APPENDIX A
Analysis Methodologies

ANALYSIS METHODOLOGY FOR SIGNALIZED INTERSECTIONS

Traffic conditions in Southern California are often evaluated during peak hours at intersections using methodology known as the Intersection Capacity Utilization (ICU) technique. This is the preferred analysis method for the City of Costa Mesa. This analysis allows for capacity and level of service determination for signalized intersections by measuring the amount of traffic signal "green" time required for the intersection. The ICU technique incorporates the effects of geometry and traffic signal operation, calculates the intersection volume to capacity ratio, and results in a level of service determination for the intersection as a whole operating unit.

As part of the ICU technique, a set of guidelines on volume to capacity ratio and corresponding Level of Service are used to determine the level of service grade the intersection will receive.

Level of service is a report card scale ranging from A to F that describes the varying conditions on a roadway during a specific time interval of study. Table 1 gives brief definitions of level of service grades and corresponding operational condition.

Table A-1 – Level of Service Descriptions

Level of Service	*Traffic Description*
A	Excellent, Light Traffic
B	Good, Light to Moderate Traffic
C	Moderate Traffic, with Insignificant Delay
D	Heavy Traffic, with Significant Delay
E	Severe Congestion and Delay
F	Failed, Indicated Levels Cannot Be Handled

The City of Costa Mesa General Plan strives to maintain for Level of Service D or better during the peak hour and Level of Service C or better during non-peak hours. Most arriving traffic will clear the intersection on the first allowable green cycle under this Level of Service D. Mitigation measures should be considered when traffic conditions are forecasted to decline to poorer levels of service and those conditions are aggravated by a potential project. Table A-2 shows the relationship between level of service and volume to capacity ratio for signalized intersections.

Table A-2 – Levels of Service for Signalized Intersections

Level of Service	*Volume to Capacity Ratio*
A	0.00 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	1.01 and up

Table A-3 shows the HCM criteria for unsignalized intersections. Values are in stopped delay seconds per vehicles.

Table A-3 – Levels of Service for Unsignalized Intersections

Level of Service	*HCM Delay*
	Unsignalized Intersections
A	0 – 10
B	10.1 – 15
C	15.1 – 25
D	25.1 – 35
E	35.1 – 50
F	50.1 or more

APPENDIX B
Existing Traffic Counts

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Anaheim Avenue / Superior Avenue
E/W: Superior Avenue
Weather: Sunny

File Name : CSMSUANAM
Site Code : 00000125
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

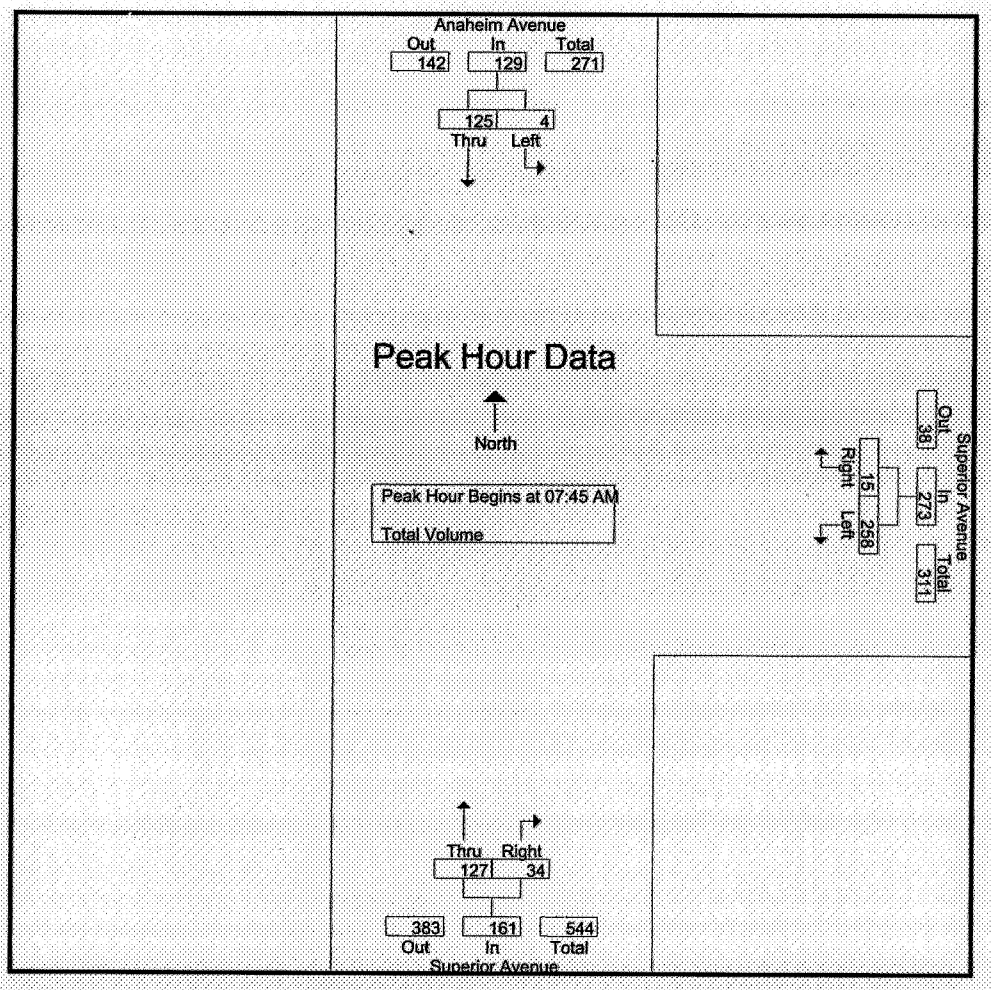
	Anaheim Avenue Southbound			Superior Avenue Westbound			Superior Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	26	26	22	1	23	12	3	15	64
07:15 AM	4	30	34	40	4	44	19	2	21	99
07:30 AM	2	40	42	43	4	47	23	3	26	115
07:45 AM	0	32	32	68	3	71	32	7	39	142
Total	6	128	134	173	12	185	86	15	101	420
08:00 AM	1	29	30	60	6	66	33	7	40	136
08:15 AM	2	24	26	70	2	72	31	14	45	143
08:30 AM	1	40	41	60	4	64	31	6	37	142
08:45 AM	3	23	26	68	6	74	32	7	39	139
Total	7	116	123	258	18	276	127	34	161	560
Grand Total	13	244	257	431	30	461	213	49	262	980
Apprch %	5.1	94.9		93.5	6.5		81.3	18.7		
Total %	1.3	24.9	26.2	44	3.1	47	21.7	5	26.7	

