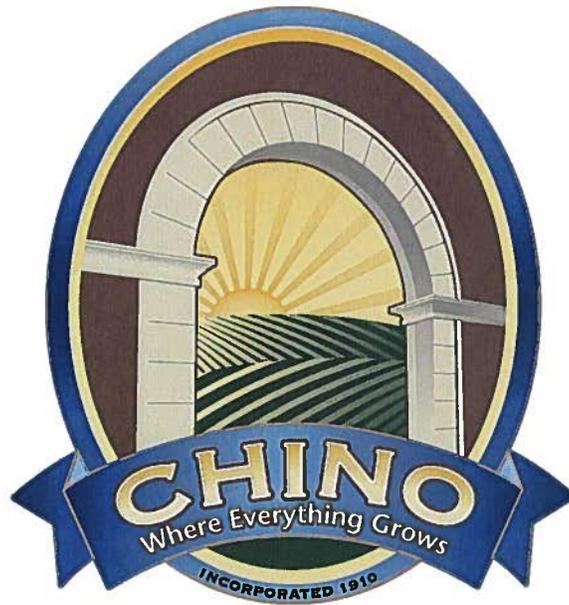


2011 Congestion Monitoring Plan

City of Chino



July, 2011

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Appendix A- Traffic Count Data (May, 2011)

Appendix B- Intersection Level of Service Worksheets (2011)

Appendix C- Passenger Car Equivalent Calculations (PCE)

Appendix D- San Bernardino Associated Governments
(SANBAG) Congestion Monitoring Program (CMP) Guidelines- Appendix C

Appendix E- AM and PM Turning Movements by Axle Count

Introduction

The City of Chino is required by San Bernardino Associated Governments (SANBAG) to prepare an annual Congestion Monitoring Plan report. This report analyzes specific intersections to determine whether there are any significant traffic deficiencies at any of the existing intersections evaluated in the study within the City of Chino.

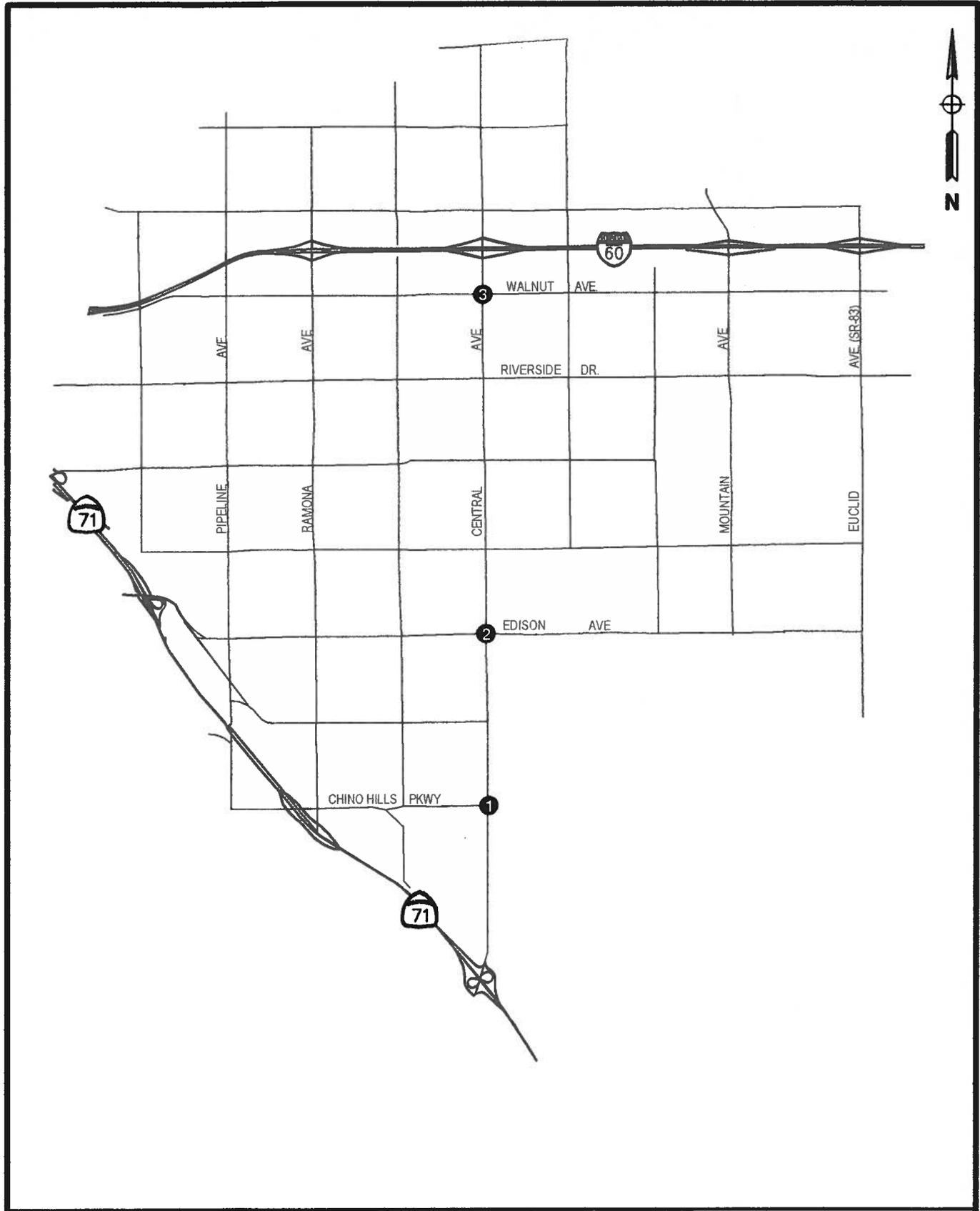
Figure 1 shows the study area as it relates to the regional circulation network.

Project Study Area

The study intersections were determined by San Bernardino Associated Governments requirements. As shown in Figure 1, the study intersections shown on the vicinity map, consist of the following three locations:

- Central Avenue at Chino Hills Parkway
- Central Avenue at Edison Avenue
- Central Avenue at Walnut Avenue

The appendices of this report contain background information materials for this study including traffic counts, Passenger Car Equivalent (PCE) calculations, analysis worksheets and other details.



LEGEND

- Study Intersection

Chino CMP Monitoring Analysis - 2011

**Figure 1
Vicinity Map**

Study Methodology

This chapter documents the methodologies and assumptions used to conduct the analysis for the study. This section contains the following background information:

- Study timeframe
- Study area description (intersections)
- Intersection capacity analysis methodologies

Study Timeframes

This report presents an analysis of the intersection operating conditions during the morning and evening peak hours for the following anticipated timeframes:

- Existing: Year 2011

Analysis Methodologies

This chapter presents a brief overview of traffic analysis methodologies and concepts used in this study.

The evaluation of traffic conditions are typically defined in “levels of service” or LOS. Level of service is a qualitative measure which describes operational conditions within a traffic stream in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, and quality of traffic flow. LOS ranges are from LOS A (free flow, little congestion) to LOS F (extreme congestion).

The levels of service are defined in terms of delay for each intersection. Levels of service at signalized intersections are based on the average time in seconds that vehicles entering the intersection are delayed. The level of service has been calculated using data collected describing intersection geometry and traffic volumes at each of the study intersections. Table 1 describes the relationship between level of service and the performance measures for signalized intersections according to the Federal *Highway Capacity Manual (HCM)*.

Table 1
Levels of Service for Signalized Intersections

Level of Service	Signalized Intersection Average Total Delay (in seconds/vehicle)	Intersection Capacity Utilization (ICU) Methodology
A	0-10.00	0.00-0.60
B	10.1-20.00	0.60-0.70
C	20.01-35.00	0.70-0.80
D	35.01-55.00	0.80-0.90
E	55.01-80.00	0.90-1.00
F	80.01 or more	1.00 or more

The SANBAG Congestion Monitoring Program has identified Level of Service D as the minimum allowable service level during peak hours at signalized intersections.

Intersection Capacity Analysis

The analysis of peak hour intersection conditions was conducted using the Webster software program developed by Albert Grover & Associates. The following peak hours were selected for analysis:

- Weekday AM (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM (peak hour between 4:00 PM and 6:00 PM)

All signalized intersections were analyzed based on the “operational analysis” procedure for signalized intersections, as defined in the 2000 *Highway Capacity Manual (HCM)* and codified by the SANBAG Congestion Monitoring Program.

The HCM technique uses 1,900 passenger cars per hour of green per lane (pcphgpl) as the maximum saturation flow rate of a single lane at an intersection. The San Bernardino County Congestion Management Program guidelines state that a saturation flow rate of 1,800 cars per hour be used for through and right turn lanes, a rate of 1,700 cars per hour be used for left turn lanes, and 1,600 cars per hour be used for dual left turn lanes. The saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, percentage of truck traffic, and shared lane movements, for example: shared through and right –turn movements from the same lane.

Traffic Count Data

Existing peak AM and PM peak hour and truck classification data was obtained from Transportation Studies, Inc., LLC in May, 2011. All traffic count data and truck classification counts are contained in Appendix A.

Existing Conditions

This section documents the existing conditions in the study area.

Peak hour Intersection Level of Service

There are three CMP intersections in the City of Chino that must be analyzed in the year 2011 per CMP requirements. The CMP guidelines state that intersections that operate at a Level of Service "C" or better require analysis every third year, and intersections that operate at a Level of Service D or worse require analysis every year.

The traffic impacts of heavy trucks at intersections are normally addressed by converting heavy vehicles into "passenger car equivalents" (PCE's). The SanBAG CMP indicates that PCE's must be used to calculate intersection level of service. The guidelines indicate that a rate of 1.5 PCE be used for 2 axle trucks, 2.0 PCE for 3 axle trucks, and 3.0 PCE be used for 4 or more axle trucks at the intersections evaluated. After the PCE's were calculated, they were added to passenger vehicle counts to get the total existing traffic at each intersection. These calculations are included in Appendix B.

Figure 2 illustrates the existing AM peak hour volumes at the study intersections for each lane movement. Figure 3 illustrates the existing PM peak hour volumes at the study intersections for each lane movement. Both Figures 2 and 3 are volumes calculated to include the PCE's.

Table 2 illustrates the level of service analysis for the study intersections for the current year 2011. It also shows the level of service reported by the City to SanBAG in previous studies dating back to the Year 2004.

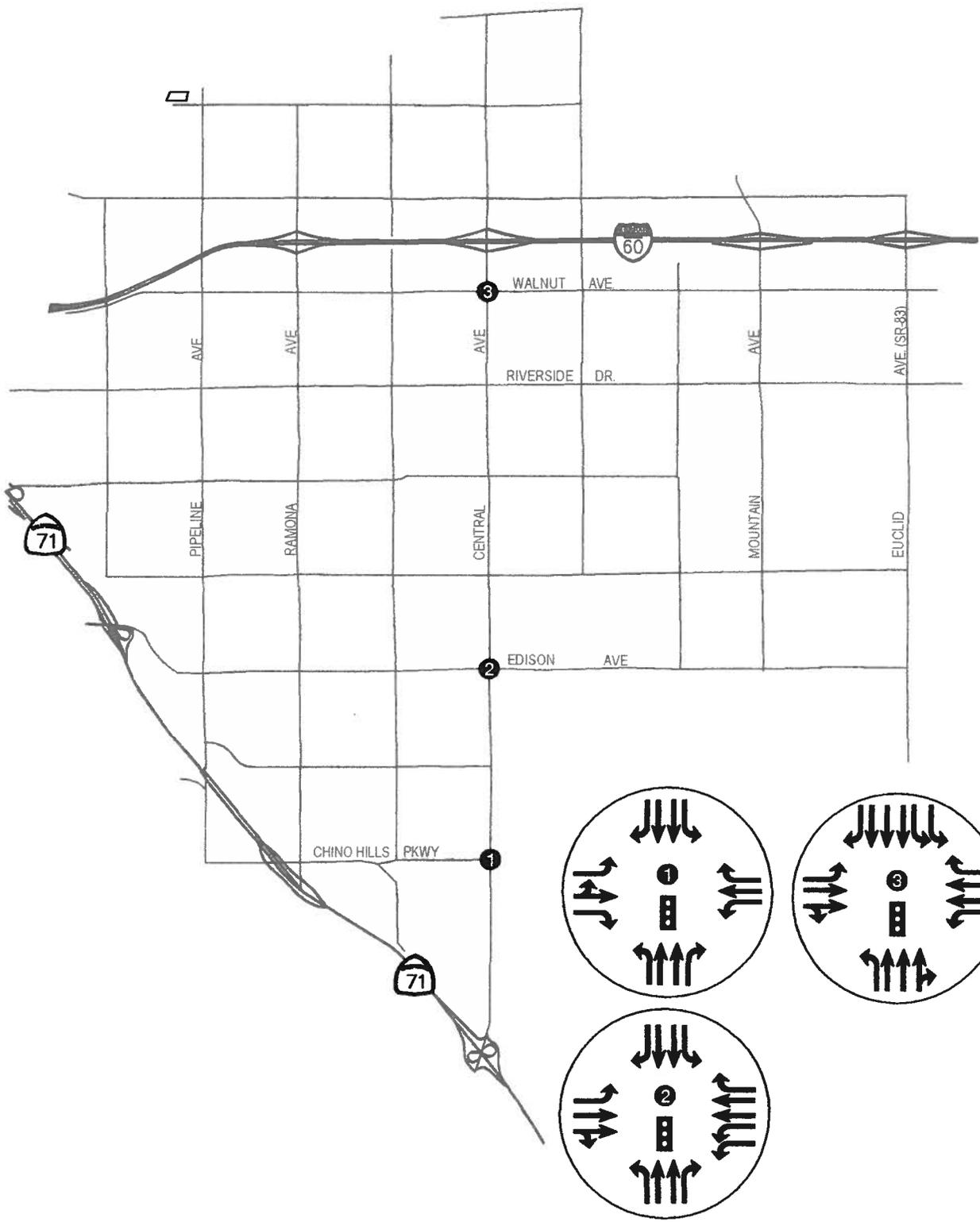
Roadway segment analyses were not required to be studied by SanBAG for any of the CMP roadway segments within the City of Chino.

As shown in Table 2, all of the intersections were found to operate at Level of Service "C" or better during the AM and PM peak hours, meeting SanBAG Congestion Monitoring Program requirements.

Appendix B contains the Intersection Level of Service analysis worksheets for each of the intersections for both AM and PM peak hours.

Appendix C contains the Passenger Car Equivalent calculations for each of the intersections within the study area.

Appendix D contains the SanBAG Congestion Monitoring Program Guidelines, (Appendix C of SanBAG's document).

