

*Appendix D*  
*Noise Modeling Output*



## *Appendices*

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**Federal Highway Administration (FHWA) Traffic Noise Prediction Model  
The Platinum Triangle - Base Scenario**

Roadway Segment	24-hour Traffic Volume	Noise Level (CNEL or Ldn) at Distance from Roadway Centerline																Change From Existing	Change due to Project
		Distance to CNEL from Roadway Centerline				Future No Project				Future With Project									
		Existing				Future No Project				Future With Project									
		50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL	50.0 Feet	60 CNEL	65 CNEL	70 CNEL						
Anaheim Boulevard	Katella Ave to I-5 Freeway	40	19,380	30,590	31,080	73.2	380	176	82	75.2	515	239	111	75.3	521	242	112	2.1	0.1
	I-5 Freeway to Cerritos Ave	40	33,160	53,130	55,320	75.5	544	252	117	77.6	745	346	160	77.8	765	355	165	2.2	0.2
	Cerritos Ave to Ball Rd	40	26,790	43,930	46,190	74.6	472	219	102	76.8	656	304	141	77.0	678	315	146	2.4	0.2
	Ball Rd to Vermont St	35	25,230	37,690	39,160	73.4	390	181	84	75.1	509	236	110	75.3	522	242	113	1.9	0.2
Anaheim Way	State College Blvd to Orangewood Ave	45	3,220	13,360	15,130	66.3	132	61	29	72.5	342	159	74	73.1	371	172	80	6.7	0.5
	Orangewood Ave to Katella Ave	45	18,190	25,230	26,650	73.9	420	195	90	75.3	522	242	113	75.5	542	251	117	1.7	0.2
	Katella Ave to Anaheim Blvd	45	10,730	15,650	18,110	71.6	295	137	64	73.2	380	176	82	73.8	419	194	90	2.3	0.6
Ball Road	Walnut St to Disneyland Dr	40	34,020	41,120	42,390	75.7	553	257	119	76.5	628	291	135	76.6	640	297	138	1.0	0.1
	Disneyland Dr to Harbor Blvd	40	44,320	56,710	58,690	76.8	660	306	142	77.9	778	361	168	78.0	796	369	171	1.2	0.1
	Harbor Blvd to Anaheim Blvd	40	36,890	45,610	47,460	76.0	584	271	126	76.9	672	312	145	77.1	691	321	149	1.1	0.2
	Anaheim Blvd to East St	40	35,280	44,140	46,390	75.8	567	263	122	76.8	658	305	142	77.0	680	316	147	1.2	0.2
	East St to State College Blvd	40	38,110	44,720	47,540	76.2	597	277	129	76.8	664	308	143	77.1	691	321	149	1.0	0.3
	State College Blvd to Sunkist St	40	40,500	46,630	48,590	76.4	621	288	134	77.0	682	317	147	77.2	701	326	151	0.8	0.2
	Sunkist St to SR-57 Freeway	40	48,400	58,790	61,800	77.2	700	325	151	78.0	796	370	172	78.3	823	382	177	1.1	0.2
	SR-57 Freeway to Main St	40	32,740	59,090	60,250	75.5	539	250	116	78.1	799	371	172	78.1	810	376	174	2.6	0.1
Cerritos Avenue	Anaheim Blvd to Lewis St	40	11,710	26,370	30,130	71.0	272	126	59	74.6	467	217	101	75.1	510	237	110	4.1	0.6
	Lewis St to State College Blvd	40	10,030	26,010	29,510	70.4	245	114	53	74.5	462	215	100	75.0	503	234	108	4.7	0.5
	State College Blvd to Sunkist St	40	6,180	16,380	19,870	68.3	177	82	38	72.5	340	158	73	73.3	386	179	83	5.1	0.8
	Sunkist St to Douglass Rd	40	4,520	22,300	26,820	66.9	144	67	31	73.8	417	194	90	74.6	472	219	102	7.7	0.8
Chapman Avenue	State College Blvd to SR-57 Freeway	40	30,740	37,220	38,400	75.2	517	240	111	76.0	587	273	127	76.2	600	278	129	1.0	0.1
	SR-57 Freeway to Main St	40	27,260	32,610	33,930	74.7	477	221	103	75.5	538	250	116	75.6	552	256	119	1.0	0.2