	Anaheim Avenue Southbound			Superior Avenue Westbound			Superior Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	32	32	68	3	71	32	7	39	142
08:00 AM	1	29	30	60	**6**	66	**33**	7	40	136
08:15 AM	**2**	24	26	**70**	2	**72**	31	**14**	**45**	**143**
08:30 AM	1	**40**	**41**	60	4	64	31	6	37	142
Total Volume	4	125	129	258	15	273	127	34	161	563
% App. Total	3.1	96.9		94.5	5.5		78.9	21.1		
PHF	.500	.781	.787	.921	.625	.948	.962	.607	.894	.984

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Anaheim Avenue / Superior Avenue
E/W: Superior Avenue
Weather: Sunny

File Name : CSMSUANAM
Site Code : 00000125
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			07:45 AM		
+0 mins.	**4**	30	34	60	**6**	66	32	7	39
+15 mins.	2	**40**	**42**	**70**	2	72	**33**	7	40
+30 mins.	0	32	32	60	4	64	31	**14**	**45**
+45 mins.	1	29	30	68	6	**74**	31	6	37
Total Volume	7	131	138	258	18	276	127	34	161
% App. Total	5.1	94.9		93.5	6.5		78.9	21.1	
PHF	.438	.819	.821	.921	.750	.932	.962	.607	.894

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Anaheim Avenue / Superior Avenue
E/W: Superior Avenue
Weather: Sunny

File Name : CSMSUANPM
Site Code : 00000125
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

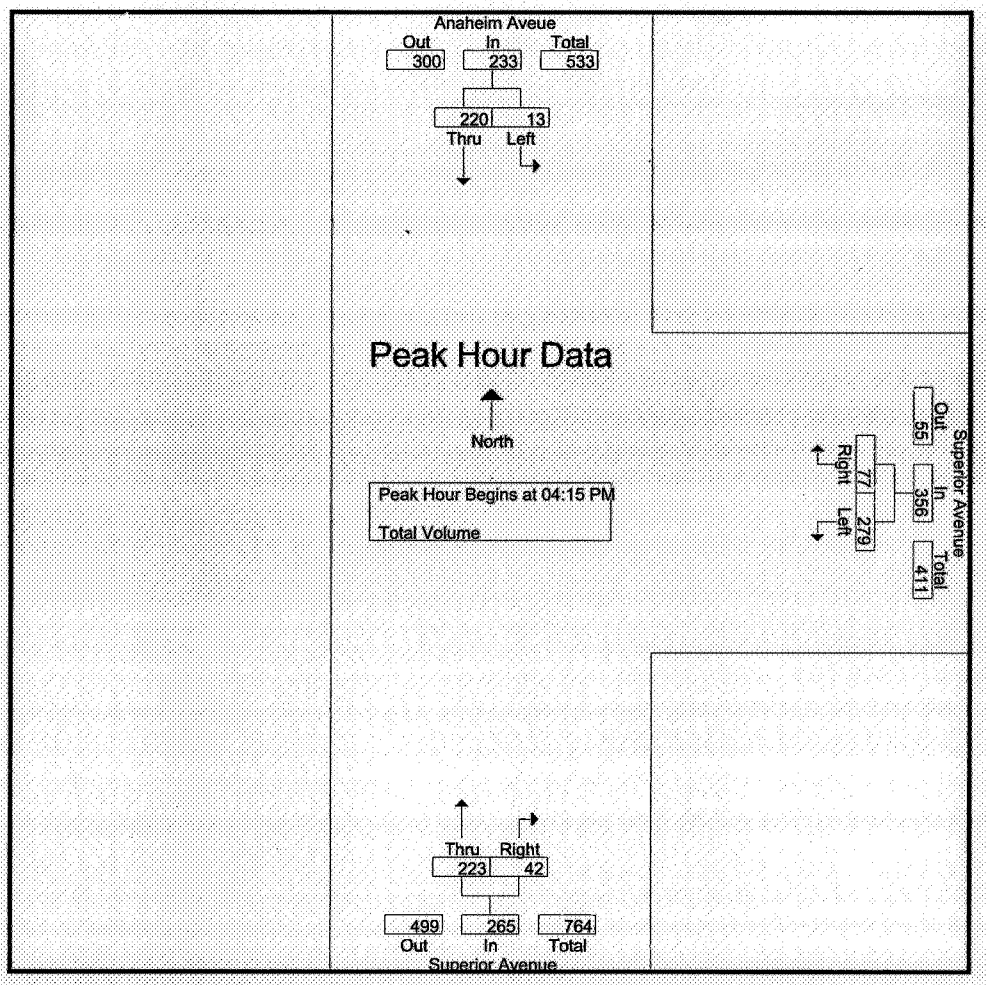
	Anaheim Aveue Southbound			Superior Avenue Westbound			Superior Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	3	45	48	62	24	86	44	11	55	189
04:15 PM	1	55	56	62	17	79	58	12	70	205
04:30 PM	6	50	56	61	28	89	43	12	55	200
04:45 PM	4	55	59	77	15	92	57	8	65	216
Total	14	205	219	262	84	346	202	43	245	810
05:00 PM	2	60	62	79	17	96	65	10	75	233
05:15 PM	3	58	61	82	7	89	32	7	39	189
05:30 PM	4	55	59	69	12	81	44	4	48	188
05:45 PM	2	59	61	82	16	98	39	17	56	215
Total	11	232	243	312	52	364	180	38	218	825
Grand Total	25	437	462	574	136	710	382	81	463	1635
Apprch %	5.4	94.6		80.8	19.2		82.5	17.5		
Total %	1.5	26.7	28.3	35.1	8.3	43.4	23.4	5	28.3	