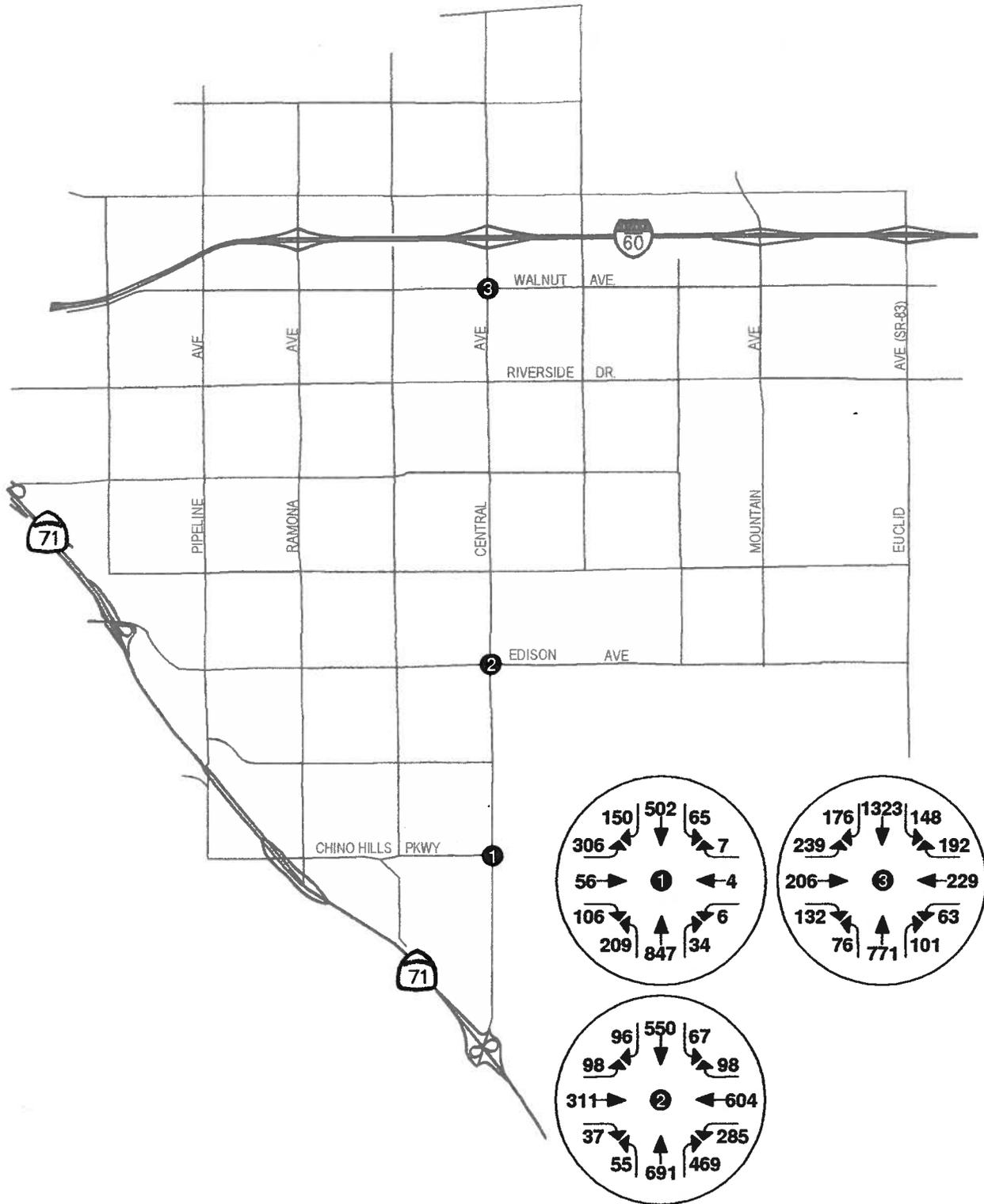


LEGEND

- Study Intersection → Intersection Lanes
- ⊞ Signalized Intersection

Chino CMP Monitoring Analysis - 2011

**Figure 2
Existing Lane Geometries**

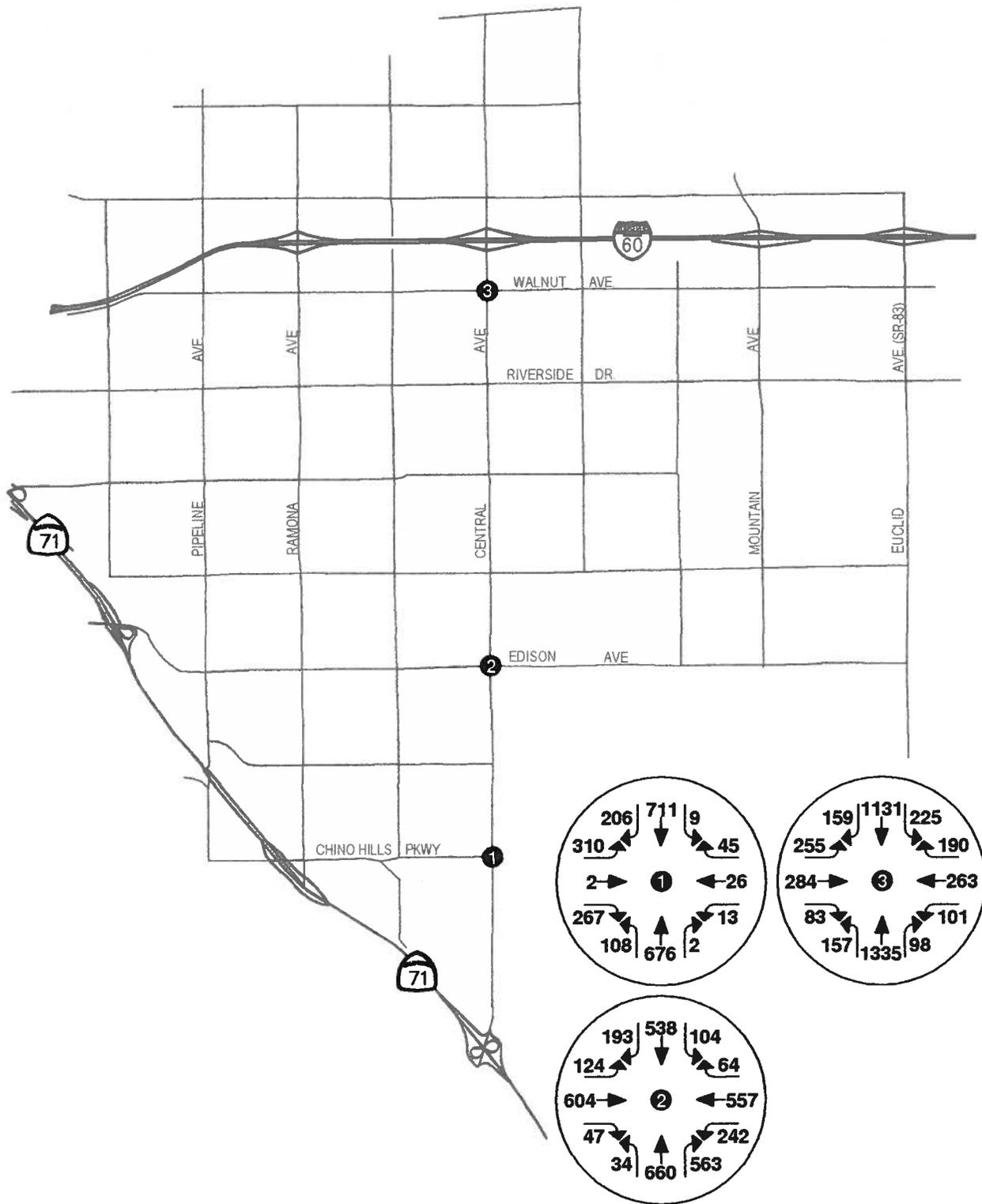


LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011

**Figure 3
Existing Traffic Volume - AM Peak Hour**



LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011

**Figure 4
Existing Traffic Volume - PM Peak Hour**

TABLE 2

Peak Hour Intersection Conditions

Intersection		Year 2004						Year 2005						Year 2006						Year 2007						Next CMP Analysis Year	Remarks
North/South Street	East/West Street	AM			PM			AM			PM			AM			PM			AM			PM				
		Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS		
Central Avenue	Chino Hills Parkway	37.2	0.497	D	28.1	0.377	C	31	0.5	C-	25	0.49	C													2011	
Central Avenue	Edison Avenue	34.2	0.53	C	40.7	0.853	D	24	0.59	C+	24	0.66	C+													2009	
Central Avenue	Riverside Drive	28.5	0.554	C	33.8	0.706	C												23	0.61	C+	27	0.76	C		2010	
Central Avenue	Walnut Avenue							7	0.62	A	8	0.73	A													2011	
Mountain Avenue	Edison Avenue	13	0.443	B	10.7	0.442	B												8	0.41	A	7	0.37	A		2010	
Mountain Avenue	Riverside Drive	32	0.703	C	34.7	0.685	C												25	0.65	C	29	0.74	C		2010	
Mountain Avenue	Walnut Avenue	20.2	0.524	C	29.8	0.762	C												14	0.55	B	15	0.55	B		2010	
Ramona Avenue	Riverside Drive	24.9	0.657	C	25.3	0.697	C												8	0.42	A	8	0.46	A		2010	
Reservoir Avenue	Riverside Drive													12	0.38	B	13	0.43	B							2009	
Ramona Avenue	Edison Avenue	24.2	0.411	C	24.9	0.437	C												20	0.47	B	22	0.52	C+		2010	
Ramona Avenue	Chino Hills Parkway	29.9	0.415	C	29	0.368	C												21	0.43	C+	22	0.53	C+		2010	
Pipeline Avenue	Edison Avenue	24.7	0.288	C	26.1	0.439	C												18	0.34	B	21	0.48	C+		2010	
Ramona Avenue	SR-60 WB Ramp																									2011	
Ramona Avenue	SR-60 EB Ramp																									2011	
Central Avenue	SR-60 WB Ramp																									2011	
Central Avenue	SR-60 EB Ramp																									2011	
Mountain Avenue	SR-60 WB Ramp																									2009	
Mountain Avenue	SR-60 EB Ramp																									2011	

**Delay in Seconds. V/C - Volumes Capacity Ratio. LOS - Level of Service.

TABLE 2

Peak Hour Intersection Conditions

Intersection		Year 2008						Year 2009						Year 2010						Year 2011						Next CMP Analysis Year	Remarks
North/South Street	East/West Street	AM			PM			AM			PM			AM			PM			AM			PM				
		Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS		
Central Avenue	Chino Hills Parkway	31	0.45	C-	33	46	C-													31	0.53	C-	31	0.49	C-	2014	
Central Avenue	Edison Avenue	36	0.68	D+	44	0.86	D													24	0.67	C+	25	0.75	C	2014	
Central Avenue	Riverside Drive													22	0.60	C+	27	0.73	C							2013	
Central Avenue	Walnut Avenue	17	0.6	B	23	0.81	C+													24	0.62	C+	28	0.72	C	2014	
Mountain Avenue	Edison Avenue													18	0.54	B	22	0.59	C+							2013	
Mountain Avenue	Riverside Drive													24	0.64	C+	25	0.68	C							2013	
Mountain Avenue	Walnut Avenue													5	0.52	A	24	0.72	C+							2013	
Ramona Avenue	Riverside Drive													21	0.61	C+	18	0.54	B							2013	
Reservoir Avenue	Riverside Drive																									2009	
Ramona Avenue	Edison Avenue													19	0.46	B	21	0.55	C+							2013	
Ramona Avenue	Chino Hills Parkway													7	0.50	A	27	0.77	C							2013	
Pipeline Avenue	Edison Avenue													5	0.37	A	21	0.47	C+							2013	
Ramona Avenue	SR-60 WB Ramp	28	0.81	C	18	0.64	B																			2011	
Ramona Avenue	SR-60 EB Ramp	23	0.62	C+	21	0.7	C+																			2011	
Central Avenue	SR-60 WB Ramp	28	0.77	C	26	0.79	C																			2011	
Central Avenue	SR-60 EB Ramp	27	0.67	C+	33	0.88	C-																			2011	
Mountain Avenue	SR-60 WB Ramp	47	0.92	D	24	0.78	C+																			2009	
Mountain Avenue	SR-60 EB Ramp	25	0.66	C+	29	0.81	C																			2011	
Euclid (SR-83)	Edison Avenue													10	0.73	B	35	0.88	C-							2013	

**Delay in Seconds. V/C - Volumes Capacity Ratio. LOS - Level of Service.

2 Axle

City: CHINO
 S Direction: CENTRAL AVENUE
 N Direction: CHINO HILLS PARKWAY

File Name : h1105065
 Site Code : 00000976
 Start Date : 5/18/2011
 Page No : 1

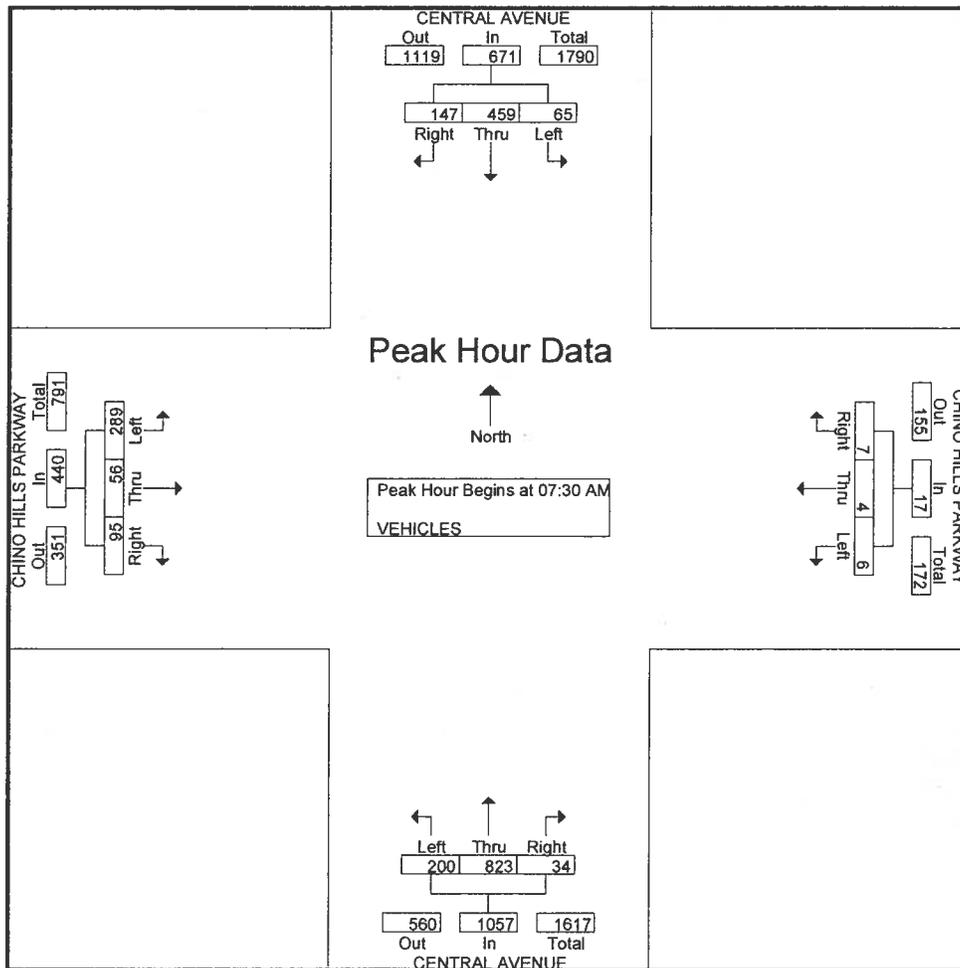
Groups Printed- VEHICLES

Start Time	CENTRAL AVENUE Southbound			CHINO HILLS PARKWAY Westbound			CENTRAL AVENUE Northbound			CHINO HILLS PARKWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	31	156	19	2	2	2	10	142	52	14	21	35	486
07:15 AM	36	163	15	2	1	1	15	184	47	26	19	50	559
07:30 AM	39	105	17	1	1	1	10	217	51	23	17	59	541
07:45 AM	28	103	19	2	2	2	11	184	53	30	17	68	519
Total	134	527	70	7	6	6	46	727	203	93	74	212	2105
08:00 AM	33	131	20	0	1	0	11	187	42	20	16	74	535
08:15 AM	47	120	9	4	0	3	2	235	54	22	6	88	590
08:30 AM	50	142	9	2	1	1	4	154	36	19	5	31	454
08:45 AM	22	126	5	1	1	1	5	120	39	19	3	53	395
Total	152	519	43	7	3	5	22	696	171	80	30	246	1974
*** BREAK ***													
04:00 PM	61	144	2	33	12	12	0	148	24	43	1	87	567
04:15 PM	46	127	1	10	14	5	0	125	24	46	2	76	476
04:30 PM	44	163	3	15	19	7	0	139	15	56	0	90	551
04:45 PM	54	158	3	22	15	4	1	141	26	57	1	73	555
Total	205	592	9	80	60	28	1	553	89	202	4	326	2149
05:00 PM	39	165	1	13	5	6	0	176	23	60	0	92	580
05:15 PM	51	192	1	5	6	2	0	148	24	71	1	68	569
05:30 PM	53	172	4	5	0	1	1	157	28	56	0	75	552
05:45 PM	55	168	2	6	0	1	0	151	29	42	8	72	534
Total	198	697	8	29	11	10	1	632	104	229	9	307	2235
Grand Total	689	2335	130	123	80	49	70	2608	567	604	117	1091	8463
Apprch %	21.8	74	4.1	48.8	31.7	19.4	2.2	80.4	17.5	33.3	6.5	60.2	
Total %	8.1	27.6	1.5	1.5	0.9	0.6	0.8	30.8	6.7	7.1	1.4	12.9	

City: CHINO
 S Direction: CENTRAL AVENUE
 V Direction: CHINO HILLS PARKWAY

File Name : h1105065
 Site Code : 00000976
 Start Date : 5/18/2011
 Page No : 2

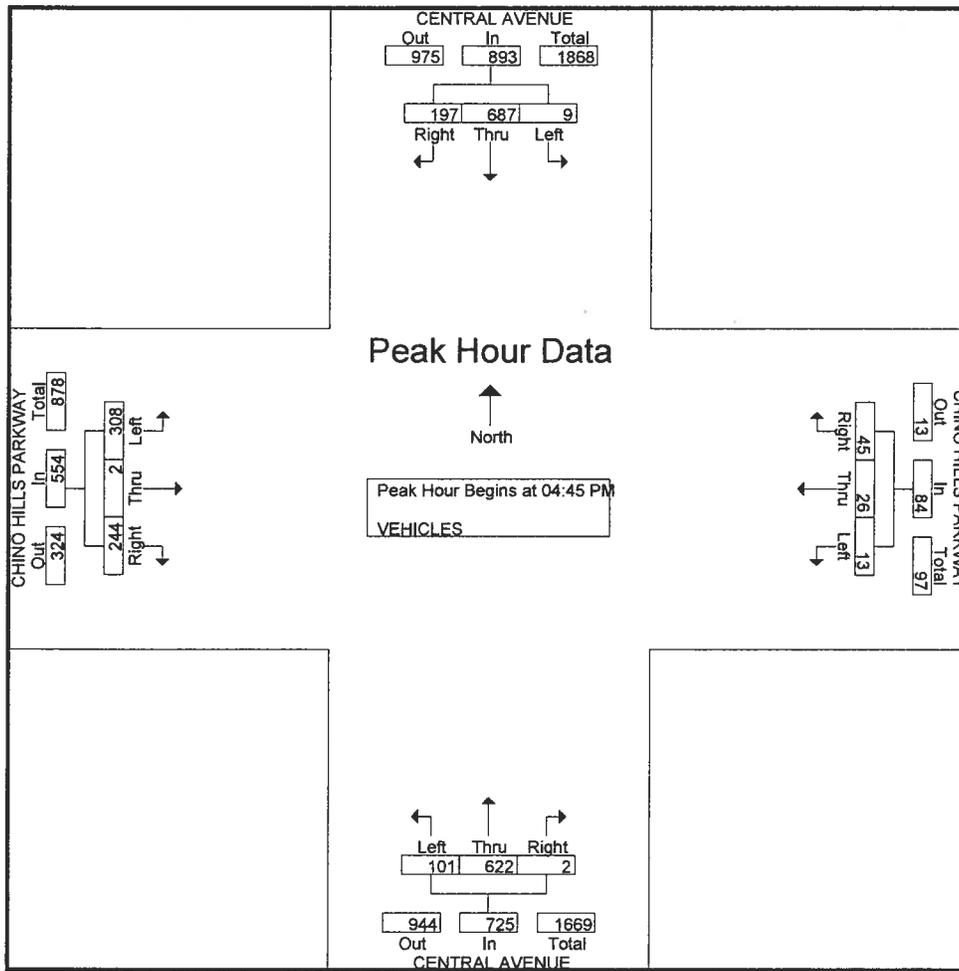
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	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	39	105	17	161	1	1	1	3	10	217	51	278	23	17	59	99	541
07:45 AM	28	103	19	150	2	2	2	6	11	184	53	248	30	17	68	115	519
08:00 AM	33	131	20	184	0	1	0	1	11	187	42	240	20	16	74	110	535
08:15 AM	47	120	9	176	4	0	3	7	2	235	54	291	22	6	88	116	590
Total Volume	147	459	65	671	7	4	6	17	34	823	200	1057	95	56	289	440	2185
% App. Total	21.9	68.4	9.7		41.2	23.5	35.3		3.2	77.9	18.9		21.6	12.7	65.7		
PHF	.782	.876	.813	.912	.438	.500	.500	.607	.773	.876	.926	.908	.792	.824	.821	.948	.926