The City Drive	SR-22 Freeway to Chapman Ave	35	20,980	31,710	33,030	72.6	344	160	74	74.4	454	211	98	74.5	466	216	100	2.0	0.2
Clementine Street	Orangewood Ave to Gene Autry Way	40	NA	8,070	9,010	#####	#####	#####	#####	69.4	212	98	46	69.9	228	106	49	#####	0.5
	Gene Autry Way to Katella Ave	40	NA	5,530	5,720	#####	#####	#####	#####	67.8	165	76	35	67.9	168	78	36	#####	0.1
	Katella Ave to Manchester Ave	40	7,510	8,400	8,470	69.1	202	94	44	69.6	218	101	47	69.6	219	102	47	0.5	0.0
Collins Avenue	Eckhoff St to Main St	40	6,620	20,280	20,830	68.5	186	86	40	73.4	392	182	84	73.5	399	185	86	5.0	0.1
	Main St to Batavia St	40	10,800	23,270	23,650	70.7	257	119	55	74.0	429	199	93	74.1	434	201	94	3.4	0.1
	Batavia St to Glassell St	40	14,710	21,360	21,820	72.0	316	147	68	73.6	406	188	87	73.7	411	191	89	1.7	0.1
Disney Way	Harbor Blvd to Clementine St	35	7,770	15,600	17,040	68.3	178	82	38	71.3	283	131	61	71.7	300	139	65	3.4	0.4
	Clementine St to Anaheim Blvd	35	13,880	24,690	26,660	70.8	262	121	56	73.3	384	178	83	73.6	404	188	87	2.8	0.3
Douglass Street	Katella Ave to Cerritos Ave	35	6,910	24,550	28,540	67.7	164	76	35	73.3	383	178	82	73.9	423	196	91	6.2	0.7
Eckhoff Street	Orangewood Ave to Collins Ave	40	10,870	27,340	27,760	70.7	259	120	56	74.7	478	222	103	74.8	483	224	104	4.1	0.1
Gene Autry Way	Harbor Blvd to Clementine St	40	NA	22,960	24,940	#####	#####	#####	#####	73.9	426	198	92	74.3	450	209	97	#####	0.4
	Clementine St to Haster St	40	NA	27,890	30,800	#####	#####	#####	#####	74.8	484	225	104	75.2	518	240	112	#####	0.4
	Haster St to I-5 Freeway	40	NA	32,420	38,780	#####	#####	#####	#####	75.4	536	249	115	76.2	604	280	130	#####	0.8
	I-5 Freeway to State College Blvd	40	2,220	32,850	45,660	63.8	90	42	19	75.5	540	251	116	76.9	673	312	145	13.1	1.4
Harbor Boulevard	Chapman Ave to Orangewood Ave	40	35,560	48,780	50,300	75.8	570	264	123	77.2	703	326	152	77.4	718	333	155	1.5	0.1
	Orangewood Ave to Convention Way	40	35,870	46,890	47,440	75.9	573	266	123	77.1	685	318	148	77.1	690	320	149	1.2	0.1
	Convention Way to Katella Ave	40	40,430	49,980	50,350	76.4	621	288	134	77.3	715	332	154	77.4	718	333	155	1.0	0.0
	Katella Ave to Disney Way	35	38,410	55,020	56,730	75.2	516	239	111	76.8	655	304	141	76.9	669	310	144	1.7	0.1
	Disney Way to Manchester Ave	35	41,340	53,490	54,500	75.5	541	251	117	76.6	643	298	139	76.7	651	302	140	1.2	0.1
	Manchester Ave to I-5 Freeway	35	39,450	55,420	57,240	75.3	525	244	113	76.8	658	306	142	76.9	673	312	145	1.6	0.1
	I-5 Freeway to Ball Rd	35	44,360	57,660	59,290	75.8	568	263	122	77.0	676	314	146	77.1	689	320	148	1.3	0.1
	Ball Rd to Vermont St	35	26,900	37,440	38,240	73.7	407	189	88	75.1	507	235	109	75.2	514	239	111	1.5	0.1
Haster Street	I-5 Freeway to Ball Rd	40	18,190	36,460	38,010	72.9	364	169	79	76.0	579	269	125	76.1	596	276	128	3.2	0.2
	Ball Rd to Vermont St	40	19,760	37,170	39,830	73.3	385	179	83	76.0	587	272	126	76.3	614	285	132	3.0	0.3
Howell Avenue	State College Blvd to Sunkist St	35	4,390	15,580	22,000	65.8	121	56	26	71.3	283	131	61	72.8	356	165	77	7.0	1.5
	Sunkist St to Katella Ave	35	5,830	6,380	7,910	67.0	147	68	32	67.4	156	72	34	68.3	180	83	39	1.3	0.9