	Anaheim Aveue Southbound			Superior Avenue Westbound			Superior Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	1	55	56	62	17	79	58	**12**	70	205
04:30 PM	**6**	50	56	61	**28**	89	43	12	55	200
04:45 PM	4	55	59	77	15	92	57	8	65	216
05:00 PM	2	**60**	**62**	**79**	17	**96**	**65**	10	**75**	**233**
Total Volume	13	220	233	279	77	356	223	42	265	854
% App. Total	5.6	94.4		78.4	21.6		84.2	15.8		
PHF	.542	.917	.940	.883	.688	.927	.858	.875	.883	.916

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Anaheim Avenue / Superior Avenue
E/W: Superior Avenue
Weather: Sunny

File Name : CSMSUANPM
Site Code : 00000125
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:15 PM		
+0 mins.	2	**60**	**62**	61	**28**	89	58	**12**	70
+15 mins.	**3**	**58**	61	**77**	15	92	43	12	55
+30 mins.	**4**	55	59	79	17	**96**	57	8	65
+45 mins.	2	59	61	**82**	7	89	**65**	10	**75**
Total Volume	11	232	243	299	67	366	223	42	265
% App. Total	4.5	95.5		81.7	18.3		84.2	15.8	
PHF	.688	.967	.980	.912	.598	.953	.858	.875	.883

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Superior Avenue
E/W: 17th Street
Weather: Sunny

File Name : CSMSU17AM
Site Code : 00000028
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

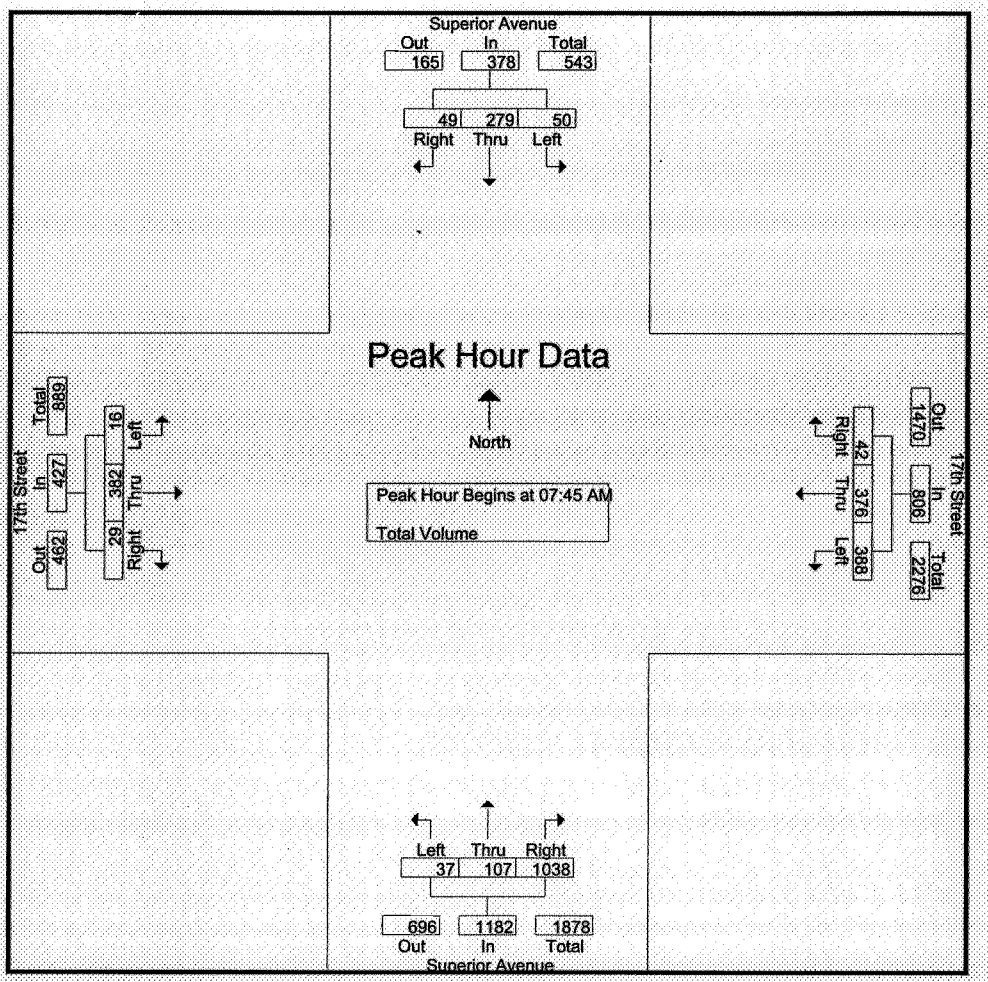
	Superior Avenue Southbound				17th Street Westbound				Superior Avenue Northbound				17th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	35	5	51	69	63	8	140	4	8	127	139	0	55	2	57	387
07:15 AM	23	41	6	70	93	66	6	165	7	17	159	183	0	59	10	69	487
07:30 AM	18	57	9	84	103	77	11	191	5	15	203	223	1	112	5	118	616
07:45 AM	14	63	15	92	102	101	10	213	9	26	241	276	4	126	6	136	717
Total	66	196	35	297	367	307	35	709	25	66	730	821	5	352	23	380	2207
08:00 AM	8	71	12	91	100	109	13	222	10	25	268	303	3	85	4	92	708
08:15 AM	10	74	10	94	100	82	12	194	10	27	271	308	8	87	11	106	702
08:30 AM	18	71	12	101	86	84	7	177	8	29	258	295	1	84	8	93	666
08:45 AM	12	65	8	85	90	92	5	187	10	29	246	285	6	92	11	109	666
Total	48	281	42	371	376	367	37	780	38	110	1043	1191	18	348	34	400	2742
Grand Total	114	477	77	668	743	674	72	1489	63	176	1773	2012	23	700	57	780	4949
Apprch %	17.1	71.4	11.5		49.9	45.3	4.8		3.1	8.7	88.1		2.9	89.7	7.3		
Total %	2.3	9.6	1.6	13.5	15	13.6	1.5	30.1	1.3	3.6	35.8	40.7	0.5	14.1	1.2	15.8	