City: CHINO
 S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : h1105065
 Site Code : 0000976
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	54	158	3	215	22	15	4	41	1	141	26	168	57	1	73	131	555
05:00 PM	39	165	1	205	13	5	6	24	0	176	23	199	60	0	92	152	580
05:15 PM	51	192	1	244	5	6	2	13	0	148	24	172	71	1	68	140	569
05:30 PM	53	172	4	229	5	0	1	6	1	157	28	186	56	0	75	131	552
Total Volume	197	687	9	893	45	26	13	84	2	622	101	725	244	2	308	554	2256
% App. Total	22.1	76.9	1		53.6	31	15.5		0.3	85.8	13.9		44	0.4	55.6		
PHF	.912	.895	.563	.915	.511	.433	.542	.512	.500	.884	.902	.911	.859	.500	.837	.911	.972



City: CHINO
 N/S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : H11050652
 Site Code : 00000562
 Start Date : 5/18/2011
 Page No : 1

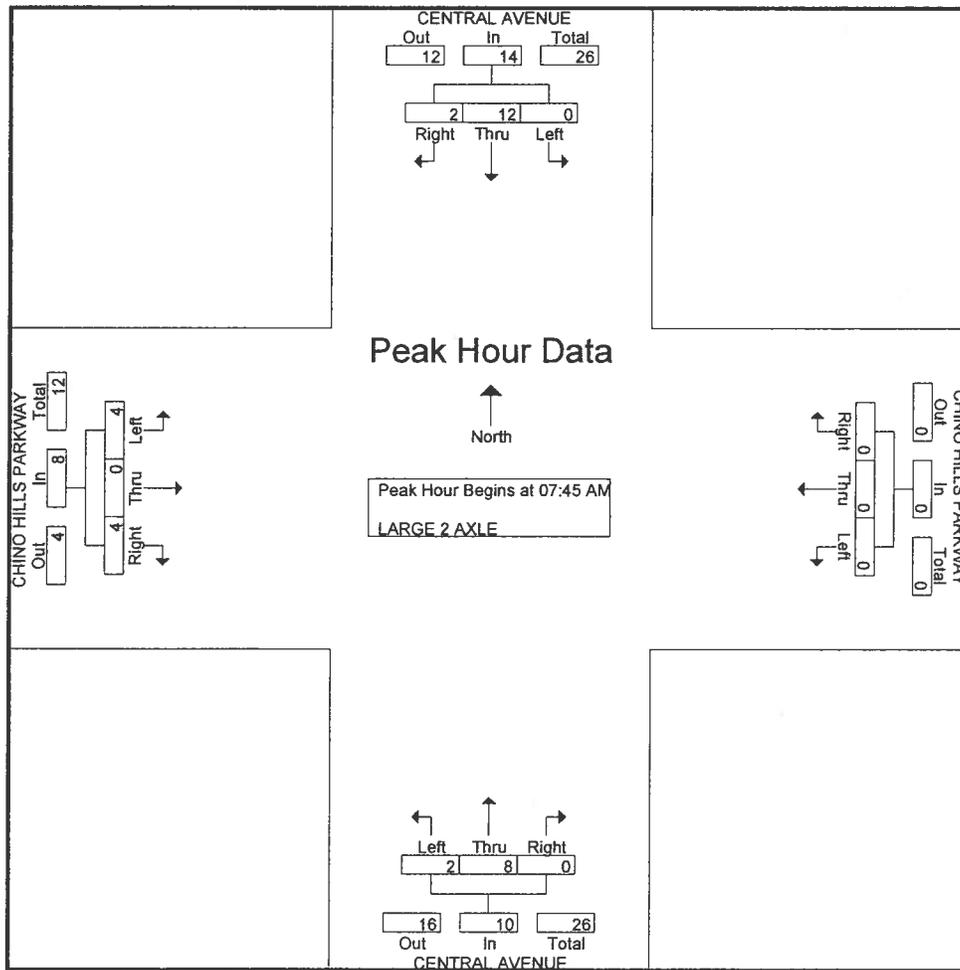
Groups Printed- LARGE 2 AXLE

Start Time	CENTRAL AVENUE Southbound			CHINO HILLS PARKWAY Westbound			CENTRAL AVENUE Northbound			CHINO HILLS PARKWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	3	0	0	0	0	0	1	1	0	0	0	5
07:15 AM	0	2	0	0	0	0	0	0	2	0	0	1	5
07:30 AM	0	2	0	0	0	0	0	1	1	0	0	2	6
07:45 AM	0	3	0	0	0	0	0	1	0	1	0	1	6
Total	0	10	0	0	0	0	0	3	4	1	0	4	22
08:00 AM	1	2	0	0	0	0	0	3	0	1	0	0	7
08:15 AM	1	5	0	0	0	0	0	2	0	2	0	2	12
08:30 AM	0	2	0	0	0	0	0	2	2	0	0	1	7
08:45 AM	0	2	0	0	0	0	0	1	0	0	0	0	3
Total	2	11	0	0	0	0	0	8	2	3	0	3	29
*** BREAK ***													
04:00 PM	0	1	0	0	0	0	0	4	1	0	0	0	6
04:15 PM	0	2	0	0	0	0	0	3	0	0	0	0	5
04:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
04:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	4	0	0	0	0	0	8	1	0	0	0	15
*** BREAK ***													
05:15 PM	1	1	0	0	0	0	0	0	0	1	0	0	3
05:30 PM	0	1	0	0	0	0	0	1	1	1	0	1	5
05:45 PM	0	2	0	0	0	0	0	0	0	1	0	0	3
Total	1	4	0	0	0	0	0	1	1	3	0	1	11
Grand Total	5	29	0	0	0	0	0	20	8	7	0	8	77
Apprch %	14.7	85.3	0	0	0	0	0	71.4	28.6	46.7	0	53.3	
Total %	6.5	37.7	0	0	0	0	0	26	10.4	9.1	0	10.4	

City: CHINO
 S Direction: CENTRAL AVENUE
 N Direction: CHINO HILLS PARKWAY

File Name : H11050652
 Site Code : 0000562
 Start Date : 5/18/2011
 Page No : 2

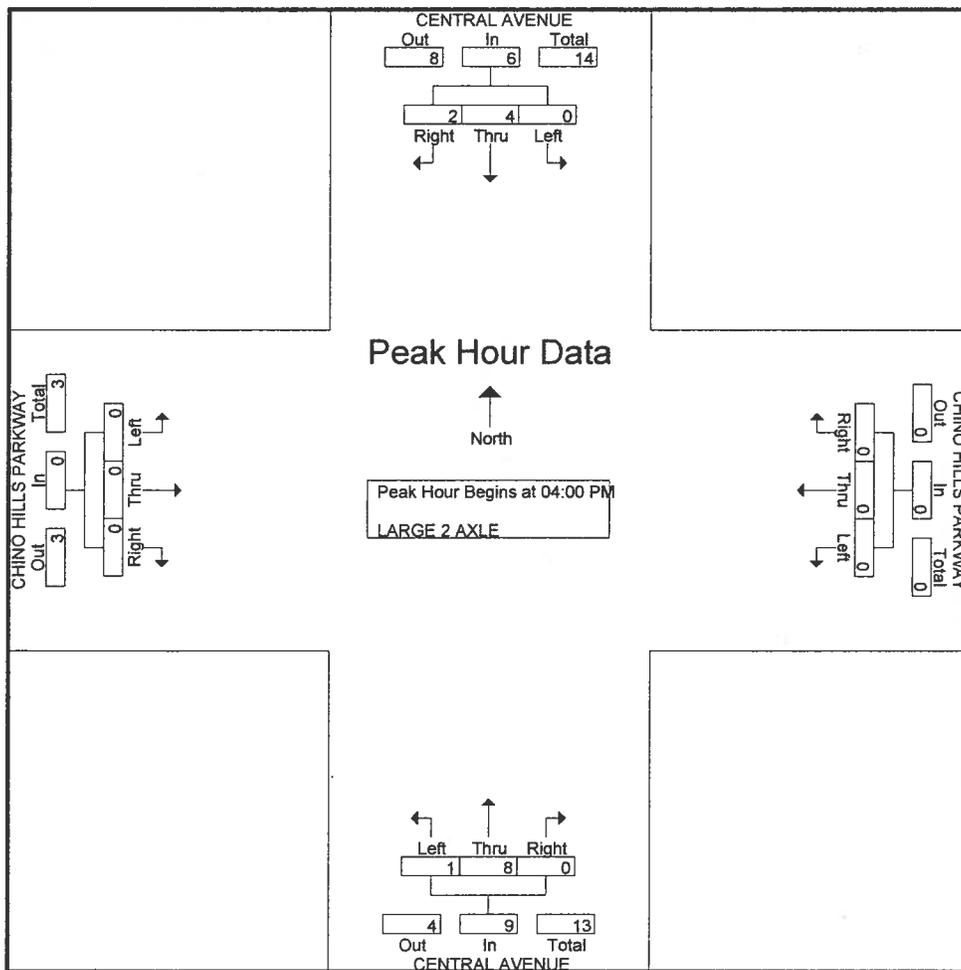
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	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	3	0	3	0	0	0	0	0	1	0	1	1	0	1	2	6
08:00 AM	1	2	0	3	0	0	0	0	0	3	0	3	1	0	0	1	7
08:15 AM	1	5	0	6	0	0	0	0	0	2	0	2	2	0	2	4	12
08:30 AM	0	2	0	2	0	0	0	0	0	2	2	4	0	0	1	1	7
Total Volume	2	12	0	14	0	0	0	0	0	8	2	10	4	0	4	8	32
% App. Total	14.3	85.7	0		0	0	0		0	80	20		50	0	50		
PHF	.500	.600	.000	.583	.000	.000	.000	.000	.000	.667	.250	.625	.500	.000	.500	.500	.667



City: CHINO
 MS Direction: CENTRAL AVENUE
 V Direction: CHINO HILLS PARKWAY

File Name : H11050652
 Site Code : 00000562
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:00 PM																		
04:00 PM	0	1	0	1	0	0	0	0	0	0	4	1	5	0	0	0	0	6
04:15 PM	0	2	0	2	0	0	0	0	0	0	3	0	3	0	0	0	0	5
04:30 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:45 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	2	4	0	6	0	0	0	0	0	0	8	1	9	0	0	0	0	15
% App. Total	33.3	66.7	0		0	0	0		0	88.9	11.1			0	0	0		
PHF	.250	.500	.000	.750	.000	.000	.000	.000	.000	.000	.500	.250	.450	.000	.000	.000	.000	.625



Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 S Direction: CENTRAL AVENUE
 W Direction: WALNUT AVENUE

File Name : H1105067
 Site Code : 00005054
 Start Date : 5/19/2011
 Page No : 1

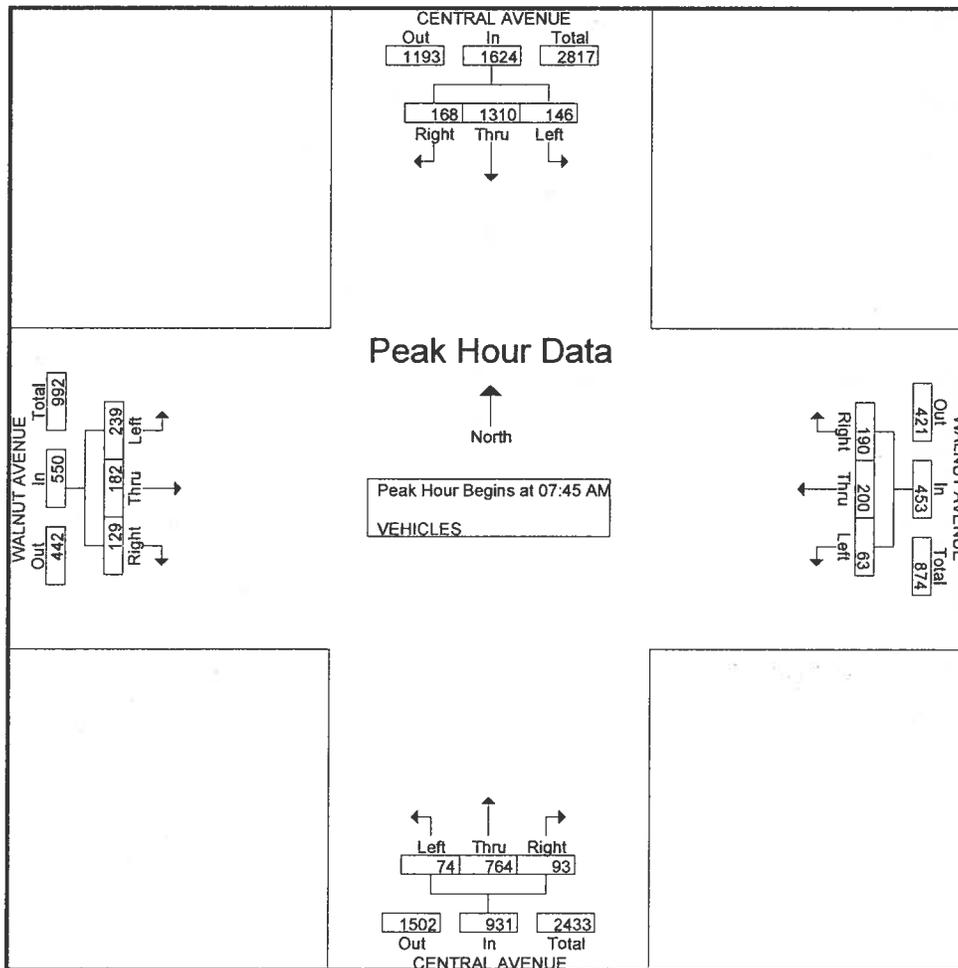
Groups Printed- VEHICLES

Start Time	CENTRAL AVENUE Southbound			WALNUT AVENUE Westbound			CENTRAL AVENUE Northbound			WALNUT AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	15	253	32	52	25	11	11	190	12	29	28	31	689
07:15 AM	21	257	24	72	34	18	31	238	26	18	31	49	819
07:30 AM	40	331	39	36	49	12	12	158	13	26	48	55	819
07:45 AM	36	339	37	49	53	15	27	186	18	32	49	64	905
Total	112	1180	132	209	161	56	81	772	69	105	156	199	3232
08:00 AM	48	352	41	58	48	19	16	165	13	37	48	60	905
08:15 AM	43	323	33	45	54	16	28	212	23	34	46	61	918
08:30 AM	41	296	35	38	45	13	22	201	20	26	39	54	830
08:45 AM	33	278	27	32	38	10	16	169	14	20	35	39	711
Total	165	1249	136	173	185	58	82	747	70	117	168	214	3364
*** BREAK ***													
04:00 PM	38	277	59	47	39	17	21	321	32	16	47	53	967
04:15 PM	26	280	44	46	51	25	23	300	32	15	50	60	952
04:30 PM	33	274	50	39	47	28	18	313	36	16	57	52	963
04:45 PM	27	257	47	51	47	29	23	330	32	21	59	62	985
Total	124	1088	200	183	184	99	85	1264	132	68	213	227	3867
05:00 PM	33	284	58	43	57	26	27	342	40	19	64	69	1062
05:15 PM	42	268	50	54	57	21	20	318	39	25	66	63	1023
05:30 PM	46	291	61	49	61	28	28	350	40	22	69	66	1111
05:45 PM	36	275	53	44	58	23	21	316	33	17	61	55	992
Total	157	1118	222	190	233	98	96	1326	152	83	260	253	4188
Grand Total	558	4635	690	755	763	311	344	4109	423	373	797	893	14651
Apprch %	9.5	78.8	11.7	41.3	41.7	17	7.1	84.3	8.7	18.1	38.6	43.3	
Total %	3.8	31.6	4.7	5.2	5.2	2.1	2.3	28	2.9	2.5	5.4	6.1	

City: CHINO
 S Direction: CENTRAL AVENUE
 V Direction: WALNUT AVENUE

File Name : H1105067
 Site Code : 00005054
 Start Date : 5/19/2011
 Page No : 2

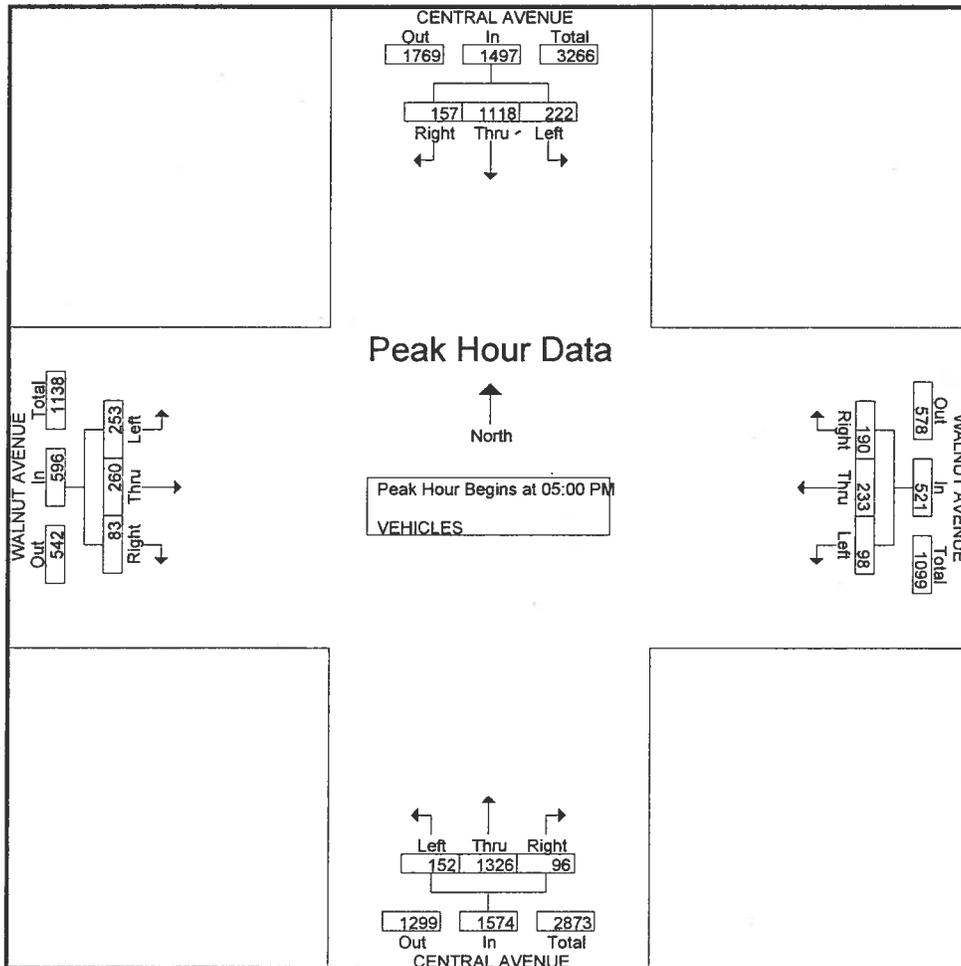
Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	36	339	37	412	49	53	15	117	27	186	18	231	32	49	64	145	905
08:00 AM	48	352	41	441	58	48	19	125	16	165	13	194	37	48	60	145	905
08:15 AM	43	323	33	399	45	54	16	115	28	212	23	263	34	46	61	141	918
08:30 AM	41	296	35	372	38	45	13	96	22	201	20	243	26	39	54	119	830
Total Volume	168	1310	146	1624	190	200	63	453	93	764	74	931	129	182	239	550	3558
% App. Total	10.3	80.7	9		41.9	44.2	13.9		10	82.1	7.9		23.5	33.1	43.5		
PHF	.875	.930	.890	.921	.819	.926	.829	.906	.830	.901	.804	.885	.872	.929	.934	.948	.969