Katella Avenue	Euclid St to Ninth St	40	31,470	49,450	50,900	75.3	525	244	113	77.3	710	329	153	77.4	724	336	156	2.1	0.1
	Ninth St to Walnut St	40	29,270	47,260	48,170	75.0	500	232	108	77.1	689	320	148	77.2	697	324	150	2.2	0.1
	Walnut St to Disneyland Dr	40	35,240	55,400	56,930	75.8	566	263	122	77.8	766	355	165	77.9	780	362	168	2.1	0.1
	Disneyland Dr to Harbor Blvd	40	37,440	64,920	67,110	76.1	590	274	127	78.5	851	395	183	78.6	870	404	187	2.5	0.1
	Harbor Blvd to Clementine St	40	39,100	57,480	59,070	76.3	607	282	131	77.9	785	364	169	78.1	799	371	172	1.8	0.1
	Clementine St to Anaheim Blvd	40	38,510	57,500	59,650	76.2	601	279	129	77.9	785	364	169	78.1	804	373	173	1.9	0.2
	Anaheim Blvd to I-5 Freeway	40	37,830	55,320	57,520	76.1	594	276	128	77.8	765	355	165	77.9	785	364	169	1.8	0.2
	Manchester Ave to Anaheim Way	40	35,040	58,160	71,090	75.8	564	262	122	78.0	791	367	170	78.9	904	420	195	3.1	0.9
	Anaheim Way to Lewis St	40	35,040	58,160	71,090	75.8	564	262	122	78.0	791	367	170	78.9	904	420	195	3.1	0.9
	Lewis St to State College Blvd	40	30,260	48,820	57,860	75.1	512	237	110	77.2	704	327	152	78.0	788	366	170	2.8	0.7
	State College Blvd to Sportstown	40	32,800	47,980	51,920	75.5	540	251	116	77.2	696	323	150	77.5	733	340	158	2.0	0.3
	Sportstown to Howell Ave	40	34,240	54,380	62,310	75.7	555	258	120	77.7	756	351	163	78.3	828	384	178	2.6	0.6
	Howell Ave to Orange Freeway	40	37,990	60,860	71,190	76.1	595	276	128	78.2	815	378	176	78.9	905	420	195	2.7	0.7
	Orange Freeway to Main St	40	29,610	54,600	62,900	75.1	504	234	109	77.7	758	352	163	78.3	833	387	180	3.3	0.6
	Main St to Batavia St	40	30,280	47,690	51,570	75.2	512	238	110	77.1	693	322	149	77.5	730	339	157	2.3	0.3
	Batavia St to Glassell St	40	29,490	46,060	49,250	75.0	503	233	108	77.0	677	314	146	77.3	708	329	152	2.2	0.3
	Lewis Street	Gene Autry Way to Katella Ave	45	1,440	16,800	25,710	62.8	77	36	17	73.5	398	185	86	75.4	529	245	114	12.5
Katella Ave to Cerritos Ave		45	7,680	22,360	32,900	70.1	236	110	51	74.8	482	224	104	76.4	623	289	134	6.3	1.7
Cerritos Ave to Ball Rd		45	6,460	20,870	22,950	69.4	211	98	45	74.5	460	214	99	74.9	490	228	106	5.5	0.4
Main Street	Chapman Ave to Orangewood Ave	35	20,090	39,050	40,550	72.4	335	155	72	75.3	521	242	112	75.4	535	248	115	3.1	0.2
	Orangewood Ave to Collins Ave	40	16,900	28,730	29,410	72.6	347	161	75	74.9	494	229	106	75.0	502	233	108	2.4	0.1
	Collins Ave to Katella Ave	40	17,700	30,920	31,360	72.8	358	166	77	75.2	519	241	112	75.3	524	243	113	2.5	0.1
	Katella Ave to Taft Ave	40	11,440	21,540	21,730	70.9	267	124	58	73.7	408	189	88	73.7	410	190	88	2.8	0.0
Manchester Avenue	Compton Ave to Orangewood Ave	40	6,840	16,590	16,050	68.7	190	88	41	72.5	343	159	74	72.4	335	156	72	3.7	-0.1
	Orangewood Ave to Katella Ave	40	11,050	21,540	23,810	70.8	261	121	56	73.7	408	189	88	74.1	436	202	94	3.3	0.4
	Katella Ave to Anaheim Blvd	40	1,410	11,500	14,740	61.8	66	31	14	70.9	268	125	58	72.0	317	147	68	10.2	1.1
Orangewood Avenue	Harbor Blvd to Haster Ave	40	15,540	20,130	21,480	72.3	328	152	71	73.4	390	181	84	73.7	407	189	88	1.4	0.3
	Haster St to Manchester Ave	40	17,950	24,480	25,910	72.9	361	168	78	74.2	444	206	96	74.5	461	214	99	1.6	0.2
	Manchester Ave to State College Blvd	40	19,810	28,530	34,410	73.3	386	179	83	74.9	492	228	106	75.7	557	259	120	2.4	0.8
	State College Blvd to Rampart St	40	24,490	38,080	50,380	74.2	444	206	96	76.1	596	277	128	77.4	719	334	155	3.1	1.2
	Rampart St to SR-57 Freeway	40	23,490	40,050	47,660	74.0	432	201	93	76.4	617	286	133	77.1	692	321	149	3.1	0.8
	SR-57 Freeway to Eckhoff St	40	27,720	44,670	49,090	74.8	483	224	104	76.8	663	308	143	77.3	706	328	152	2.5	0.4
	Eckhoff St to Main St	40	14,160	17,750	19,610	71.9	308	143	66	72.8	358	166	77	73.3	383	178	83	1.4	0.4
Phoenix Club Drive	Honda Center to Ball Rd	25	3,880	13,530	13,510	64.1	94	44	20	69.5	216	100	47	69.5	216	100	47	5.4	0.0
Rampart Street	Chapman Ave to Orangewood Ave	35	2,770	16,510	22,510	63.8	89	41	19	71.5	294	136	63	72.9	361	168	78	9.1	1.3
State College Boulevard	Chapman Ave to I-5 Freeway	40	26,980	42,370	45,860	74.7	474	220	102	76.6	640	297	138	77.0	675	313	145	2.3	0.3
	I-5 Freeway to Orangewood Ave	40	21,400	43,240	48,060	73.6	406	188	87	76.7	649	301	140	77.2	696	323	150	3.5	0.5
	Orangewood Ave to Gene Autry Way	40	22,160	39,670	46,900	73.8	416	193	90	76.3	613	284	132	77.1	685	318	148	3.3	0.7
	Gene Autry Way to Katella Ave	40	20,120	31,040	34,920	73.4	390	181	84	75.3	520	242	112	75.8	563	261	121	2.4	0.5
	Katella Ave to Howell Ave	40	23,980	39,840	46,470	74.1	438	203	94	76.3	615	285	132	77.0	681	316	147	2.9	0.7
	Howell Ave to Cerritos Ave	40	3,900	4,640	5,180	66.3	131	61	28	67.0	147	68	32	67.5	158	73	34	1.2	0.5
	Cerritos Ave to Ball Rd	40	23,320	25,880	28,570	74.0	430	200	93	74.5	461	214	99	74.9	492	229	106	0.9	0.4
	Ball Rd to Wagner Ave	40	24,020	33,130	35,100	74.1	439	204	94	75.5	543	252	117	75.8	565	262	122	1.6	0.3
	Struck Avenue	Katella Ave to Main St	35	6,720	14,100	15,500	67.6	161	75	35	70.8	264	123	57	71.3	282	131	61	3.6
Sunkist Street	Howell Ave to Cerritos Ave	40	3,900	9,950	12,610	66.3	131	61	28	70.3	244	113	53	71.3	285	132	61	5.1	1.0
	Cerritos Ave to Ball Rd	40	7,720	11,240	12,000	69.2	206	96	44	70.8	264	123	57	71.1	276	128	59	1.9	0.3
Walnut Avenue	Main St to Batavia St	35	8,540	9,630	9,710	68.7	189	88	41	69.2	205	95	44	69.2	206	96	44	0.6	0.0
	Batavia St to Glassell St	35	8,090	9,870	9,860	68.4	183	85	39	69.3	208	97	45	69.3	208	97	45	0.9	0.0