	Superior Avenue Southbound				17th Street Westbound				Superior Avenue Northbound				17th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	14	63	**15**	92	**102**	101	10	213	9	26	241	276	4	**126**	6	**136**	**717**
08:00 AM	8	71	12	91	100	**109**	**13**	**222**	**10**	25	268	303	3	85	4	92	708
08:15 AM	10	**74**	10	94	100	82	12	194	10	27	**271**	**308**	**8**	87	**11**	106	702
08:30 AM	**18**	71	12	**101**	86	84	7	177	8	**29**	258	295	1	84	8	93	666
Total Volume	50	279	49	378	388	376	42	806	37	107	1038	1182	16	382	29	427	2793
% App. Total	13.2	73.8	13		48.1	46.7	5.2		3.1	9.1	87.8		3.7	89.5	6.8		
PHF	.694	.943	.817	.936	.951	.862	.808	.908	.925	.922	.958	.959	.500	.758	.659	.785	.974

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Superior Avenue
E/W: 17th Street
Weather: Sunny

File Name : CSMSU17AM
Site Code : 00000028
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	14	63	**15**	92	**103**	77	11	191	**10**	25	268	303	1	112	5	118
+15 mins.	8	71	12	91	102	101	10	213	10	27	**271**	**308**	4	**126**	6	**136**
+30 mins.	10	**74**	10	94	100	**109**	**13**	**222**	8	**29**	258	295	3	85	4	92
+45 mins.	**18**	71	12	**101**	100	82	12	194	10	29	246	285	**8**	87	**11**	106
Total Volume	50	279	49	378	405	369	46	820	38	110	1043	1191	16	410	26	452
% App. Total	13.2	73.8	13		49.4	45	5.6		3.2	9.2	87.6		3.5	90.7	5.8	
PHF	.694	.943	.817	.936	.983	.846	.885	.923	.950	.948	.962	.967	.500	.813	.591	.831

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Superior Avenue
E/W: 17th Street
Weather: Sunny

File Name : CSMSU17PM
Site Code : 00000028
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

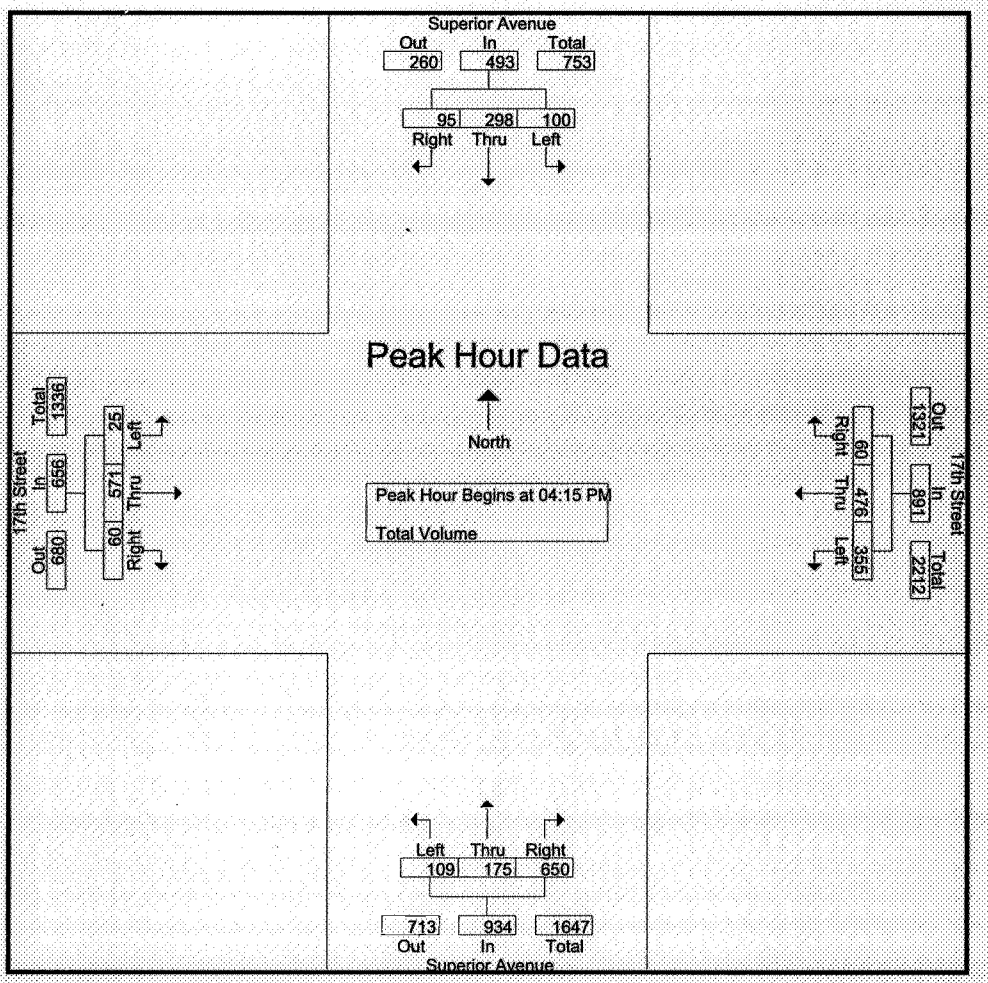
	Superior Avenue Southbound				17th Street Westbound				Superior Avenue Northbound				17th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	27	57	24	108	85	122	13	220	27	34	153	214	10	128	14	152	694
04:15 PM	25	69	20	114	91	129	16	236	31	49	164	244	5	133	16	154	748
04:30 PM	25	64	25	114	99	126	17	242	29	34	175	238	3	157	15	175	769
04:45 PM	27	82	20	129	77	112	13	202	26	46	147	219	5	141	11	157	707
Total	104	272	89	465	352	489	59	900	113	163	639	915	23	559	56	638	2918
05:00 PM	23	83	30	136	88	109	14	211	23	46	164	233	12	140	18	170	750
05:15 PM	36	73	31	140	110	114	14	238	19	19	162	200	6	125	18	149	727
05:30 PM	31	72	20	123	100	118	11	229	28	34	135	197	3	138	19	160	709
05:45 PM	26	85	26	137	86	103	15	204	26	38	117	181	9	124	27	160	682
Total	116	313	107	536	384	444	54	882	96	137	578	811	30	527	82	639	2868
Grand Total	220	585	196	1001	736	933	113	1782	209	300	1217	1726	53	1086	138	1277	5786
Apprch %	22	58.4	19.6		41.3	52.4	6.3		12.1	17.4	70.5		4.2	85	10.8		
Total %	3.8	10.1	3.4	17.3	12.7	16.1	2	30.8	3.6	5.2	21	29.8	0.9	18.8	2.4	22.1	