City: CHINO
 S Direction: CENTRAL AVENUE
 N Direction: WALNUT AVENUE

File Name : H1105067
 Site Code : 00005054
 Start Date : 5/19/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. 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	33	284	58	375	43	57	26	126	27	342	40	409	19	64	69	152	1062
05:15 PM	42	268	50	360	54	57	21	132	20	318	39	377	25	66	63	154	1023
05:30 PM	46	291	61	398	49	61	28	138	28	350	40	418	22	69	66	157	1111
05:45 PM	36	275	53	364	44	58	23	125	21	316	33	370	17	61	55	133	992
Total Volume	157	1118	222	1497	190	233	98	521	96	1326	152	1574	83	260	253	596	4188
% App. Total	10.5	74.7	14.8		36.5	44.7	18.8		6.1	84.2	9.7		13.9	43.6	42.4		
PHF	.853	.960	.910	.940	.880	.955	.875	.944	.857	.947	.950	.941	.830	.942	.917	.949	.942



City: CHINO

S Direction: CENTRAL AVENUE

N Direction: WALNUT AVENUE

File Name : H11050672

Site Code : 00005061

Start Date : 5/19/2011

Page No : 1

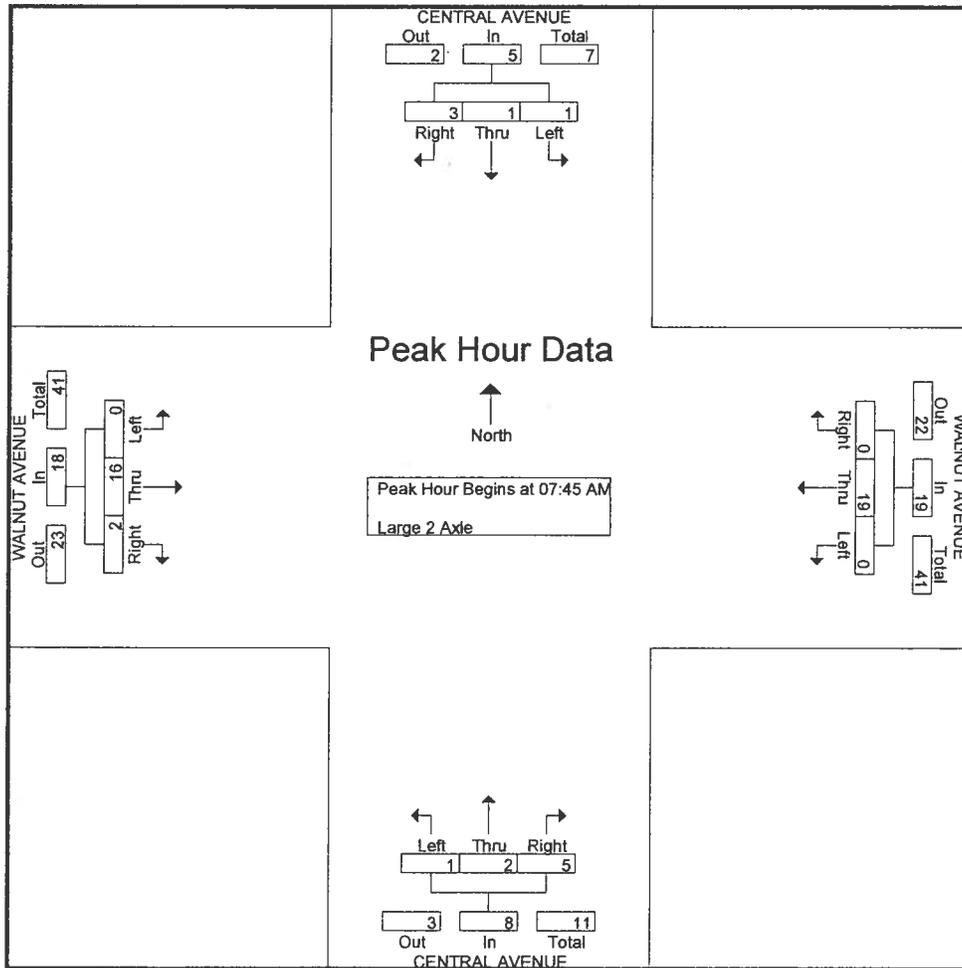
Groups Printed- Large 2 Axle

Start Time	CENTRAL AVENUE Southbound			WALNUT AVENUE Westbound			CENTRAL AVENUE Northbound			WALNUT AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	0	0	0	2	0	0	0	2	1	8	2	15
07:15 AM	1	0	0	0	2	0	1	0	0	2	3	1	10
07:30 AM	2	0	1	0	2	0	0	0	1	0	2	1	9
07:45 AM	2	0	0	0	4	0	0	0	0	0	4	0	10
Total	5	0	1	0	10	0	1	0	3	3	17	4	44
08:00 AM	0	0	0	0	3	0	2	0	1	1	7	0	14
08:15 AM	1	0	1	0	5	0	1	1	0	1	1	0	11
08:30 AM	0	1	0	0	7	0	2	1	0	0	4	0	15
08:45 AM	0	0	0	0	5	0	0	0	0	0	2	0	7
Total	1	1	1	0	20	0	5	2	1	2	14	0	47
*** BREAK ***													
04:00 PM	1	0	0	0	4	1	1	0	2	0	5	1	15
04:15 PM	0	0	1	0	5	1	0	1	0	0	5	0	13
04:30 PM	0	0	0	0	4	0	0	0	1	0	5	0	10
04:45 PM	0	0	1	0	7	0	0	0	0	0	1	0	9
Total	1	0	2	0	20	2	1	1	3	0	16	1	47
05:00 PM	2	0	0	0	4	0	0	2	0	0	3	0	11
05:15 PM	0	0	0	0	2	0	0	3	0	0	2	2	9
05:30 PM	1	0	0	0	3	0	0	3	1	0	4	1	13
05:45 PM	0	0	0	0	2	0	0	2	0	0	3	0	7
Total	3	0	0	0	11	0	0	10	1	0	12	3	40
Grand Total	10	1	4	0	61	2	7	13	8	5	59	8	178
Apprch %	66.7	6.7	26.7	0	96.8	3.2	25	46.4	28.6	6.9	81.9	11.1	
Total %	5.6	0.6	2.2	0	34.3	1.1	3.9	7.3	4.5	2.8	33.1	4.5	

City: CHINO
 S Direction: CENTRAL AVENUE
 N Direction: WALNUT AVENUE

File Name : H11050672
 Site Code : 00005061
 Start Date : 5/19/2011
 Page No : 2

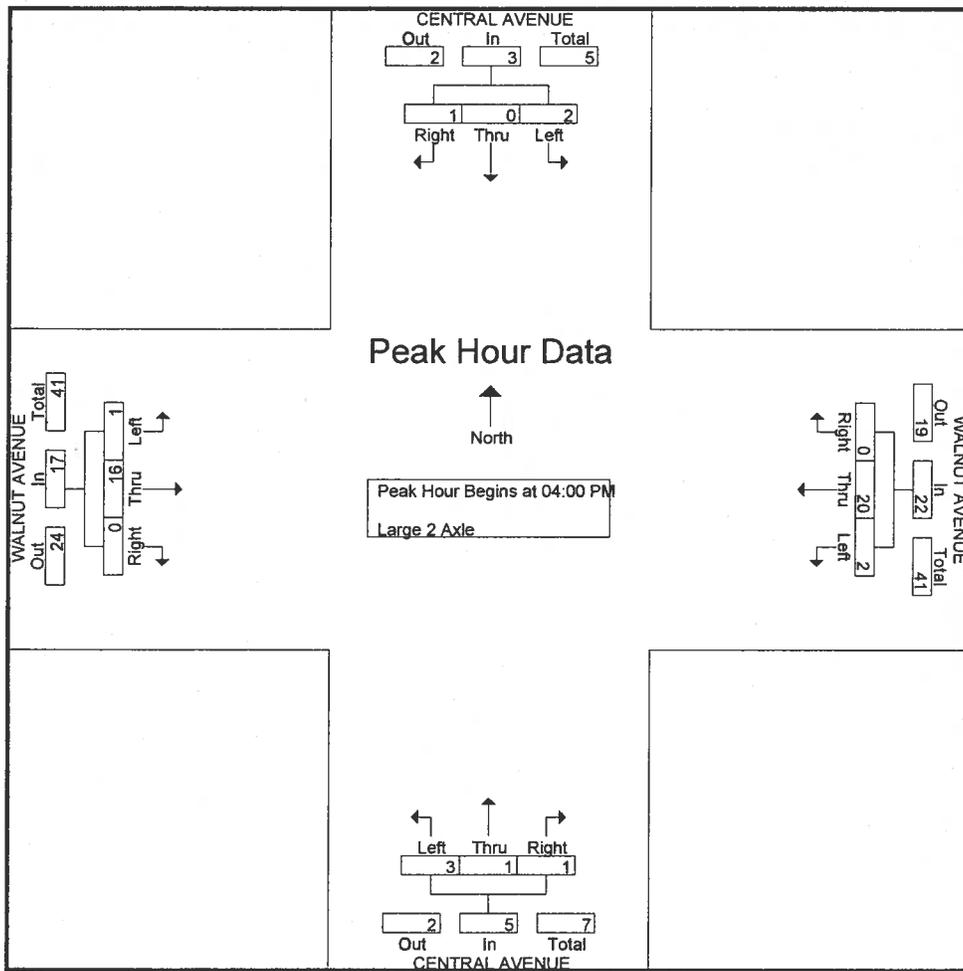
Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	0	0	2	0	4	0	4	0	0	0	0	0	4	0	4	10
08:00 AM	0	0	0	0	0	3	0	3	2	0	1	3	1	7	0	8	14
08:15 AM	1	0	1	2	0	5	0	5	1	1	0	2	1	1	0	2	11
08:30 AM	0	1	0	1	0	7	0	7	2	1	0	3	0	4	0	4	15
Total Volume	3	1	1	5	0	19	0	19	5	2	1	8	2	16	0	18	50
% App. Total	60	20	20		0	100	0		62.5	25	12.5		11.1	88.9	0		
PHF	.375	.250	.250	.625	.000	.679	.000	.679	.625	.500	.250	.667	.500	.571	.000	.563	.833



City: CHINO
 S Direction: CENTRAL AVENUE
 N Direction: WALNUT AVENUE

File Name : H11050672
 Site Code : 00005061
 Start Date : 5/19/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	0	1	0	4	1	5	1	0	2	3	0	5	1	6	15
04:15 PM	0	0	1	1	0	5	1	6	0	1	0	1	0	5	0	5	13
04:30 PM	0	0	0	0	0	4	0	4	0	0	1	1	0	5	0	5	10
04:45 PM	0	0	1	1	0	7	0	7	0	0	0	0	0	1	0	1	9
Total Volume	1	0	2	3	0	20	2	22	1	1	3	5	0	16	1	17	47
% App. Total	33.3	0	66.7		0	90.9	9.1		20	20	60		0	94.1	5.9		
PHF	.250	.000	.500	.750	.000	.714	.500	.786	.250	.250	.375	.417	.000	.800	.250	.708	.783



City: CHINO
 S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

File Name : H1105066
 Site Code : 00005054
 Start Date : 5/18/2011
 Page No : 1

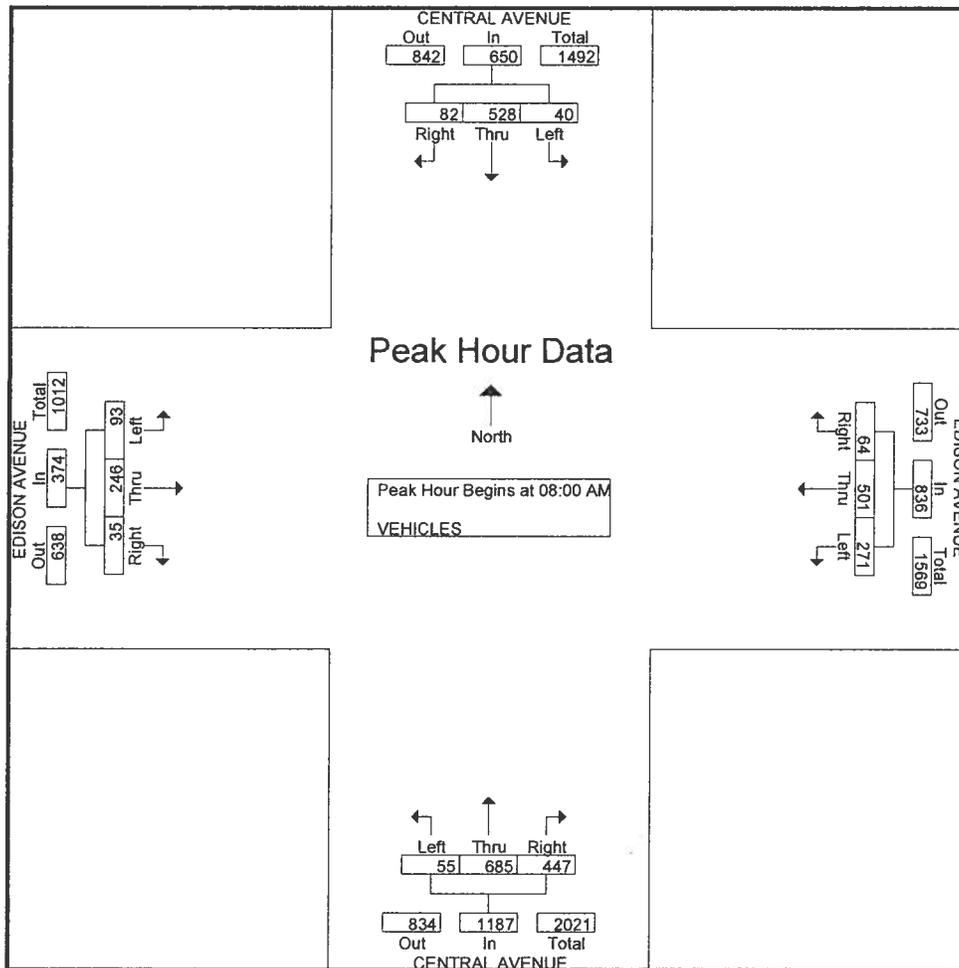
Groups Printed- VEHICLES

Start Time	CENTRAL AVENUE Southbound			EDISON AVENUE Westbound			CENTRAL AVENUE Northbound			EDISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	11	129	8	11	90	45	84	150	14	5	45	11	603
07:15 AM	13	137	7	10	93	50	84	143	15	6	53	10	621
07:30 AM	17	130	7	11	91	49	87	146	15	8	47	13	621
07:45 AM	13	149	6	13	103	57	92	155	14	7	62	17	688
Total	54	545	28	45	377	201	347	594	58	26	207	51	2533
08:00 AM	20	125	7	14	118	65	110	165	12	7	60	18	721
08:15 AM	21	136	9	19	129	71	120	176	12	8	72	20	793
08:30 AM	19	130	10	18	124	63	113	181	15	11	59	26	769
08:45 AM	22	137	14	13	130	72	104	163	16	9	55	29	764
Total	82	528	40	64	501	271	447	685	55	35	246	93	3047
*** BREAK ***													
04:00 PM	34	126	16	7	91	49	131	143	4	13	133	29	776
04:15 PM	41	136	18	11	103	55	117	151	7	13	140	32	824
04:30 PM	33	112	15	8	111	52	138	166	8	12	140	28	823
04:45 PM	43	134	17	11	118	59	143	171	8	9	129	27	869
Total	151	508	66	37	423	215	529	631	27	47	542	116	3292
05:00 PM	32	147	16	13	106	53	128	153	6	8	120	29	811
05:15 PM	27	126	13	10	100	62	120	159	6	10	142	30	805
05:30 PM	34	137	13	9	112	49	117	142	6	9	126	31	785
05:45 PM	28	120	14	11	90	47	109	135	9	10	121	27	721
Total	121	530	56	43	408	211	474	589	27	37	509	117	3122
Grand Total	408	2111	190	189	1709	898	1797	2499	167	145	1504	377	11994
Apprch %	15.1	77.9	7	6.8	61.1	32.1	40.3	56	3.7	7.2	74.2	18.6	
Total %	3.4	17.6	1.6	1.6	14.2	7.5	15	20.8	1.4	1.2	12.5	3.1	