Assumptions:

Simplified to 2 lanes  
 future  
 Noise path decay parameter for hard site

6.1 meters= 20.0  
 6.1 meters= 20.0

24-hour distribution of traffic volumes:  
 70% day (7-7), 15% evening (7-10), 15% night (10-7)  
 Analysis of L.A. County 24-hour traffic counts for selected arterial streets

Calculations using methods of Federal Highway Administration Highway Traffic Noise Prediction Model,  
 December, 1978. Baseline California vehicle noise levels from Caltrans, TAN 95-03, 1995  
 Source of standard assumptions:

Truck Mix  
 ARB standard fleet mix for air quality analysis  
 Heavy trucks for noise model includes heavy diesel tractor-trailers only  
 Medium trucks for noise model includes buses and bobtail trucks  
 Autos includes cars, vans, pickups and light trucks



# FACT SHEET

<b>The Metrolink Regional System</b>	<b>Jun '09</b>	<b>Jun '08</b>
Number of Routes	7	7
Stations in Service	55	55
Route Miles (includes shared miles)	512	512
Route Miles (excludes shared miles)	388	388
Average Trains Operated/Weekday	149	145
Average Trains Operated/Saturday	46	46
Average Trains Operated/Sunday	32	32
Average Weekday Riders on Metrolink trains (Apr thru Jun)	41,982 (-9%)	46,055
Average Weekday Metrolink Riders on Amtrak (Apr thru Jun)	2,018 (+7%)	1,878
Total Average Weekday Metrolink Riders (Apr thru Jun)	44,000 (-8%)	47,933
Average System Speed (M.P.H. with stops)	41 m.p.h.	41 m.p.h.

<b>Metrolink by Route Corridor</b>	<b>Jun '09</b>	<b>Jun '08</b>
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*Ventura County Line (Oxnard to Los Angeles)* \*Includes 11 Burbank/Bob Hope Airport trains

Stations	12	12
Route Miles	70.9	70.9
Trains Operated/Day	31 †	31
Ave Wkday Riders on Metrolink (Apr thru Jun)	4,369 (-6%)	4,650
Ave Wkday Metrolink Riders on Amtrak (Apr thru Jun)	309 (+1%)	305
Total Ave Weekday Metrolink Riders (Apr thru Jun)	4,678 (-6%)	4,956
Ave Saturday Metrolink Riders on Amtrak (Apr thru Jun)	99 (+8%)	92
Ave Sunday Metrolink Riders on Amtrak (Apr thru Jun)	83 (+9%)	76
Average Speed	42 m.p.h.	42 m.p.h.