	Superior Avenue Southbound				17th Street Westbound				Superior Avenue Northbound				17th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	25	69	20	114	91	**129**	16	236	**31**	**49**	164	**244**	5	133	16	154	748
04:30 PM	25	64	25	114	**99**	126	**17**	**242**	29	34	**175**	238	3	**157**	15	**175**	**769**
04:45 PM	**27**	82	20	129	77	112	13	202	26	46	147	219	5	141	11	157	707
05:00 PM	23	**83**	**30**	**136**	88	109	14	211	23	46	164	233	**12**	140	**18**	170	750
Total Volume	100	298	95	493	355	476	60	891	109	175	650	934	25	571	60	656	2974
% App. Total	20.3	60.4	19.3		39.8	53.4	6.7		11.7	18.7	69.6		3.8	87	9.1		
PHF	.926	.898	.792	.906	.896	.922	.882	.920	.879	.893	.929	.957	.521	.909	.833	.937	.967

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Superior Avenue
E/W: 17th Street
Weather: Sunny

File Name : CSMSU17PM
Site Code : 00000028
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:15 PM				04:15 PM			
+0 mins.	23	83	30	136	85	122	13	220	**31**	**49**	164	**244**	5	133	16	154
+15 mins.	**36**	73	**31**	**140**	91	**129**	16	236	29	34	**175**	238	3	**157**	15	**175**
+30 mins.	31	72	20	123	**99**	126	**17**	**242**	26	46	147	219	5	141	11	157
+45 mins.	26	**85**	26	137	77	112	13	202	23	46	164	233	**12**	140	**18**	170
Total Volume	116	313	107	536	352	489	59	900	109	175	650	934	25	571	60	656
% App. Total	21.6	58.4	20		39.1	54.3	6.6		11.7	18.7	69.6		3.8	87	9.1	
PHF	.806	.921	.863	.957	.889	.948	.868	.930	.879	.893	.929	.957	.521	.909	.833	.937

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Newport Boulevard
E/W: 18th Street / Rochester Street
Weather:Sunny

File Name : CSMNE18AM
Site Code : 00000063
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

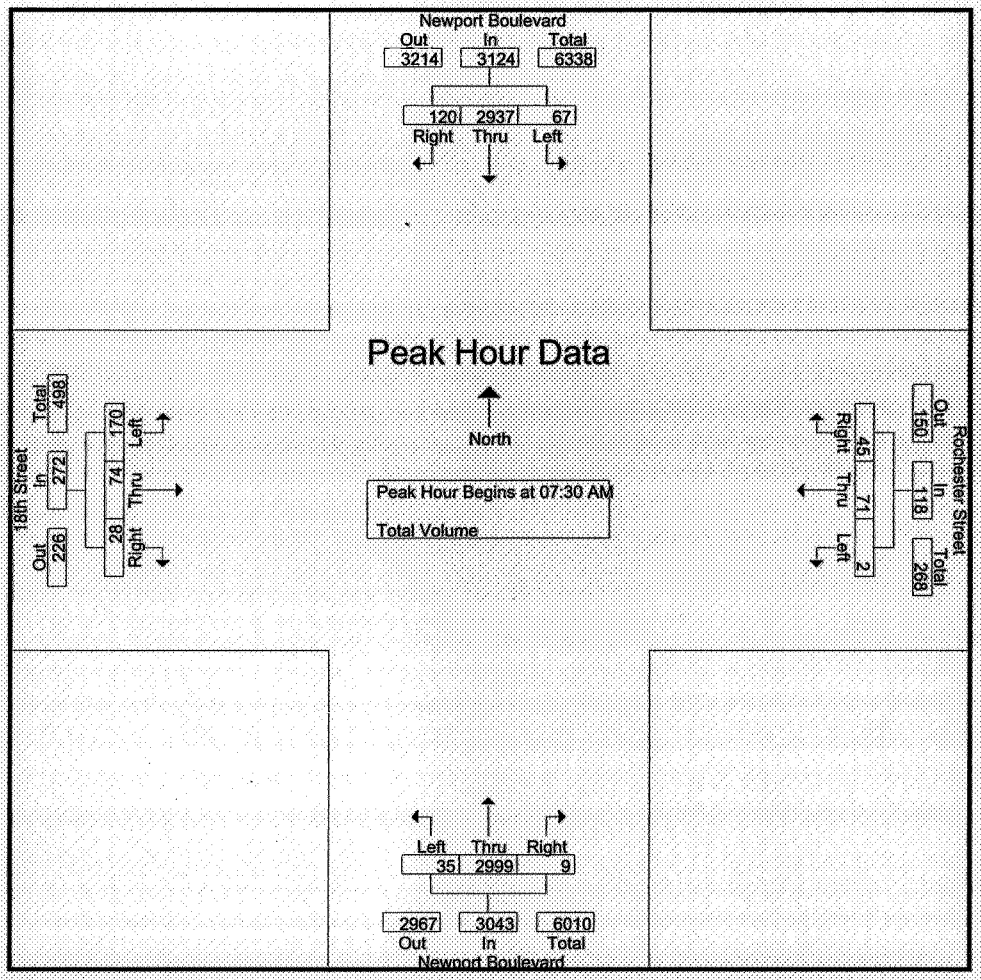
	Newport Boulevard Southbound				Rochester Street Westbound				Newport Boulevard Northbound				18th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	505	28	540	0	9	12	21	11	491	0	502	23	5	6	34	1097
07:15 AM	13	560	20	593	1	3	3	7	5	646	0	651	45	12	9	66	1317
07:30 AM	14	682	26	722	1	13	11	25	8	770	0	778	43	25	11	79	1604
07:45 AM	23	760	38	821	0	20	14	34	11	767	1	779	46	16	7	69	1703
Total	57	2507	112	2676	2	45	40	87	35	2674	1	2710	157	58	33	248	5721
08:00 AM	13	744	29	786	0	26	10	36	8	761	3	772	42	18	7	67	1661
08:15 AM	17	751	27	795	1	12	10	23	8	701	5	714	39	15	3	57	1589
08:30 AM	24	705	31	760	5	17	11	33	13	689	5	707	38	12	9	59	1559
08:45 AM	25	778	39	842	2	7	9	18	13	639	3	655	38	13	10	61	1576
Total	79	2978	126	3183	8	62	40	110	42	2790	16	2848	157	58	29	244	6385
Grand Total	136	5485	238	5859	10	107	80	197	77	5464	17	5558	314	116	62	492	12106
Apprch %	2.3	93.6	4.1		5.1	54.3	40.6		1.4	98.3	0.3		63.8	23.6	12.6		
Total %	1.1	45.3	2	48.4	0.1	0.9	0.7	1.6	0.6	45.1	0.1	45.9	2.6	1	0.5	4.1	