City: CHINO
 S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

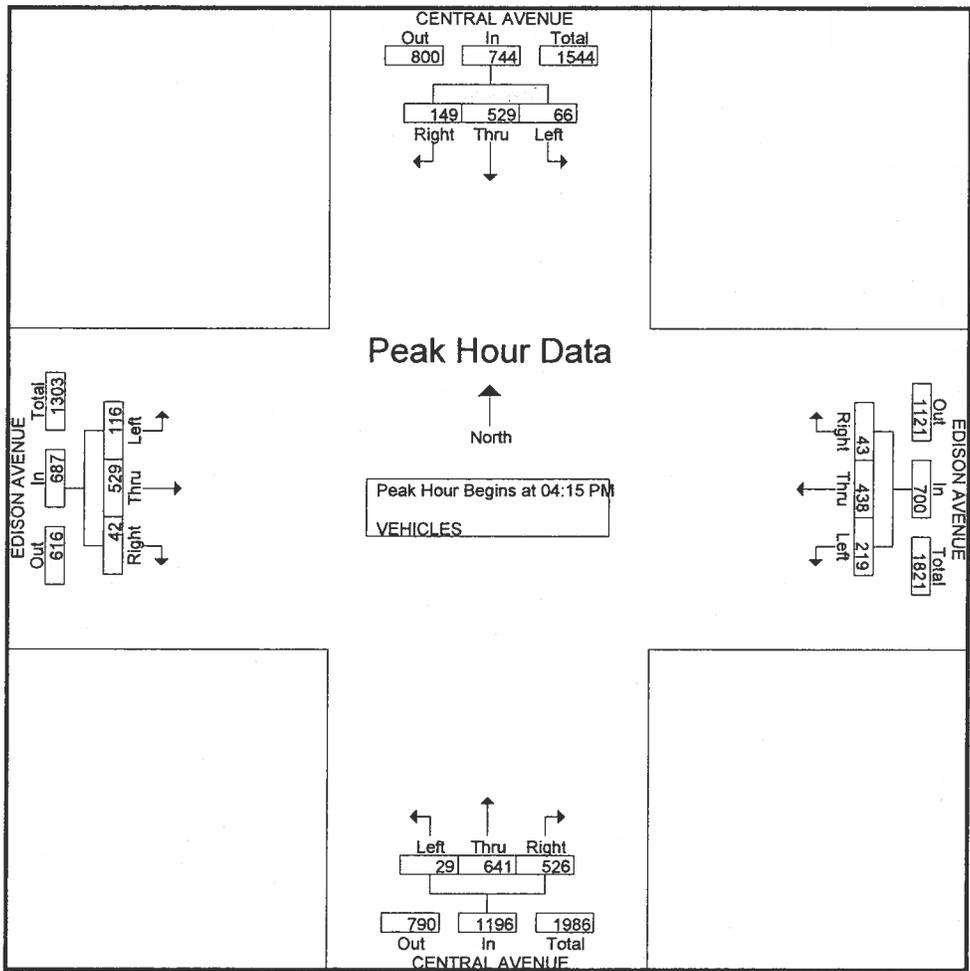
File Name : H1105066
 Site Code : 00005054
 Start Date : 5/18/2011
 Page No : 2

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	20	125	7	152	14	118	65	197	110	165	12	287	7	60	18	85	721
08:15 AM	21	136	9	166	19	129	71	219	120	176	12	308	8	72	20	100	793
08:30 AM	19	130	10	159	18	124	63	205	113	181	15	309	11	59	26	96	769
08:45 AM	22	137	14	173	13	130	72	215	104	163	16	283	9	55	29	93	764
Total Volume	82	528	40	650	64	501	271	836	447	685	55	1187	35	246	93	374	3047
% App. Total	12.6	81.2	6.2		7.7	59.9	32.4		37.7	57.7	4.6		9.4	65.8	24.9		
PHF	.932	.964	.714	.939	.842	.963	.941	.954	.931	.946	.859	.960	.795	.854	.802	.935	.961



City: CHINO
 S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. 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	41	136	18	195	11	103	55	169	117	151	7	275	13	140	32	185	824
04:30 PM	33	112	15	160	8	111	52	171	138	166	8	312	12	140	28	180	823
04:45 PM	43	134	17	194	11	118	59	188	143	171	8	322	9	129	27	165	869
05:00 PM	32	147	16	195	13	106	53	172	128	153	6	287	8	120	29	157	811
Total Volume	149	529	66	744	43	438	219	700	526	641	29	1196	42	529	116	687	3327
% App. Total	20	71.1	8.9		6.1	62.6	31.3		44	53.6	2.4		6.1	77	16.9		
PHF	.866	.900	.917	.954	.827	.928	.928	.931	.920	.937	.906	.929	.808	.945	.906	.928	.957



City: CHINO

S Direction: CENTRAL AVENUE

W Direction: EDISON AVENUE

File Name : H11050662

Site Code : 00005694

Start Date : 5/18/2011

Page No : 1

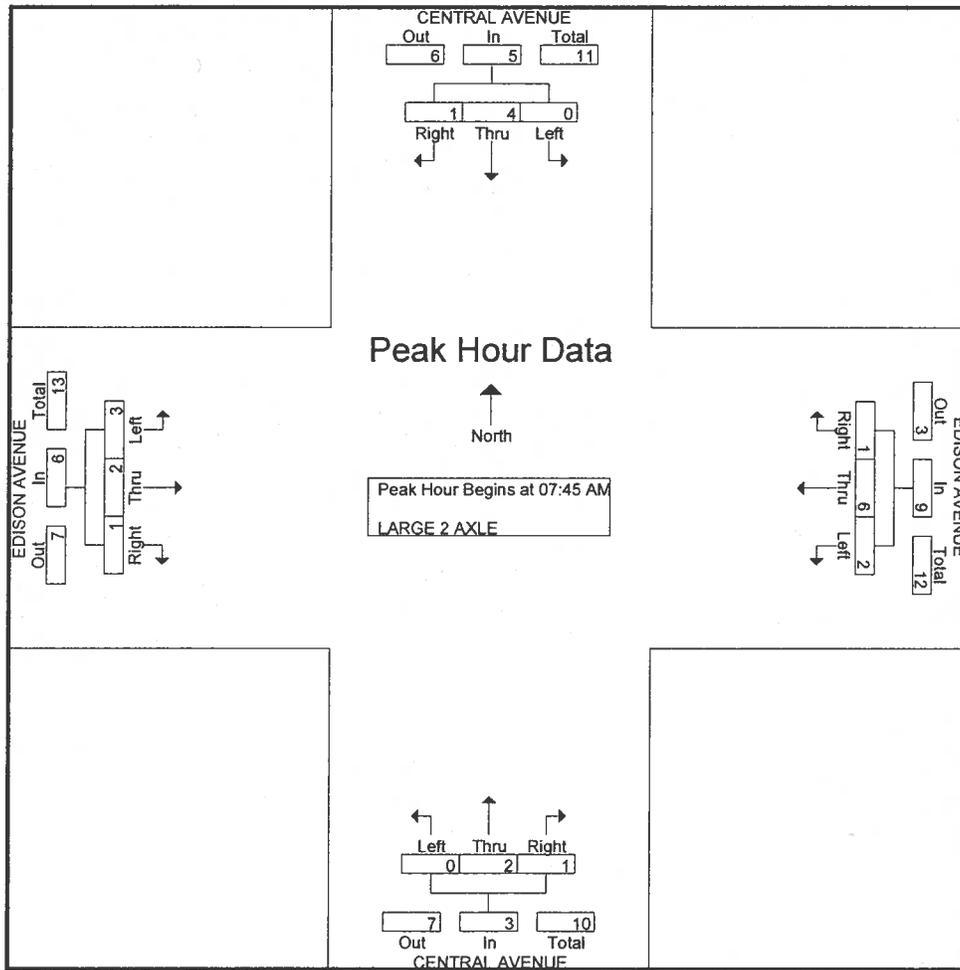
Groups Printed- LARGE 2 AXLE

Start Time	CENTRAL AVENUE Southbound			EDISON AVENUE Westbound			CENTRAL AVENUE Northbound			EDISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	1	2	0	0	1	0	1	1	0	0	1	1	8
07:15 AM	0	0	0	0	1	1	0	1	0	0	0	0	3
07:30 AM	0	0	1	0	1	1	1	0	0	0	1	0	5
07:45 AM	1	1	0	0	1	0	1	0	0	0	0	1	5
Total	2	3	1	0	4	2	3	2	0	0	2	2	21
08:00 AM	0	1	0	1	0	0	0	1	0	1	1	1	6
08:15 AM	0	1	0	0	2	1	0	1	0	0	0	0	5
08:30 AM	0	1	0	0	3	1	0	0	0	0	1	1	7
08:45 AM	0	1	0	0	1	1	0	0	0	0	2	0	5
Total	0	4	0	1	6	3	0	2	0	1	4	2	23
*** BREAK ***													
04:00 PM	2	0	0	0	0	0	0	4	1	0	0	0	7
04:15 PM	1	0	0	0	1	2	3	0	1	0	0	0	8
04:30 PM	0	0	0	0	0	1	0	1	0	0	3	2	7
04:45 PM	0	0	0	0	2	1	0	1	1	1	1	1	8
Total	3	0	0	0	3	4	3	6	3	1	4	3	30
05:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	2
05:15 PM	0	1	1	0	1	0	1	0	0	1	1	0	6
05:30 PM	0	0	0	0	0	2	1	1	0	0	1	1	6
05:45 PM	1	1	0	0	0	2	0	0	0	0	0	0	4
Total	1	2	1	0	1	4	2	1	0	2	3	1	18
Grand Total	6	9	2	1	14	13	8	11	3	4	13	8	92
Apprch %	35.3	52.9	11.8	3.6	50	46.4	36.4	50	13.6	16	52	32	
Total %	6.5	9.8	2.2	1.1	15.2	14.1	8.7	12	3.3	4.3	14.1	8.7	

City: CHINO
 S Direction: CENTRAL AVENUE
 N Direction: EDISON AVENUE

File Name : H11050662
 Site Code : 00005694
 Start Date : 5/18/2011
 Page No : 2

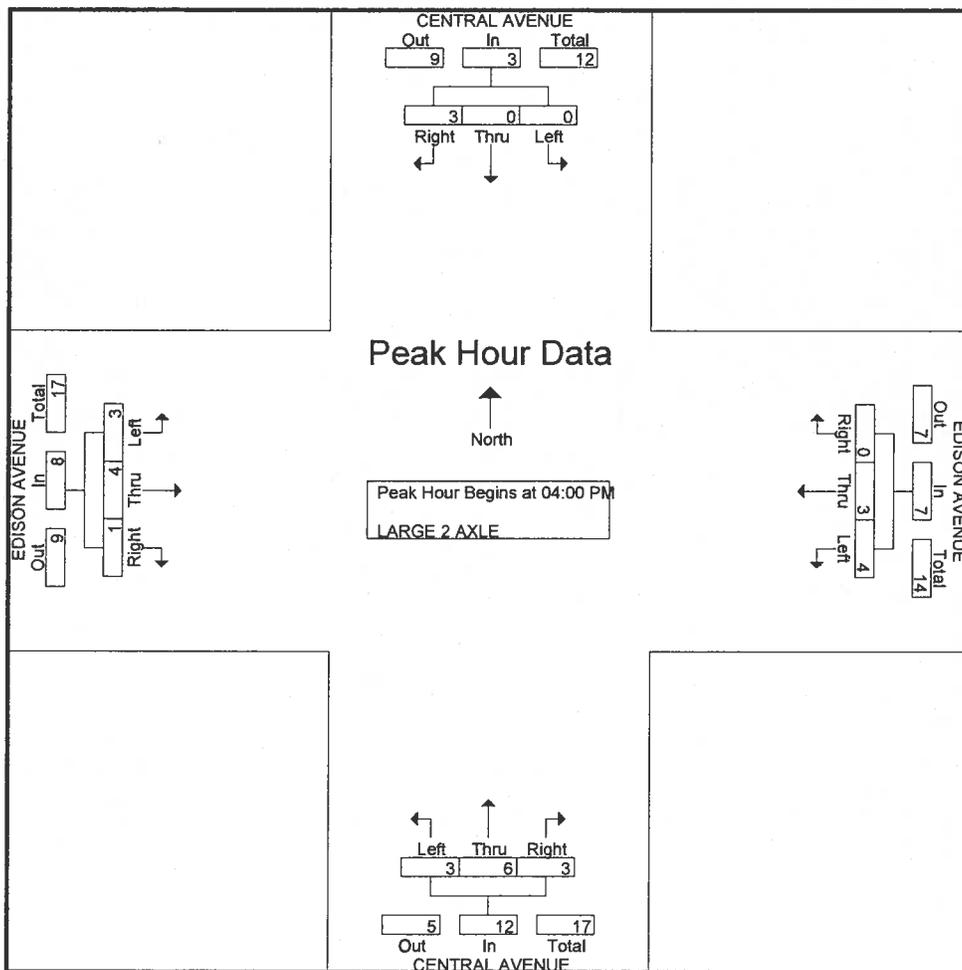
Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	1	0	2	0	1	0	1	1	0	0	1	0	0	1	1	5
08:00 AM	0	1	0	1	1	0	0	1	0	1	0	1	1	1	1	3	6
08:15 AM	0	1	0	1	0	2	1	3	0	1	0	1	0	0	0	0	5
08:30 AM	0	1	0	1	0	3	1	4	0	0	0	0	0	1	1	2	7
Total Volume	1	4	0	5	1	6	2	9	1	2	0	3	1	2	3	6	23
% App. Total	20	80	0		11.1	66.7	22.2		33.3	66.7	0		16.7	33.3	50		
PHF	.250	1.000	.000	.625	.250	.500	.500	.563	.250	.500	.000	.750	.250	.500	.750	.500	.821



City: CHINO
 S Direction: CENTRAL AVENUE
 V Direction: EDISON AVENUE

File Name : H11050662
 Site Code : 00005694
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	0	0	2	0	0	0	0	0	4	1	5	0	0	0	0	7
04:15 PM	1	0	0	1	0	1	2	3	3	0	1	4	0	0	0	0	8
04:30 PM	0	0	0	0	0	0	1	1	0	1	0	1	0	3	2	5	7
04:45 PM	0	0	0	0	0	2	1	3	0	1	1	2	1	1	1	3	8
Total Volume	3	0	0	3	0	3	4	7	3	6	3	12	1	4	3	8	30
% App. Total	100	0	0		0	42.9	57.1		25	50	25		12.5	50	37.5		
PHF	.375	.000	.000	.375	.000	.375	.500	.583	.250	.375	.750	.600	.250	.333	.375	.400	.938



3 Axle

Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 V Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 00005061
 Start Date : 5/18/2011
 Page No : 1

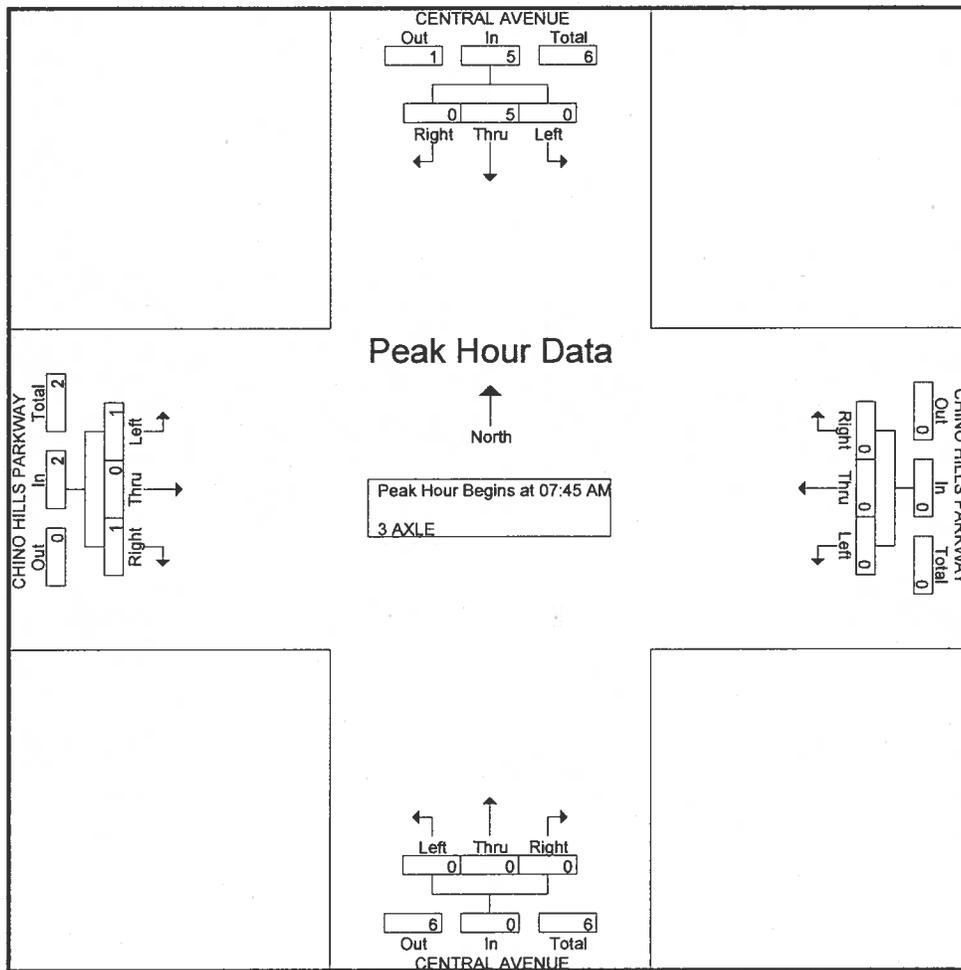
Groups Printed- 3 AXLE

Start Time	CENTRAL AVENUE Southbound			CHINO HILLS PARKWAY Westbound			CENTRAL AVENUE Northbound			CHINO HILLS PARKWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***													
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	0	0	0	0	0	0	1	3
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	2
08:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
*** BREAK ***													
Total	0	4	0	0	0	0	0	0	0	1	0	1	6
*** BREAK ***													
04:00 PM	1	1	0	0	0	0	0	1	0	1	0	0	4
*** BREAK ***													
04:30 PM	0	1	0	0	0	0	0	0	1	0	0	0	2
04:45 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
Total	1	4	0	0	0	0	0	2	1	1	0	0	9
05:00 PM	0	0	0	0	0	0	0	3	0	1	0	1	5
05:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
*** BREAK ***													
Total	0	0	0	0	0	0	0	6	1	1	0	1	9
Grand Total	1	10	0	0	0	0	0	8	2	3	0	3	27
Apprch %	9.1	90.9	0	0	0	0	0	80	20	50	0	50	
Total %	3.7	37	0	0	0	0	0	29.6	7.4	11.1	0	11.1	

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 00005061
 Start Date : 5/18/2011
 Page No : 2