*Antelope Valley Line (Lancaster to Los Angeles)*

Stations	11	10
Route Miles	76.6	76.6
Trains Operated/Weekday	24	24
Trains Operated/Saturday	12	12
Trains Operated Sunday	6	6
Average Weekday Riders (Apr thru Jun)	6,494 (-15%)	7,665
Average Saturday Service Riders (Apr thru Jun)	2,114 (-17%)	2,540
Average Sunday Service Riders (Apr thru Jun)	1,062 (-12%)	1,210
Average Speed	41 m.p.h.	41 m.p.h.

**San Bernardino Line (San Bernardino to Los Angeles)**

Stations	13	13
Route Miles	56.5	56.5
Trains Operated/Weekday	38	34
Trains Operated/Saturday	20	20
Trains Operated/Sunday	14	14
Average Weekday Riders (Apr thru Jun)	12,541 (-8%)	13,577
Average Saturday Service Riders (Apr thru Jun)	3,528 (-14%)	4,082
Average Sunday Service Riders (Apr thru Jun)	2,406 (-6%)	2,566
Average Speed	39 m.p.h.	39 m.p.h.

**Riverside Line (Riverside to Los Angeles)**

Stations	7	7
Route Miles	59.1	59.1
Trains Operated/Weekday	12	12
Average Weekday Riders (Apr thru Jun)	5,100 (-4%)	5,340
Average Speed	42 m.p.h.	42 m.p.h.

**Orange County Line (Oceanside to Los Angeles)**

Stations	14	13
Route Miles	87.2	87.2
Trains Operated/Weekday	19	19
Trains Operated/Saturday	8	8
Trains Operated/Sunday	8	8
Ave Wkday Riders on Metrolink (Apr thru Jun)	6,987 (-5%)	7,377
Ave Wkday Metrolink Riders on Amtrak (Apr thru Jun)	1,709 (+9%)	1,572
Total Ave Weekday Metrolink Riders (Apr thru Jun)	8,696 (-3%)	8,949
Average Saturday Service Riders (Apr thru Jun)	866 (-14%)	1,010
Average Sunday Service Riders (Apr thru Jun)	682 (-6%)	727
Ave Saturday Metrolink Riders on Amtrak (Apr thru Jun) <sup>1</sup>	473 (+31%)	362
Ave Sunday Metrolink Riders on Amtrak (Apr thru Jun) <sup>1</sup>	499 (+38%)	362
Average Speed	44 m.p.h.	44 m.p.h.

**Inland Empire-Orange County Line (San Bernardino to Oceanside)**

Stations	14	14
Route Miles	100.1	100.1
Trains Operated/Weekday	16	16
Trains Operated/Saturday	6	6
Trains Operated/Sunday	4	4
Average Weekday Riders (Apr thru Jun)	4,224 (-17%)	5,100
Average Saturday Service Riders (Apr thru Jun)	764 (-24%)	1,002
Average Sunday Service Riders (Apr thru Jun)	424 (+10%)	387
Average Speed	39 m.p.h.	39 m.p.h.

**91 Line (Riverside to Los Angeles via Fullerton)**

Stations	9	8
Route Miles	61.6	61.6
Trains Operated/Day	9	9
Average Weekday Riders (Apr thru Jun)	2,267 (-3%)	2,346
Average Speed	39 m.p.h.	39 m.p.h.

**Metrolink Fast Facts**

- Average Number of Auto Trips Removed/Weekday 26,510
- Weekday Riders Who Formerly Drove Alone/Carpooled 67.1percent
- Weekday Riders Who Formerly Made the Trip and Drove Alone/Carpooled 89.7 percent
- Average Metrolink Commute Trip Length (linked) 36.9 miles
- Equivalent Peak Hour Lane Miles on Parallel Freeway Replaced by Metrolink Service up to 1.3
- Percent of work trips destined for Los Angeles Union Station 57.5 percent
- Percent of work trips destined for the Los Angeles Central Business District 36.1 percent
- Average weight of a Metrolink train 400 tons
- Passenger Car Dimensions
  - Length 85'0"
  - Width 9'10"
  - Height 15'11"
- Locomotive Dimensions (maximum)
  - Length 68'0"
  - Width 10'7.5"
  - Height 15'5"
- Average distance for a Metrolink train to stop 1/3 mile
- Percent of Weekday Ethnic Riders by Line Corridor (*Latino, Asian, African-American, other*)
  - San Bernardino Line 70 percent
  - Riverside Line 78 percent
  - Antelope Valley Line 55 percent
  - Ventura County Line 39 percent
  - Orange County Line 51 percent
  - Inland Empire-Orange County Line 49 percent
  - 91 Line 61 percent
  - System 60 percent
- Percent of Weekend Ethnic Riders by Line Corridor (*Latino, Asian, African-American, other*)
  - San Bernardino Line 79 percent
  - Antelope Valley Line 77 percent
  - Orange County Line 51 percent
  - Inland Empire-Orange County Line 50 percent
  - System 71 percent