	Newport Boulevard Southbound				Rochester Street Westbound				Newport Boulevard Northbound				18th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	682	26	722	1	13	11	25	8	**770**	0	778	43	**25**	**11**	**79**	1604
07:45 AM	**23**	**760**	**38**	**821**	0	20	**14**	34	**11**	767	1	**779**	**46**	16	7	69	**1703**
08:00 AM	13	744	29	786	0	**26**	10	**36**	8	761	3	772	42	18	7	67	1661
08:15 AM	17	751	27	795	1	12	10	23	8	701	**5**	714	39	15	3	57	1589
Total Volume	67	2937	120	3124	2	71	45	118	35	2999	9	3043	170	74	28	272	6557
% App. Total	2.1	94	3.8		1.7	60.2	38.1		1.2	98.6	0.3		62.5	27.2	10.3		
PHF	.728	.966	.789	.951	.500	.683	.804	.819	.795	.974	.450	.977	.924	.740	.636	.861	.963

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Newport Boulevard
E/W: 18th Street / Rochester Street
Weather:Sunny

File Name : CSMNE18AM
Site Code : 00000063
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:30 AM				07:15 AM			
+0 mins.	13	744	29	786	0	20	**14**	34	8	**770**	0	778	45	12	9	66
+15 mins.	17	751	27	795	0	**26**	10	**36**	**11**	767	1	**779**	43	**25**	**11**	**79**
+30 mins.	24	705	31	760	1	12	10	23	8	761	3	772	**46**	16	7	69
+45 mins.	**25**	**778**	**39**	**842**	**5**	17	11	33	8	701	**5**	714	42	18	7	67
Total Volume	79	2978	126	3183	6	75	45	126	35	2999	9	3043	176	71	34	281
% App. Total	2.5	93.6	4		4.8	59.5	35.7		1.2	98.6	0.3		62.6	25.3	12.1	
PHF	.790	.957	.808	.945	.300	.721	.804	.875	.795	.974	.450	.977	.957	.710	.773	.889

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Newport Boulevard
E/W: 18th Street / Rochester Street
Weather:Sunny

File Name : CSMNE18PM
Site Code : 00000063
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