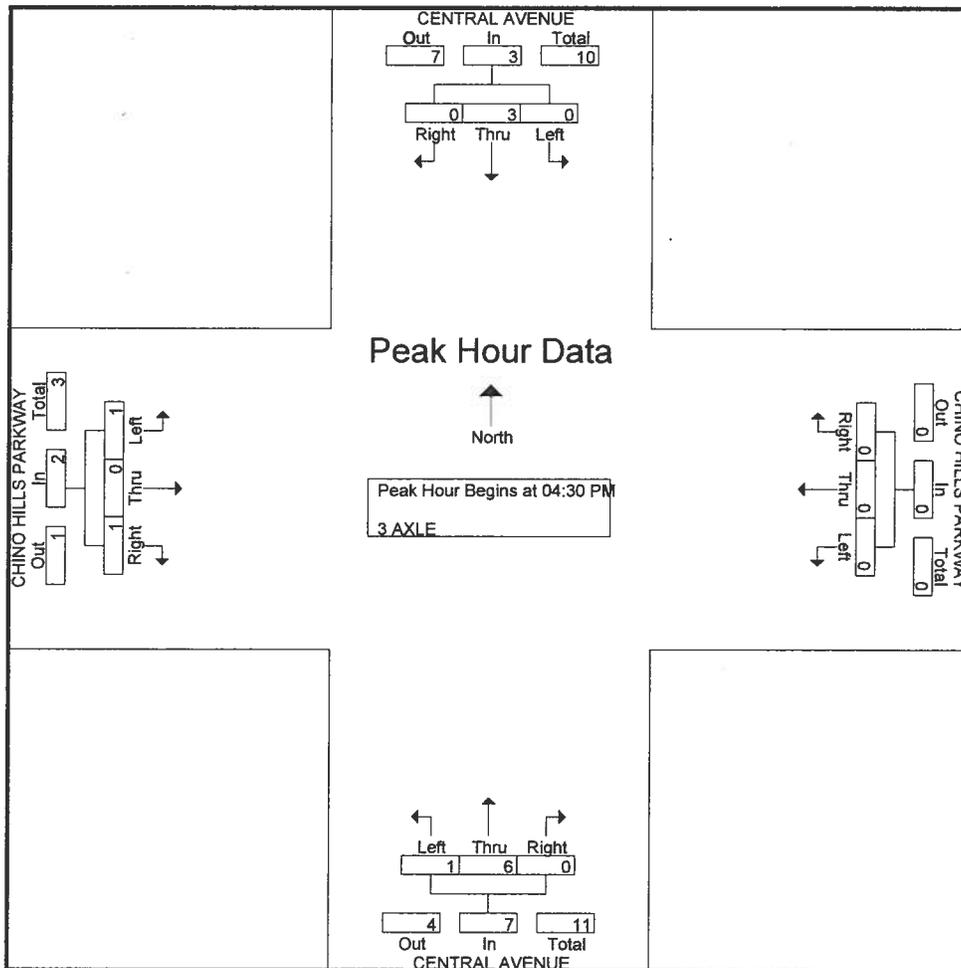
Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	5	0	5	0	0	0	0	0	0	0	0	1	0	1	2	7
% App. Total	0	100	0		0	0	0		0	0	0		50	0	50		
PHF	.000	.417	.000	.417	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250	.583



City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 00005061
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	2
04:45 PM	0	2	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	1	2	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total Volume	0	3	0	3	0	0	0	0	0	0	6	1	7	1	0	1	2	12
% App. Total	0	100	0		0	0	0		0	85.7	14.3			50	0	50		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.500	.250	.583	.250	.000	.250	.250	.600	



Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 1

Groups Printed- 3 AXLE

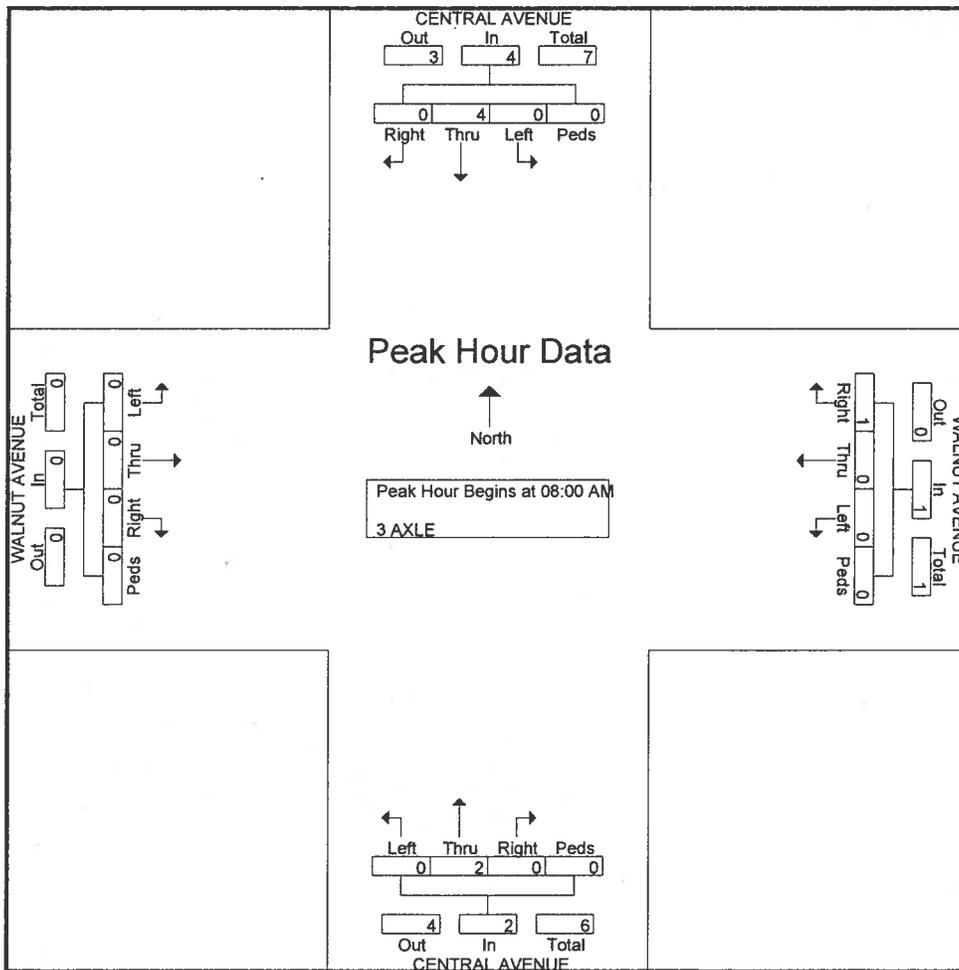
Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
*** BREAK ***																	
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
08:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:30 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
08:45 AM	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
Total	0	4	0	0	1	0	0	0	0	2	0	0	0	0	0	0	7
*** BREAK ***																	
04:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
04:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
*** BREAK ***																	
05:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Total	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
Grand Total	0	9	0	0	1	1	0	0	0	4	0	0	0	1	0	0	16
Apprch %	0	100	0	0	50	50	0	0	0	100	0	0	0	100	0	0	
Total %	0	56.2	0	0	6.2	6.2	0	0	0	25	0	0	0	6.2	0	0	

Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 2

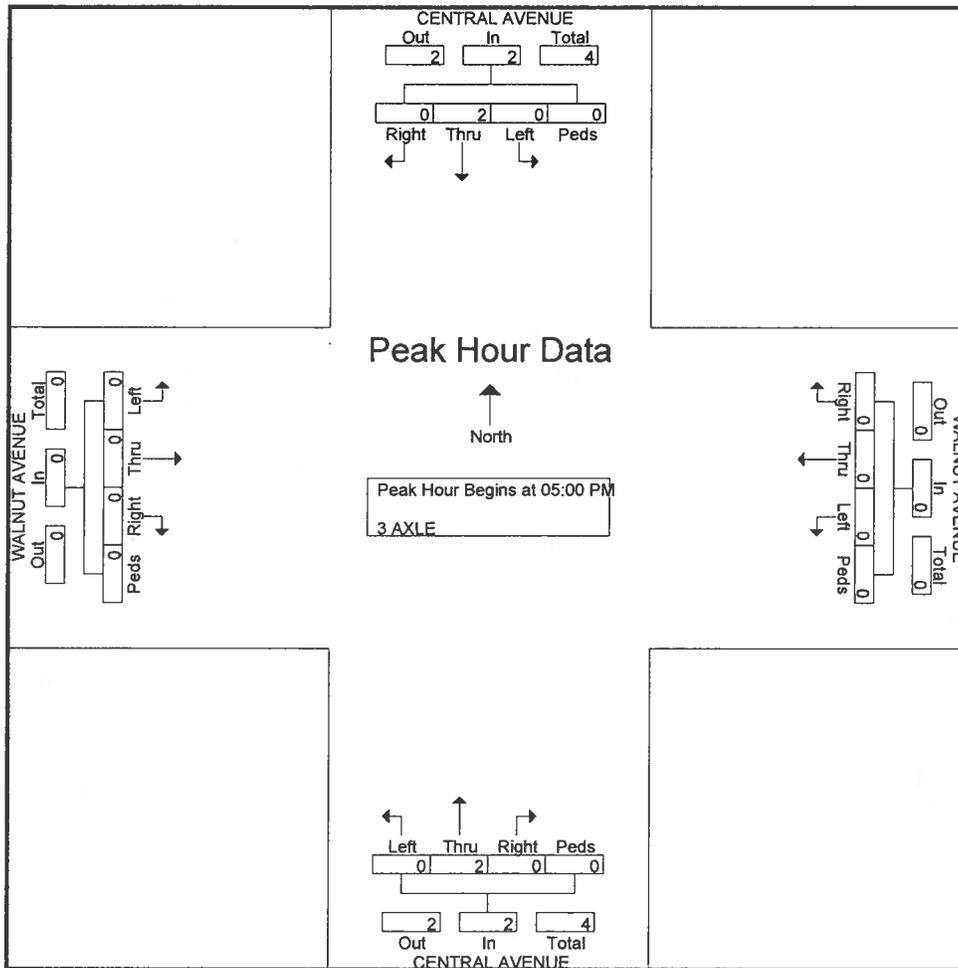
Start Time	CENTRAL AVENUE Southbound					WALNUT AVENUE Westbound					CENTRAL AVENUE Northbound					WALNUT AVENUE Eastbound					Int. Total											
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total												
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																																
Peak Hour for Entire Intersection Begins at 08:00 AM																																
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Total Volume	0	4	0	0	4	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
% App. Total	0	100	0	0		100	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0	0	0						
PHF	.000	.500	.000	.000	.500	.250	.000	.000	.000	.250	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.583		



City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound					WALNUT AVENUE Westbound					CENTRAL AVENUE Northbound					WALNUT AVENUE Eastbound					Int. Total					
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. 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	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
% App. Total	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	



Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 1

Groups Printed- 3 AXLE

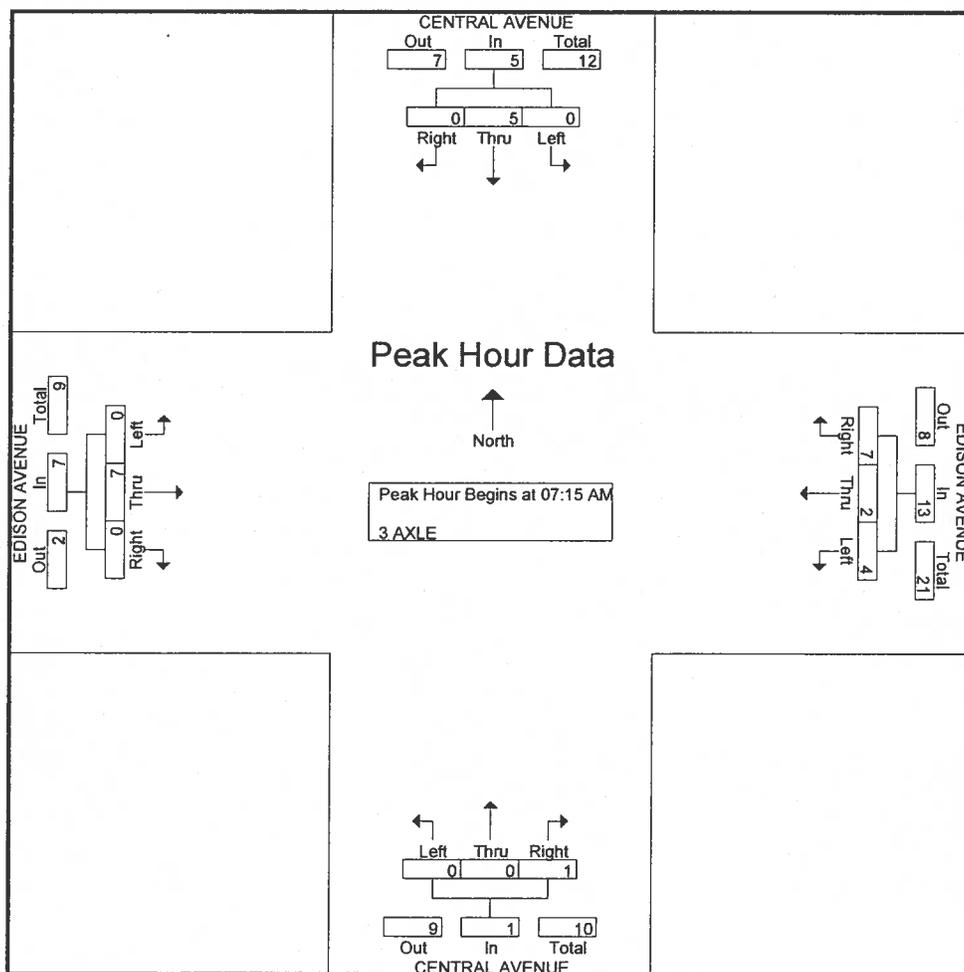
Start Time	CENTRAL AVENUE Southbound			EDISON AVENUE Westbound			CENTRAL AVENUE Northbound			EDISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	2
07:15 AM	0	2	0	3	1	1	0	0	0	0	0	0	7
07:30 AM	0	1	0	2	1	1	1	0	0	0	2	0	8
07:45 AM	0	1	0	1	0	0	0	0	0	0	3	0	5
Total	0	5	0	7	2	2	1	0	0	0	5	0	22
08:00 AM	0	1	0	1	0	2	0	0	0	0	2	0	6
08:15 AM	0	1	0	0	1	0	2	1	0	0	0	0	5
08:30 AM	0	0	0	0	0	0	3	0	0	0	1	0	4
08:45 AM	0	1	0	0	3	0	0	0	0	0	1	0	5
Total	0	3	0	1	4	2	5	1	0	0	4	0	20
*** BREAK ***													
04:00 PM	0	0	0	0	2	0	1	2	0	0	0	0	5
04:15 PM	0	1	1	0	3	0	1	0	0	0	1	0	7
04:30 PM	0	2	0	0	1	1	2	0	0	0	2	0	8
04:45 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
Total	0	3	1	0	9	1	4	2	0	0	3	0	23
05:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
05:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
05:30 PM	0	0	1	0	2	0	0	0	0	0	0	0	3
05:45 PM	0	0	1	0	2	0	2	0	0	0	1	0	6
Total	0	1	2	0	7	0	2	0	0	0	1	0	13
Grand Total	0	12	3	8	22	5	12	3	0	0	13	0	78
Apprch %	0	80	20	22.9	62.9	14.3	80	20	0	0	100	0	
Total %	0	15.4	3.8	10.3	28.2	6.4	15.4	3.8	0	0	16.7	0	

Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 2

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	2	0	2	3	1	1	5	0	0	0	0	0	0	0	0	7
07:30 AM	0	1	0	1	2	1	1	4	1	0	0	1	0	2	0	2	8
07:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	3	0	3	5
08:00 AM	0	1	0	1	1	0	2	3	0	0	0	0	0	2	0	2	6
Total Volume	0	5	0	5	7	2	4	13	1	0	0	1	0	7	0	7	26
% App. Total	0	100	0		53.8	15.4	30.8		100	0	0		0	100	0		
PHF	.000	.625	.000	.625	.583	.500	.500	.650	.250	.000	.000	.250	.000	.583	.000	.583	.813

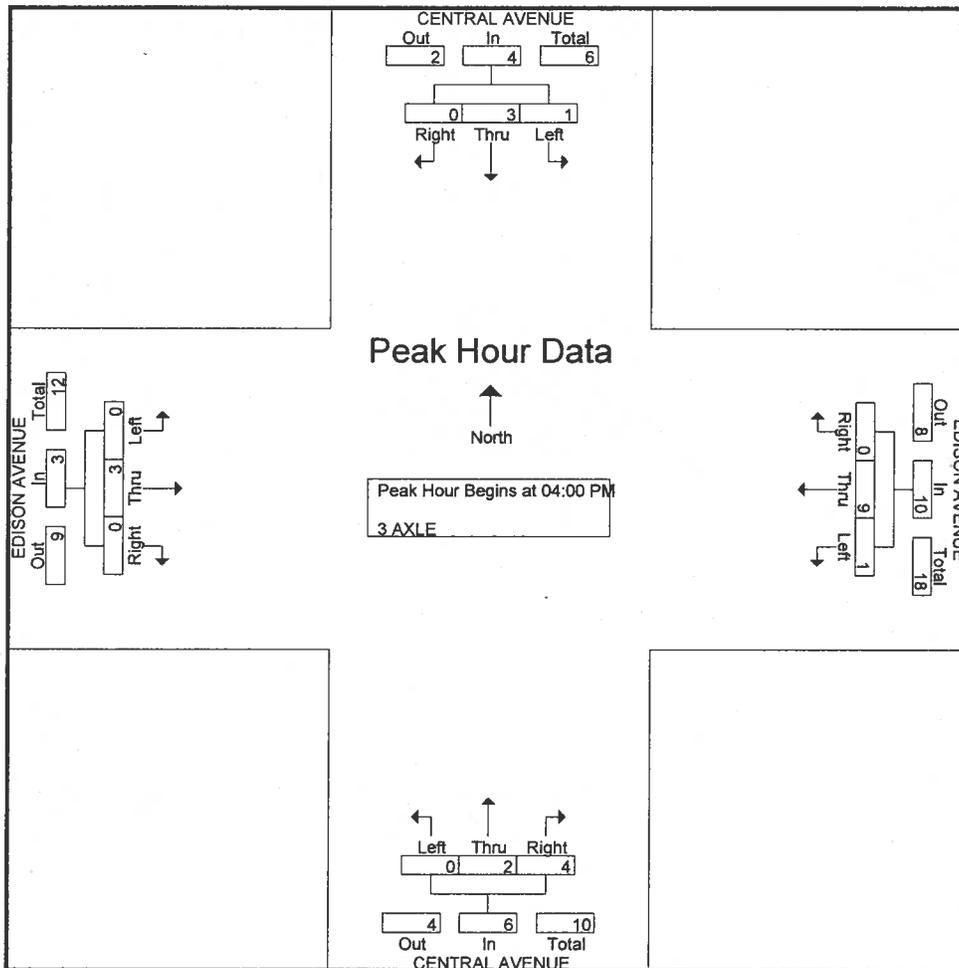


Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	2	0	2	1	2	0	3	0	0	0	0	5
04:15 PM	0	1	1	2	0	3	0	3	1	0	0	1	0	1	0	1	7
04:30 PM	0	2	0	2	0	1	1	2	2	0	0	2	0	2	0	2	8
04:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
Total Volume	0	3	1	4	0	9	1	10	4	2	0	6	0	3	0	3	23
% App. Total	0	75	25		0	90	10		66.7	33.3	0		0	100	0		
PHF	.000	.375	.250	.500	.000	.750	.250	.833	.500	.250	.000	.500	.000	.375	.000	.375	.719