Source: 2008 Metrolink Customer Satisfaction Survey, 2008 Metrolink Weekend Customer Survey, and SCRRRA Budget for FY 2008-09

**The Southern California Regional Rail Authority/Metrolink**

Date of Formation	August 1991
Form of Government	Joint Powers Authority

**The Quarterly Fact Sheet is Prepared by the Metrolink Communications & Development Department**  
**2009 METROLINK®**

Number of SCRRA Board Members	11
Number of Alternates	9
Number of Member Agencies	5
Number of Ex-Officio Members	3
SCRRA Member Agencies	Los Angeles County Metropolitan Transportation Authority Orange County Transportation Authority Riverside County Transportation Commission San Bernardino Associated Governments Ventura County Transportation Commission
Ex-Officio Member Agencies	Southern California Association of Governments San Diego Association of Governments State of California
SCRRA/Contract Employment	Operations 345 Maintenance of Way 143 SCRRA Administration 208 SCRRA Interns 17 <b>TOTAL 713</b>

Operating Route Miles by County in System	<i>Excludes Shared Miles</i>	<i>Includes Shared Miles</i>
Los Angeles County	186.0	220.2
Orange County	67.5	117.6
Riverside County	38.1	58.6
San Bernardino County	38.7	38.7
Ventura County	38.9	38.9
San Diego County	19.0	38.0
<b>TOTAL</b>	<b>388.2</b>	<b>512.0</b>

## Metrolink's 2008-09 Annual Budget

Operating Budget	\$164.4 million
Projected percent of operating costs covered by operating revenues	53.2 percent
Projected percent of operating costs covered by fares	44.3 percent

## Metrolink Train Equipment

Number of Locomotives	52
<b>Total Number of Commuter Rail Cars</b>	<b>172</b>
Cab Cars (includes 2 leased from Sound Transit + 2 from Altamont Commute Express)	37
Coaches (includes 4 leased from Sound Transit + 2 from Altamont Commute Express + 15 from New Jersey Transit and 10 from Utah Transit Authority)	135
<b>Equipment on Order:</b>	
Cab cars	57
Coaches	60



## Highway-Rail Grade Crossings

Total Number of Grade Crossings of All Types in Metrolink System <sup>2,3</sup>	834
Number of At-Grade Crossings in System	464
Number of Undergrade Crossings (Railroad Over) in System	160
Number of Overgrade Crossings (Railroad Under) in System	210
Number of Public Crossings in System	699
Number of Pedestrian Crossings in System	37
Number of Private Crossings in System	50
Number of Private Pedestrian Crossings in System	4
Number of Station Crossings in the System	44
Number of SCRRA-owned Crossings in System	545
Number of BNSF-owned Crossings in System	144
Number of UPRR-owned Crossings in System	127
Number of NCTD-owned Crossings in System	18

### At-Grade Crossings:

	<u>Metrolink</u>	<u>BNSF</u>	<u>UPRR</u>	<u>NCTD</u>
Total	311	70	79	3
Public	256	64	66	3
Pedestrian	10	2	0	
Private	29	1	5	0
Pedestrian Private	0	0	0	0
Station	17	3	8	0

### Undergrade Crossings (Railroad Over):

	<u>Metrolink</u>	<u>BNSF</u>	<u>UPRR</u>	<u>NCTD</u>
Total	90	42	24	4
Public	62	40	23	1
Pedestrian	11	2	1	1
Private	10	0	0	1
Pedestrian Private	2	0	0	0
Station	5	0	0	1

### Overgrade Crossings (Railroad Under):

	<u>Metrolink</u>	<u>BNSF</u>	<u>UPRR</u>	<u>NCTD</u>
Total	143	32	24	11
Public	128	27	21	8
Pedestrian	10	0	1	0
Private	1	0	0	3
Pedestrian Private	2	0	0	0
Station	2	5	3	0

<sup>2</sup> The Metrolink system operates over rail rights-of-way owned by SCRRA member agencies, Burlington Northern Santa Fe Railroad (BNSF), Union Pacific Railroad (UPRR) and North County Transit District (NCTD)

<sup>3</sup> The list of crossings now includes 48 crossings in two categories not included in the Fact Sheet prior to December 2007. These include four Pedestrian Private crossings and 44 Station crossings.