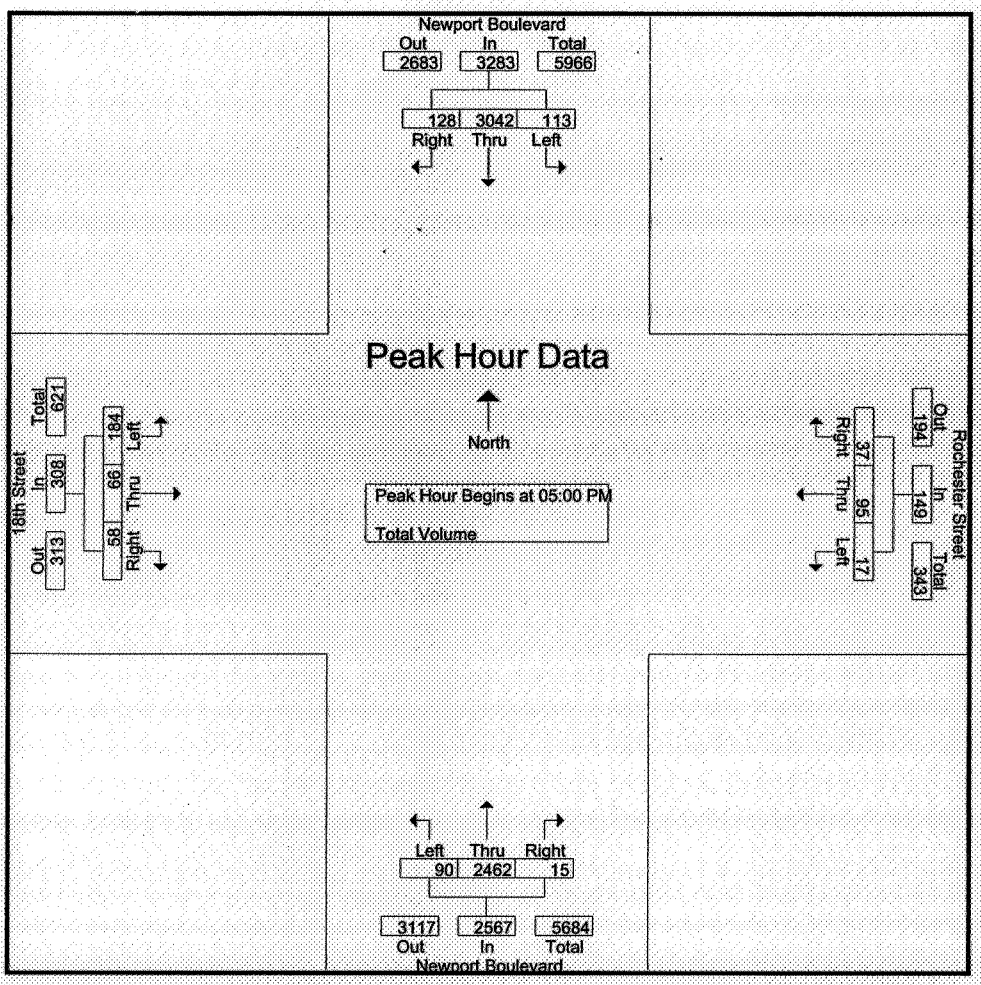
	Newport Boulevard Southbound				Rochester Street Westbound				Newport Boulevard Northbound				18th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	34	709	39	782	5	19	9	33	20	625	4	649	64	20	15	99	1563
04:15 PM	23	720	32	775	4	23	12	39	22	612	3	637	43	18	7	68	1519
04:30 PM	27	739	26	792	10	23	8	41	22	638	4	664	65	12	15	92	1589
04:45 PM	34	682	43	759	5	35	13	53	33	586	2	621	31	17	15	63	1496
Total	118	2850	140	3108	24	100	42	166	97	2461	13	2571	203	67	52	322	6167
05:00 PM	27	778	27	832	4	33	8	45	19	559	4	582	34	13	19	66	1525
05:15 PM	24	760	39	823	5	28	12	45	21	709	2	732	56	12	15	83	1683
05:30 PM	34	772	34	840	4	16	4	24	28	613	4	645	44	17	11	72	1581
05:45 PM	28	732	28	788	4	18	13	35	22	581	5	608	50	24	13	87	1518
Total	113	3042	128	3283	17	95	37	149	90	2462	15	2567	184	66	58	308	6307
Grand Total	231	5892	268	6391	41	195	79	315	187	4923	28	5138	387	133	110	630	12474
Apprch %	3.6	92.2	4.2		13	61.9	25.1		3.6	95.8	0.5		61.4	21.1	17.5		
Total %	1.9	47.2	2.1	51.2	0.3	1.6	0.6	2.5	1.5	39.5	0.2	41.2	3.1	1.1	0.9	5.1	

	Newport Boulevard Southbound				Rochester Street Westbound				Newport Boulevard Northbound				18th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	27	**778**	27	832	4	**33**	8	**45**	19	559	4	582	34	13	**19**	66	1525
05:15 PM	24	760	**39**	823	**5**	28	12	45	21	**709**	2	**732**	**56**	12	15	83	**1683**
05:30 PM	**34**	772	34	**840**	4	16	4	24	**28**	613	4	645	44	17	11	72	1581
05:45 PM	28	732	28	788	4	18	**13**	35	22	581	**5**	608	50	**24**	13	**87**	1518
Total Volume	113	3042	128	3283	17	95	37	149	90	2462	15	2567	184	66	58	308	6307
% App. Total	3.4	92.7	3.9		11.4	63.8	24.8		3.5	95.9	0.6		59.7	21.4	18.8		
PHF	.831	.978	.821	.977	.850	.720	.712	.828	.804	.868	.750	.877	.821	.688	.763	.885	.937

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Newport Boulevard
E/W: 18th Street / Rochester Street
Weather:Sunny

File Name : CSMNE18PM
Site Code : 00000063
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:30 PM				04:00 PM			
+0 mins.	27	**778**	27	832	**10**	23	8	41	22	638	**4**	664	64	**20**	**15**	**99**
+15 mins.	24	760	**39**	823	5	**35**	**13**	**53**	**33**	586	2	621	43	18	7	68
+30 mins.	**34**	772	34	**840**	4	33	8	45	19	559	4	582	**65**	12	15	92
+45 mins.	28	732	28	788	5	28	12	45	21	**709**	2	**732**	31	17	15	63
Total Volume	113	3042	128	3283	24	119	41	184	95	2492	12	2599	203	67	52	322
% App. Total	3.4	92.7	3.9		13	64.7	22.3		3.7	95.9	0.5		63	20.8	16.1	
PHF	.831	.978	.821	.977	.600	.850	.788	.868	.720	.879	.750	.888	.781	.838	.867	.813

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Newport Boulevard
E/W: 17th Street
Weather: Sunny