4 Axle

Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 00005061
 Start Date : 5/18/2011
 Page No : 1

Groups Printed- 4 AXLE

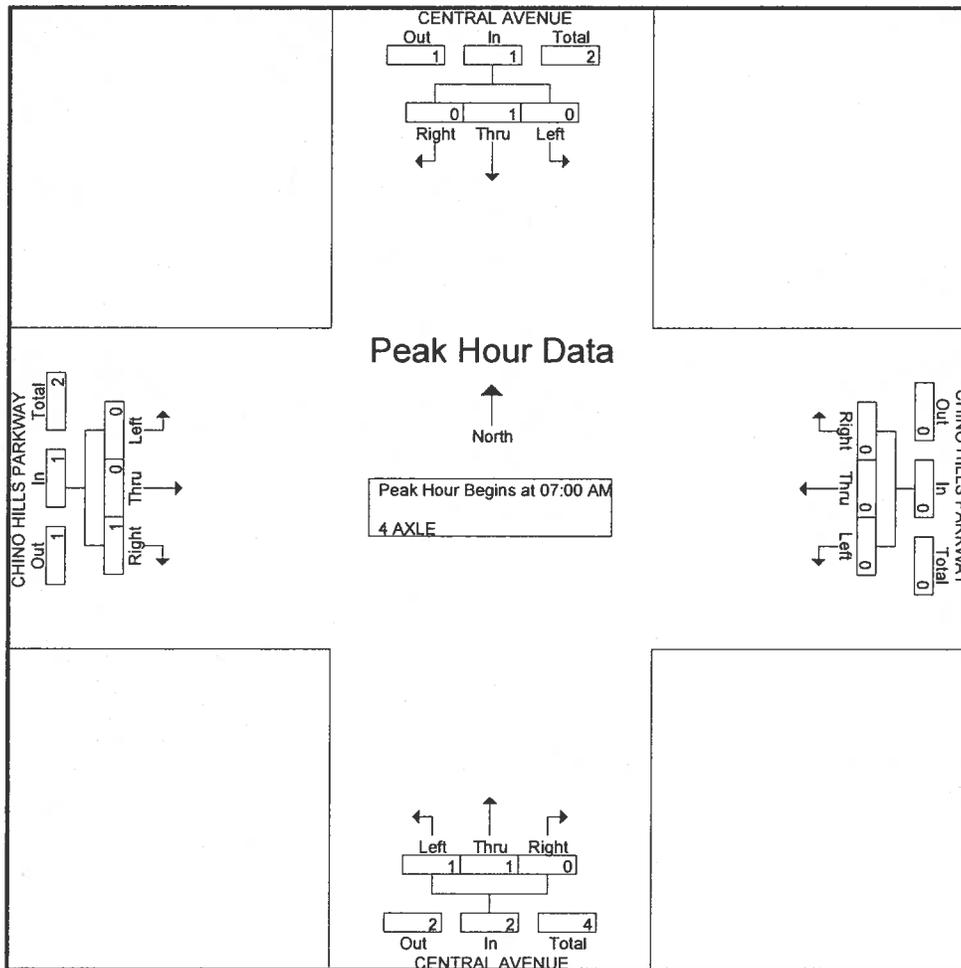
Start Time	CENTRAL AVENUE Southbound			CHINO HILLS PARKWAY Westbound			CENTRAL AVENUE Northbound			CHINO HILLS PARKWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
*** BREAK ***													
Total	0	1	0	0	0	0	0	1	1	1	0	0	4
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
*** BREAK ***													
08:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
*** BREAK ***													
Total	0	0	0	0	0	0	0	2	0	0	0	0	2
*** BREAK ***													
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	1	0	0	0	0	0	1	0	2	0	0	4
04:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
04:45 PM	0	0	0	0	0	0	0	2	0	1	0	0	3
Total	0	1	0	0	0	0	0	3	0	5	0	1	10
05:00 PM	0	2	0	0	0	0	0	1	0	1	0	0	4
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
05:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***													
Total	0	3	0	0	0	0	0	2	0	1	0	0	6
Grand Total	0	5	0	0	0	0	0	8	1	7	0	1	22
Apprch %	0	100	0	0	0	0	0	88.9	11.1	87.5	0	12.5	
Total %	0	22.7	0	0	0	0	0	36.4	4.5	31.8	0	4.5	

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 0005061
 Start Date : 5/18/2011
 Page No : 2

Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	1	1	2	1	0	0	1	4
% App. Total	0	100	0		0	0	0		0	50	50		100	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.250	.500	.250	.000	.000	.250	.500

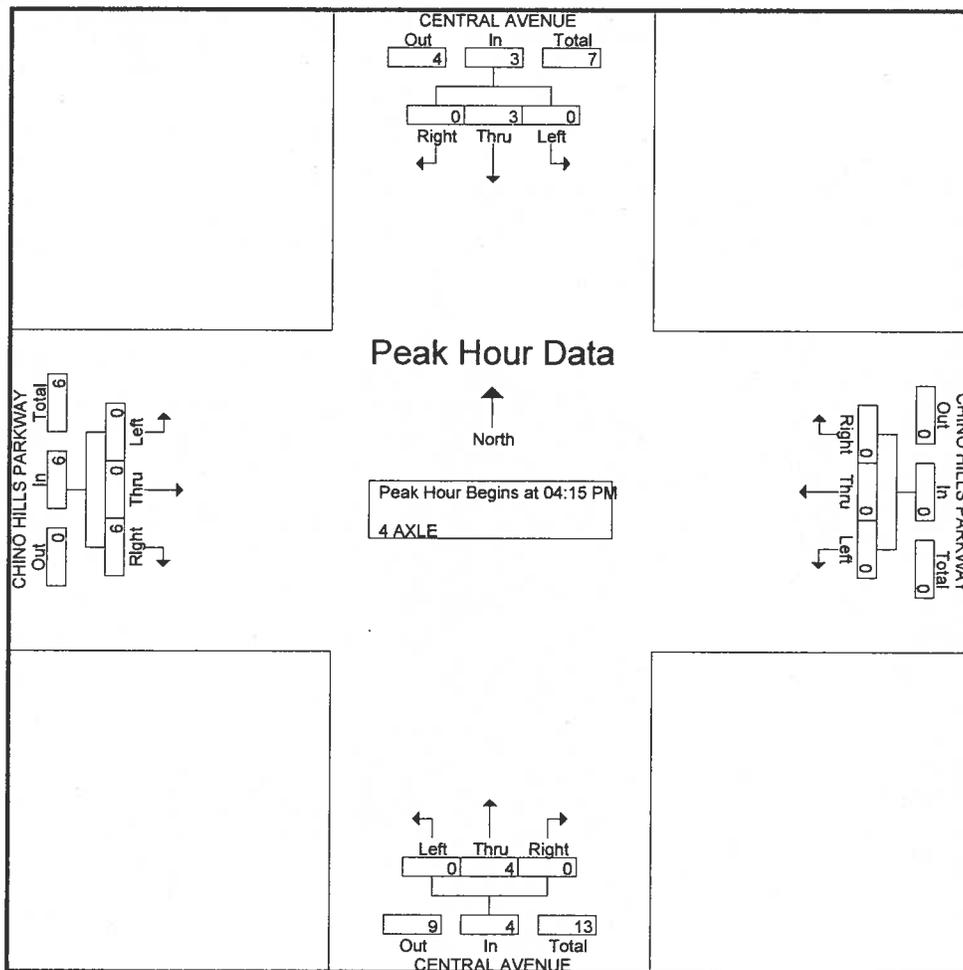
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM



City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 00005061
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	2	0	0	2	4
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	1	3
05:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
Total Volume	0	3	0	3	0	0	0	0	0	4	0	4	6	0	0	6	13
% App. Total	0	100	0		0	0	0		0	100	0		100	0	0		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.500	.000	.500	.750	.000	.000	.750	.813



Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 1

Groups Printed- 4 AXLE

Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
*** BREAK ***																	
07:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
04:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Grand Total	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Apprch %	33.3	66.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	33.3	66.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

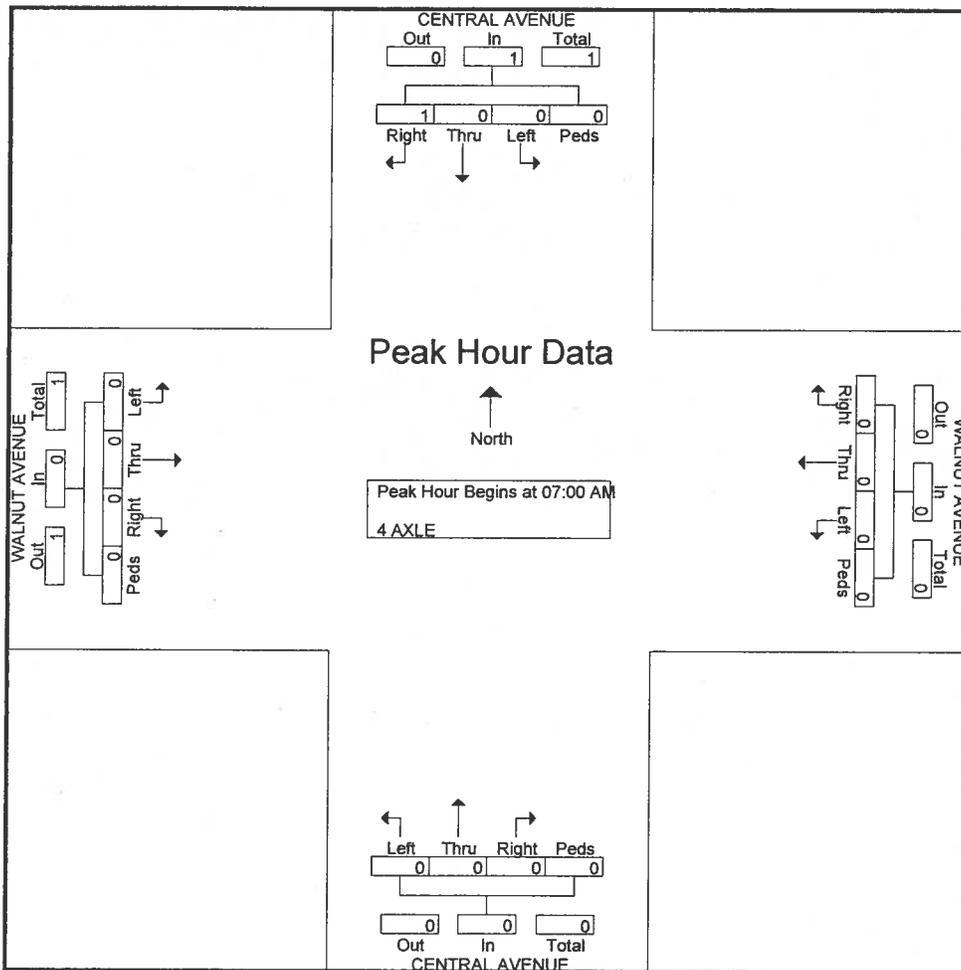
Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 2

Start Time	CENTRAL AVENUE Southbound					WALNUT AVENUE Westbound					CENTRAL AVENUE Northbound					WALNUT AVENUE Eastbound					Int. Total					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total						
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	100	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	

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

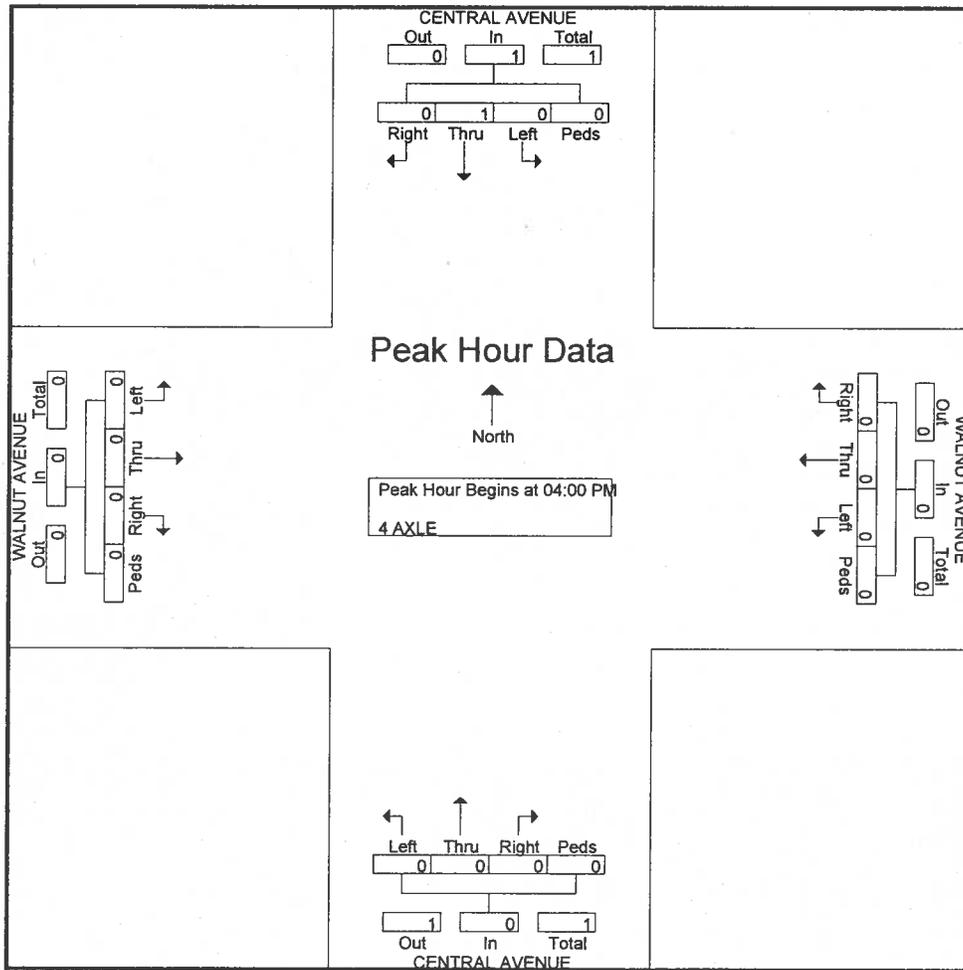


Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound					WALNUT AVENUE Westbound					CENTRAL AVENUE Northbound					WALNUT AVENUE Eastbound					Int. Total					
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. Total						
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 04:00 PM																										
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	



Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 0004637
 Start Date : 5/18/2011
 Page No : 1

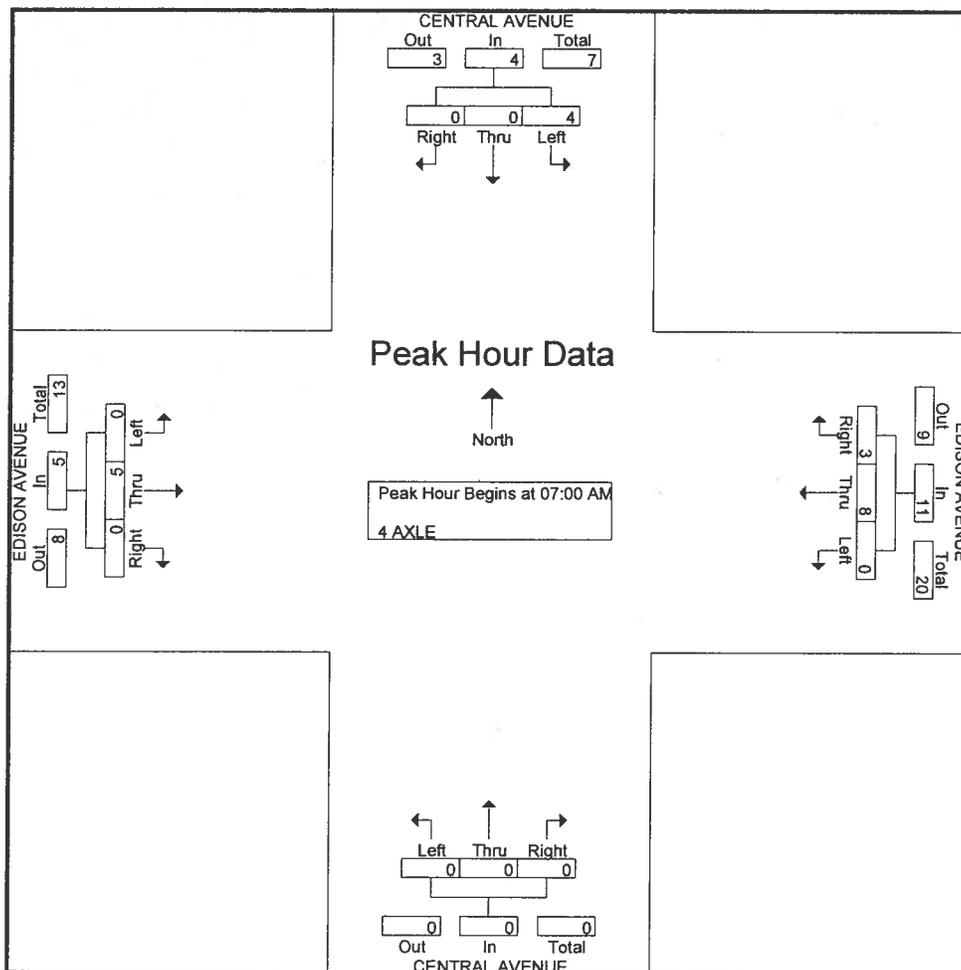
Groups Printed- 4 AXLE

Start Time	CENTRAL AVENUE Southbound			EDISON AVENUE Westbound			CENTRAL AVENUE Northbound			EDISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	0	0	1	2	0	0	0	0	0	1	0	4
07:15 AM	0	0	1	1	3	0	0	0	0	0	2	0	7
07:30 AM	0	0	1	0	2	0	0	0	0	0	0	0	3
07:45 AM	0	0	2	1	1	0	0	0	0	0	2	0	6
Total	0	0	4	3	8	0	0	0	0	0	5	0	20
08:00 AM	3	0	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	1	0	0	0	0	1	0	0	1	0	3
08:30 AM	0	0	0	0	3	1	0	0	0	0	2	0	6
08:45 AM	0	1	0	0	2	0	2	0	0	0	1	0	6
Total	3	1	1	0	5	1	2	1	0	0	4	0	18
*** BREAK ***													
04:00 PM	0	0	0	0	2	1	0	0	0	0	1	0	4
04:15 PM	2	0	1	0	3	0	0	0	0	0	0	0	6
04:30 PM	0	1	0	0	2	0	0	0	0	0	2	0	5
04:45 PM	2	0	2	2	0	0	1	0	0	0	1	0	8
Total	4	1	3	2	7	1	1	0	0	0	4	0	23
05:00 PM	0	0	0	0	2	0	0	0	0	0	1	0	3
05:15 PM	0	0	1	0	3	1	0	0	0	0	1	0	6
05:30 PM	0	0	1	0	2	0	1	0	0	0	1	0	5
05:45 PM	0	0	1	0	2	0	0	0	0	0	3	0	6
Total	0	0	3	0	9	1	1	0	0	0	6	0	20
Grand Total	7	2	11	5	29	3	4	1	0	0	19	0	81
Apprch %	35	10	55	13.5	78.4	8.1	80	20	0	0	100	0	
Total %	8.6	2.5	13.6	6.2	35.8	3.7	4.9	1.2	0	0	23.5	0	