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	103
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	2
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	42
Future Train Speed (mph)	42
Number of Existing Trains in one Direction	46
Number of Future Trains in one Direction	100
Existing Number of Day Trains (7 am to 10 p.m.)	28.75
Future Number of Day Trains (7 am to 10 p.m.)	62.5
Existing Number of Night Trains (10 p.m. to 7 am)	17.25
Future Number of Night Trains (10 p.m. to 7 am)	37.5
Existing Average Number of Cars	22
Future Average Number of Cars	29
Existing Average Number of Locomotives	2
Future Average Number of Locomotives	2

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive	
National Average (50% front, 50% middle)	1
All Front Mounted	2
All Middle Mounted	3
User Defined 80 % front mounted horns	4

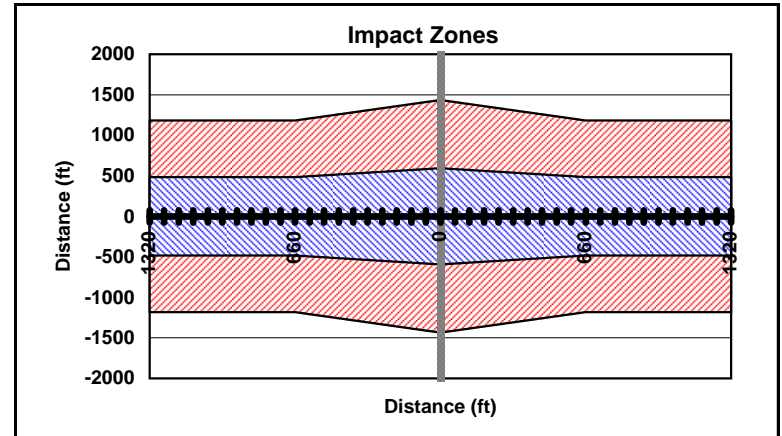
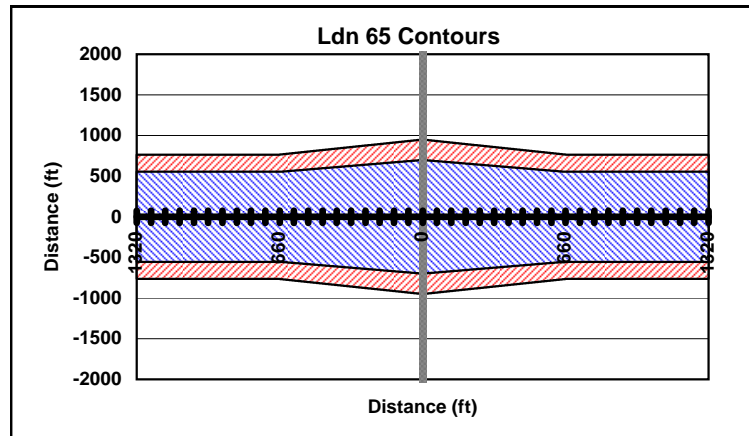
Non Train Noise Environment	
Urban	1
Suburban	2
Rural	3
User Defined Ldn = 50 dBA	4

Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	699
Future 65 Ldn Contour at X-ing	951
Existing 65 Ldn Contour at 1/2 zone length	553
Future 65 Ldn Contour at 1/2 zone length	765
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	1435
Severe Impact Distance at X-ing	594
Impact Distance at 1/2 zone length	1182
Severe Impact Distance at 1/2 zone length	484
Zone Length	1320
1/2 Zone Length	660



## Existing and Future Train Volumes on the Orange County Line

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	Existing	Future	Locomotives	Cars
Metrolink	19	52	1	10
Amtrak	24	36	3	15
Freight	3	12	4	150
	46	100	Existing	Future
	Average # Locomotives		2	2
	Average # Cars		22	29
Speed	42 mph			

### Source

Abbe McClenahan, Orange County Transportation Authority. May 24, 2007.

Locomotives, and cars obtained from Rob Harris, Metrolink. 213-452-0353.

Average train Speeds on the Orange County Line obtained from: <http://www.metrolinktrains.com/about/?id=6>

Future Trains based on a worst-case weekday (see May 8th letter from SCRRA)

Project: FTA Example 5-1, Part 1

Receiver Parameters	
Receiver:	Receiver 1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	55 dBA

Noise Source Parameters	
Number of Noise Sources:	3

Noise Source Parameters		Source 1
	Source Type:	Stationary Source
	Specific Source:	Bus Transit Center
Daytime hrs	Avg. Number of Buses/hr	20
Nighttime hrs	Avg. Number of Buses/hr	20
Distance	Distance from Source to Receiver (ft)	350
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Noise Source Parameters		Source 2
	Source Type:	Stationary Source
	Specific Source:	Park & Ride Lot
Daytime hrs	Avg. Number of Autos/hr	1000
	Avg. Number of Buses/hr	12
Nighttime hrs	Avg. Number of Autos/hr	1000
	Avg. Number of Buses/hr	12
Distance	Distance from Source to Receiver (ft)	350
	Number of Intervening Rows of Buildings	
Adjustments	Noise Barrier?	No

Noise Source Parameters		Source 3
	Source Type:	Stationary Source
	Specific Source:	Layover Tracks (commuter rail)
Daytime hrs	Avg. Number of Trains/hr	4
Nighttime hrs	Avg. Number of Trains/hr	4
Distance	Distance from Source to Receiver (ft)	350
	Number of Intervening Rows of Buildings	
Adjustments	Noise Barrier?	No