File Name : CSMNE17AM
Site Code : 00000066
Start Date : 10/25/2011
Page No : 1

Groups Printed- Total Volume

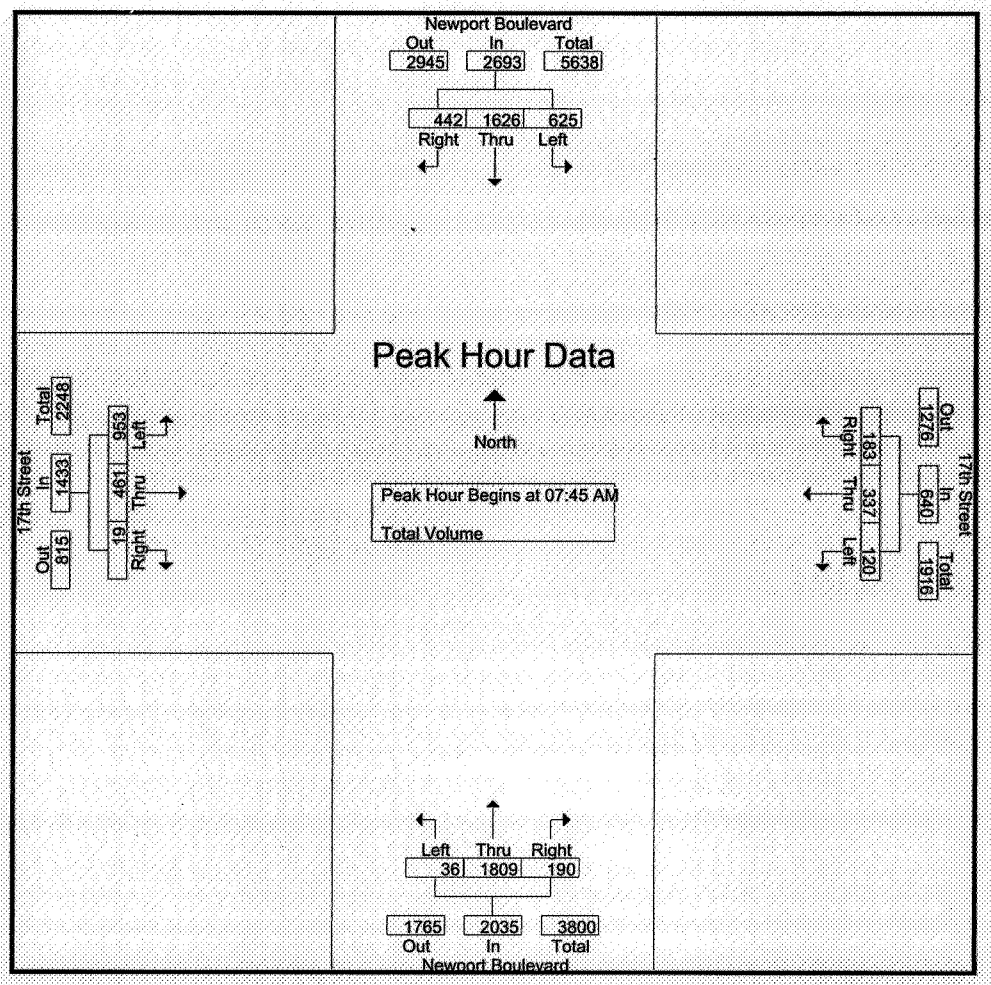
	Newport Boulevard Southbound				17th Street Westbound				Newport Boulevard Northbound				17th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	112	275	84	471	21	48	21	90	6	307	12	325	134	60	3	197	1083
07:15 AM	124	302	103	529	23	53	44	120	3	393	10	406	163	67	1	231	1286
07:30 AM	128	369	116	613	19	68	57	144	8	498	35	541	220	112	2	334	1632
07:45 AM	152	408	111	671	32	92	59	183	5	514	45	564	234	142	4	380	1798
Total	516	1354	414	2284	95	261	181	537	22	1712	102	1836	751	381	10	1142	5799
08:00 AM	154	410	122	686	23	91	55	169	14	441	50	505	254	104	3	361	1721
08:15 AM	154	419	105	678	27	86	24	137	10	419	49	478	237	94	6	337	1630
08:30 AM	165	389	104	658	38	68	45	151	7	435	46	488	228	121	6	355	1652
08:45 AM	171	439	97	707	42	77	43	162	15	428	58	501	246	113	2	361	1731
Total	644	1657	428	2729	130	322	167	619	46	1723	203	1972	965	432	17	1414	6734
Grand Total	1160	3011	842	5013	225	583	348	1156	68	3435	305	3808	1716	813	27	2556	12533
Apprch %	23.1	60.1	16.8		19.5	50.4	30.1		1.8	90.2	8		67.1	31.8	1.1		
Total %	9.3	24	6.7	40	1.8	4.7	2.8	9.2	0.5	27.4	2.4	30.4	13.7	6.5	0.2	20.4	

	Newport Boulevard Southbound				17th Street Westbound				Newport Boulevard Northbound				17th Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	152	408	111	671	32	**92**	**59**	**183**	5	**514**	45	**564**	234	**142**	4	**380**	**1798**
08:00 AM	154	410	**122**	**686**	23	91	55	169	**14**	441	**50**	505	**254**	104	3	361	1721
08:15 AM	154	**419**	105	678	27	86	24	137	10	419	49	478	237	94	**6**	337	1630
08:30 AM	**165**	389	104	658	**38**	68	45	151	7	435	46	488	228	121	6	355	1652
Total Volume	625	1626	442	2693	120	337	183	640	36	1809	190	2035	953	461	19	1433	6801
% App. Total	23.2	60.4	16.4		18.8	52.7	28.6		1.8	88.9	9.3		66.5	32.2	1.3		
PHF	.947	.970	.906	.981	.789	.916	.775	.874	.643	.880	.950	.902	.938	.812	.792	.943	.946

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Newport Boulevard
E/W: 17th Street
Weather: Sunny

File Name : CSMNE17AM
Site Code : 00000066
Start Date : 10/25/2011
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:30 AM				07:45 AM			
+0 mins.	154	410	**122**	686	32	**92**	**59**	**183**	8	498	35	541	234	**142**	4	**380**
+15 mins.	154	419	105	678	23	91	55	169	5	**514**	45	**564**	**254**	104	3	361
+30 mins.	165	389	104	658	27	86	24	137	**14**	441	**50**	505	237	94	**6**	337
+45 mins.	**171**	**439**	97	**707**	**38**	68	45	151	10	419	49	478	228	121	6	355
Total Volume	644	1657	428	2729	120	337	183	640	37	1872	179	2088	953	461	19	1433
% App. Total	23.6	60.7	15.7		18.8	52.7	28.6		1.8	89.7	8.6		66.5	32.2	1.3	
PHF	.942	.944	.877	.965	.789	.916	.775	.874	.661	.911	.895	.926	.938	.812	.792	.943