	67.8	58.4
8-Oct	8	17:20:13	13	60	68.6	86.4	73.7	57.5	88.3	73.6	72.7	71.8	71.0	67.6	58.4
8-Oct	8	17:21:13	14	60	66.4	84.2	72.0	59.3	87.0	71.7	70.3	69.5	68.3	64.5	60.2
8-Oct	8	17:22:13	15	60	68.2	86.0	73.3	57.1	85.9	73.1	71.7	70.5	69.8	68.1	59.2
8-Oct	8	17:23:13	16	60	69.5	87.3	73.9	57.0	89.1	73.5	72.7	72.0	71.4	69.4	60.5
8-Oct	8	17:24:13	17	60	65.9	83.7	74.6	57.9	88.6	74.3	70.1	67.7	66.4	62.3	58.9
8-Oct	8	17:25:13	18	60	64.6	82.3	71.9	57.6	85.6	71.3	69.6	68.0	63.8	61.8	59.2
8-Oct	8	17:26:13	19	60	67.4	85.2	71.0	59.0	86.0	70.5	69.8	69.6	69.2	67.7	61.2
8-Oct	8	17:27:13	20	60	67.3	85.1	73.6	56.2	87.9	73.0	71.8	70.8	70.2	62.6	57.2
8-Oct	8	17:28:13	21	60	65.9	83.7	73.5	57.5	88.0	73.5	72.0	69.9	65.5	59.9	57.5
8-Oct	8	17:29:13	22	60	70.3	88.1	74.6	55.9	94.1	74.3	73.6	72.8	71.9	70.2	58.7
					<b>67.7</b>		<b>76.4</b>	<b>55.2</b>							

Site: 2 Model: 820 Firmware rev: 1.634  
 Location:  
 Date: 07Oct 13 15:32:42

	Overall	Current
Run Time	02:00:46.0	00:00:00.0
Start Time	07Oct 13 15:32:42	09Oct 13 09:16:08
TWA: Leq	55.3	Leq 0.0
SEL	94.0	0.0
Lmax	87.0	0.0
Lmax Time	07Oct 13 16:05:37	- - - - - 00:00:00
Lmin	52.7	0.0
Lmin Time	08Oct 13 16:28:52	- - - - - 00:00:00
Peak	113.2	0.0
Peak Time	07Oct 13 15:47:11	- - - - - 00:00:00
Unweighted Peak	113.2	0.0
Uwpk Time	08Oct 13 17:01:01	- - - - - 00:00:00
Dose	0.0	0.0
Projected Dose	0.0	0.0
Threshold	80	80
Criterion	90	90

Ln values  
 L 2 = 73.9 L 8 = 71.0 L16 = 69.6  
 L25 = 68.5 L50 = 65.5 L90 = 59.2

Ldn	67.6	Overall Leq	67.6	02:00:46.0
Cnel	67.6	Event Leq	69.0	01:19:43.1
Sound Exposure	0.0	Background Leq	61.2	00:41:03.9
Overloads	0			
Pause Time	00:00:00.0			

Records:  
 Run/Stop 14 Daily 0  
 Event 111 Calibration 3  
 Interval 125 Time History 7265