Project Results Summary

Existing Ldn:	55 dBA
Total Project Ldn:	65 dBA
Total Noise Exposure:	65 dBA
Increase:	10 dB
Impact?:	Severe

Distance to Impact Contours

Dist to Mod. Impact Contour:	---
Dist to Sev. Impact Contour:	---

Source 1 Results

Leq(day):	44.3 dBA
Leq(night):	44.3 dBA
Ldn:	50.7 dBA

Source 2 Results

Leq(day):	52.9 dBA
Leq(night):	0.0 dBA
Ldn:	50.8 dBA
Incremental Ldn (Src 1-2):	53.8 dBA

Source 3 Results

Leq(day):	58.3 dBA
Leq(night):	58.3 dBA
Ldn:	64.7 dBA
Incremental Ldn (Src 1-3):	65.0 dBA

**Project:** FTA Example 5-1, Part 1  
**Receiver:** Receiver 1

Source	Distance	Project Ldn	Existing Ldn	Noise Criteria		Impact?
				Mod. Impact	Sev. Impact	
1 Bus Transit Center	350 ft	50.7 dBA	55 dBA	55 dBA	61 dBA	None
2 Park & Ride Lot	350 ft	50.8 dBA	55 dBA	55 dBA	61 dBA	None
3 Layover Tracks (commuter r	350 ft	64.7 dBA	55 dBA	55 dBA	61 dBA	Severe Impact
4 --	ft		55 dBA	55 dBA	61 dBA	
5 --	ft		55 dBA	55 dBA	61 dBA	
6 --	ft		55 dBA	55 dBA	61 dBA	
<b>Combined Sources</b>		<b>65 dBA</b>	<b>55 dBA</b>	<b>55 dBA</b>	<b>61 dBA</b>	<b>Severe Impact</b>

**Project:** FTA Example 5-1, Part 1  
**Receiver:** Receiver 1

Source	Distance	Project Ldn	Existing Ldn	Noise Criteria		Impact?
				Mod. Impact	Sev. Impact	
1 Bus Transit Center	50 ft	71.8 dBA	55 dBA	55 dBA	61 dBA	Severe Impact
2 Park & Ride Lot	50 ft	72.0 dBA	55 dBA	55 dBA	61 dBA	Severe Impact
3 Layover Tracks (commuter r	50 ft	85.8 dBA	55 dBA	55 dBA	61 dBA	Severe Impact
4 --	ft		55 dBA	55 dBA	61 dBA	
5 --	ft		55 dBA	55 dBA	61 dBA	
6 --	ft		55 dBA	55 dBA	61 dBA	
<b>Combined Sources</b>		<b>86 dBA</b>	<b>55 dBA</b>	<b>55 dBA</b>	<b>61 dBA</b>	<b>Severe Impact</b>

Project:	FTA Example 5-1, Part 1
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<b>Receiver Parameters</b>	
Receiver:	Receiver 1
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	55 dBA

<b>Noise Source Parameters</b>	
Number of Noise Sources:	3

<b>Noise Source Parameters</b>		<b>Source 1</b>
	Source Type:	Stationary Source
	Specific Source:	Bus Transit Center
Daytime hrs	Avg. Number of Buses/hr	20
Nighttime hrs	Avg. Number of Buses/hr	20
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

<b>Noise Source Parameters</b>		<b>Source 2</b>
	Source Type:	Stationary Source
	Specific Source:	Park & Ride Lot
Daytime hrs	Avg. Number of Autos/hr	1000
	Avg. Number of Buses/hr	12
Nighttime hrs	Avg. Number of Autos/hr	1000
	Avg. Number of Buses/hr	12
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	
Adjustments	Noise Barrier?	No

<b>Noise Source Parameters</b>		<b>Source 3</b>
	Source Type:	Stationary Source
	Specific Source:	Layover Tracks (commuter rail)
Daytime hrs	Avg. Number of Trains/hr	4
Nighttime hrs	Avg. Number of Trains/hr	4
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	
Adjustments	Noise Barrier?	No

**Project Results Summary**

Existing Ldn:	55 dBA
Total Project Ldn:	86 dBA
Total Noise Exposure:	86 dBA
Increase:	31 dB
Impact?:	Severe

**Distance to Impact Contours**

Dist to Mod. Impact Contour:	---
Dist to Sev. Impact Contour:	---

**Source 1 Results**

Leq(day):	65.4 dBA
Leq(night):	65.4 dBA
Ldn:	71.8 dBA

**Source 2 Results**

Leq(day):	74.0 dBA
Leq(night):	0.0 dBA
Ldn:	72.0 dBA
Incremental Ldn (Src 1-2):	74.9 dBA

**Source 3 Results**

Leq(day):	79.4 dBA
Leq(night):	79.4 dBA
Ldn:	85.8 dBA
Incremental Ldn (Src 1-3):	86.2 dBA