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 2

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	1	4
07:15 AM	0	0	1	1	1	3	0	4	0	0	0	0	0	2	0	2	7
07:30 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	2	2	1	1	0	2	0	0	0	0	0	2	0	2	6
Total Volume	0	0	4	4	3	8	0	11	0	0	0	0	0	5	0	5	20
% App. Total	0	0	100		27.3	72.7	0		0	0	0		0	100	0		
PHF	.000	.000	.500	.500	.750	.667	.000	.688	.000	.000	.000	.000	.000	.625	.000	.625	.714



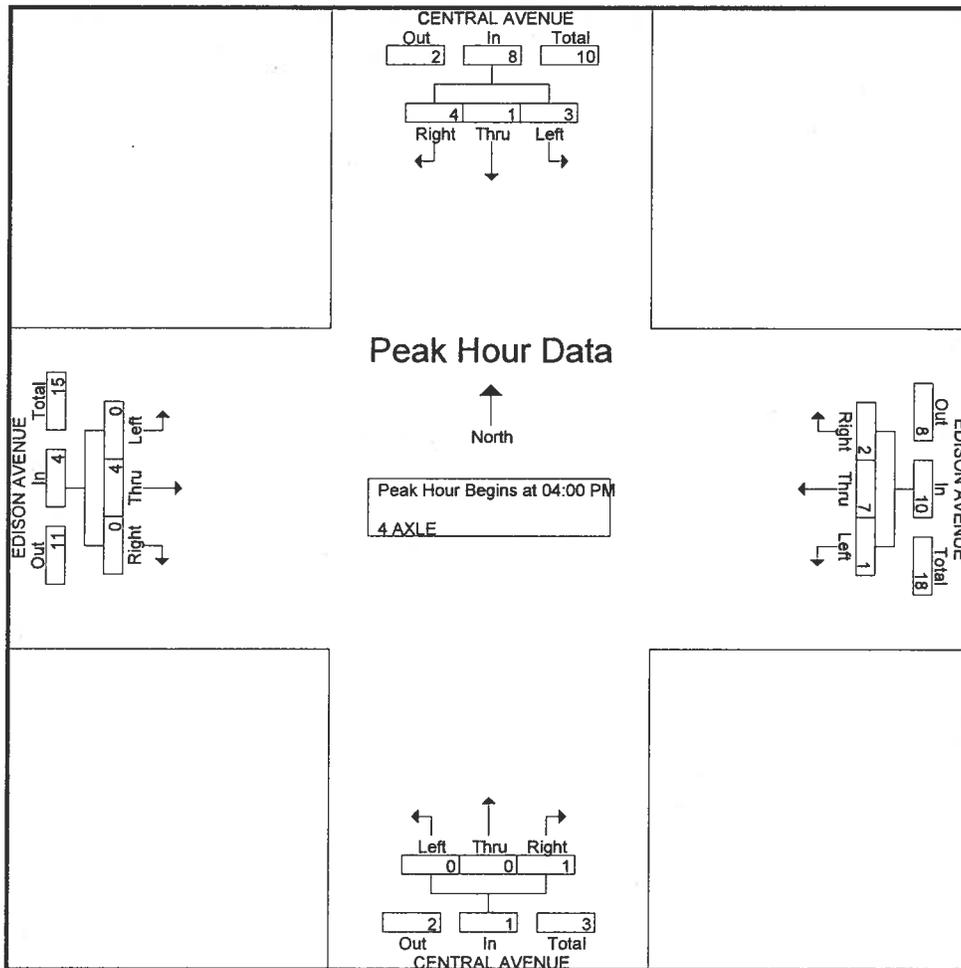
Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 V Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
04:00 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	1	0	1	4
04:15 PM	2	0	1	3	0	3	0	3	0	0	0	0	0	0	0	0	6
04:30 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	2	0	2	5
04:45 PM	2	0	2	4	2	0	0	2	1	0	0	1	0	1	0	1	8
Total Volume	4	1	3	8	2	7	1	10	1	0	0	1	0	4	0	4	23
% App. Total	50	12.5	37.5		20	70	10		100	0	0		0	100	0		
PHF	.500	.250	.375	.500	.250	.583	.250	.833	.250	.000	.000	.250	.000	.500	.000	.500	.719

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



5+ Axle

Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 0005061
 Start Date : 5/18/2011
 Page No : 1

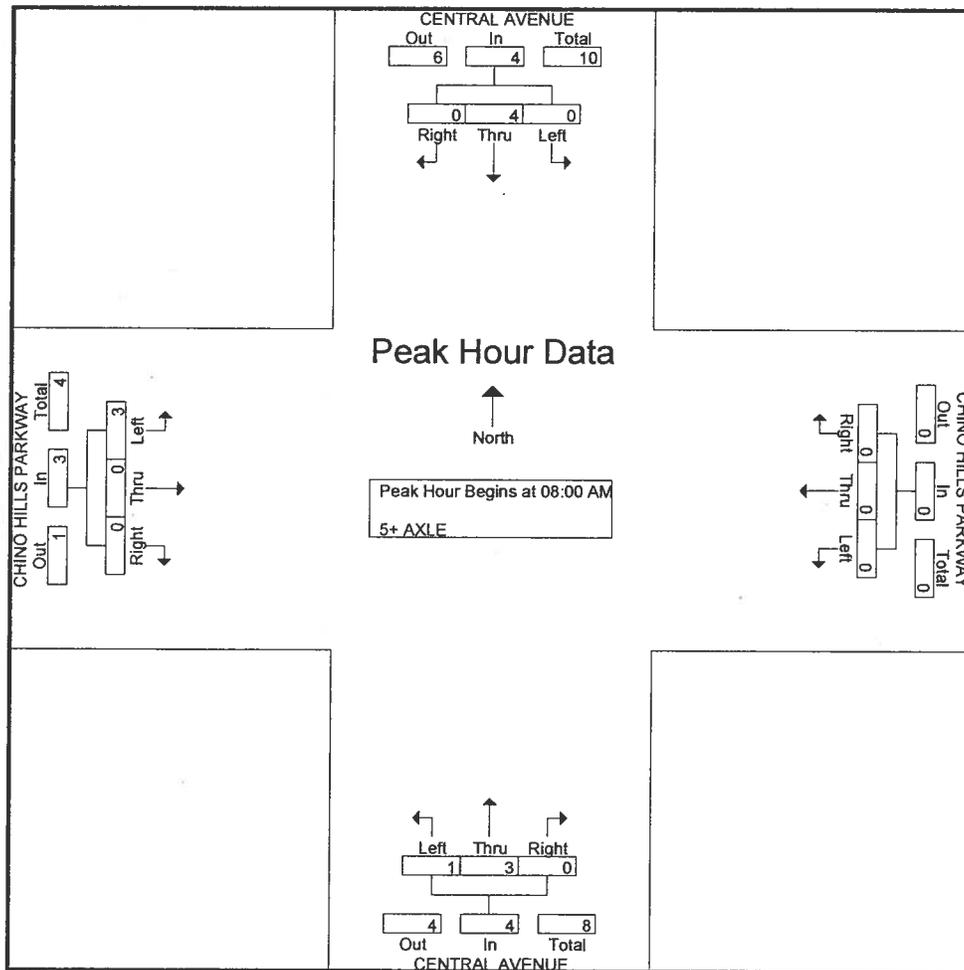
Groups Printed- 5+ AXLE

Start Time	CENTRAL AVENUE Southbound			CHINO HILLS PARKWAY Westbound			CENTRAL AVENUE Northbound			CHINO HILLS PARKWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	1	0	0	0	0	0	0	0	0	0	0	2	3
07:15 AM	0	2	0	0	0	0	0	1	0	0	0	0	3
07:30 AM	0	1	0	0	0	0	0	1	0	0	0	1	3
*** BREAK ***													
Total	1	3	0	0	0	0	0	2	0	0	0	3	9
08:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
08:30 AM	0	1	0	0	0	0	0	1	1	0	0	1	4
08:45 AM	0	1	0	0	0	0	0	1	0	0	0	1	3
Total	0	4	0	0	0	0	0	3	1	0	0	3	11
*** BREAK ***													
04:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	3	0	1	0	0	4
04:30 PM	1	0	0	0	0	0	0	1	1	0	0	0	3
04:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
Total	1	1	0	0	0	0	0	6	1	1	0	0	10
05:00 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
05:30 PM	1	0	0	0	0	0	0	0	0	1	0	0	2
05:45 PM	0	0	1	0	1	0	0	0	0	1	0	0	3
Total	2	0	1	0	1	0	0	2	0	2	0	0	8
Grand Total	4	8	1	0	1	0	0	13	2	3	0	6	38
Apprch %	30.8	61.5	7.7	0	100	0	0	86.7	13.3	33.3	0	66.7	
Total %	10.5	21.1	2.6	0	2.6	0	0	34.2	5.3	7.9	0	15.8	

City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 0005061
 Start Date : 5/18/2011
 Page No : 2

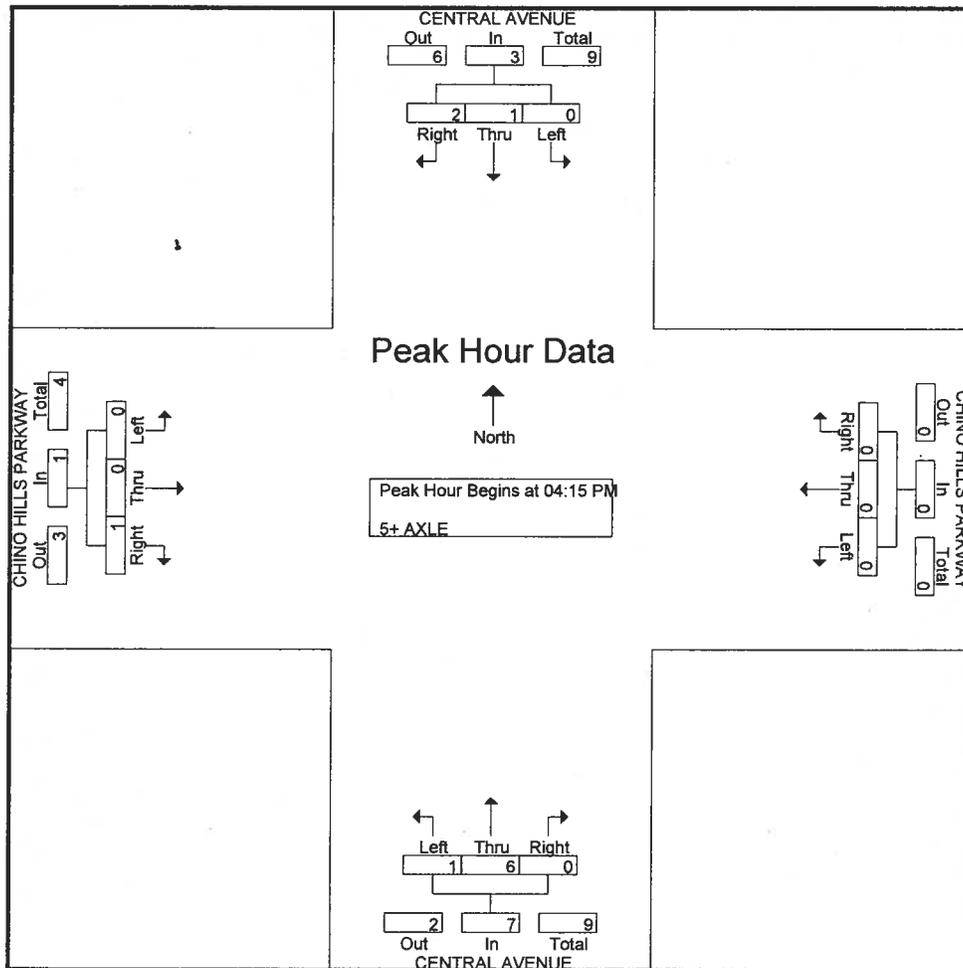
Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
08:30 AM	0	1	0	1	0	0	0	0	0	0	1	1	2	0	0	1	1	4
08:45 AM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	1	1	3
Total Volume	0	4	0	4	0	0	0	0	0	0	3	1	4	0	0	3	3	11
% App. Total	0	100	0		0	0	0		0	75	25		4	0	0	100		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.750	.250	.500	.000	.000	.750	.750	.688



City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: CHINO HILLS PARKWAY

File Name : H11050653
 Site Code : 0005061
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				CHINO HILLS PARKWAY Westbound				CENTRAL AVENUE Northbound				CHINO HILLS PARKWAY Eastbound				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. 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	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	1	4
04:30 PM	1	0	0	1	0	0	0	0	0	0	1	1	2	0	0	0	0	3
04:45 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00 PM	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	2	1	0	3	0	0	0	0	0	0	6	1	7	1	0	0	1	11
% App. Total	66.7	33.3	0		0	0	0		0	85.7	14.3		100	0	0			
PHF	.500	.250	.000	.750	.000	.000	.000	.000	.000	.500	.250	.583	.250	.000	.000	.250	.688	



City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 1

Groups Printed- 5+ AXLE

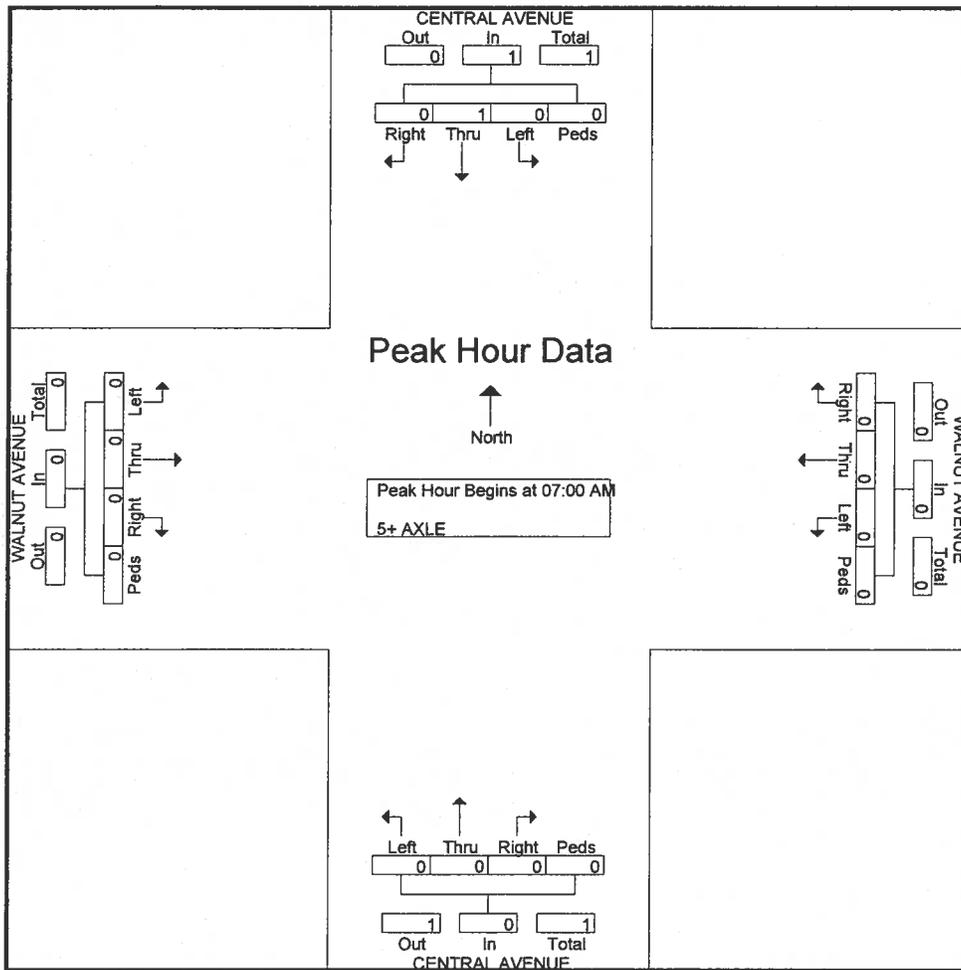
Start Time	CENTRAL AVENUE Southbound				WALNUT AVENUE Westbound				CENTRAL AVENUE Northbound				WALNUT AVENUE Eastbound				Int. Total	
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
*** BREAK *** 07:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *** Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK *** 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
*** BREAK *** Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
*** BREAK *** 04:00 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
*** BREAK *** Total	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
*** BREAK *** 05:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
*** BREAK *** Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Grand Total	0	3	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	6
Apprch %	0	100	0	0	0	0	0	0	0	100	0	0	0	0	100	0	0	
Total %	0	50	0	0	0	0	0	0	0	33.3	0	0	0	0	16.7	0	0	

Transportation Studies, Inc.
 2640 Walnut Avenue, Suite H
 Tustin, CA. 92780

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 2

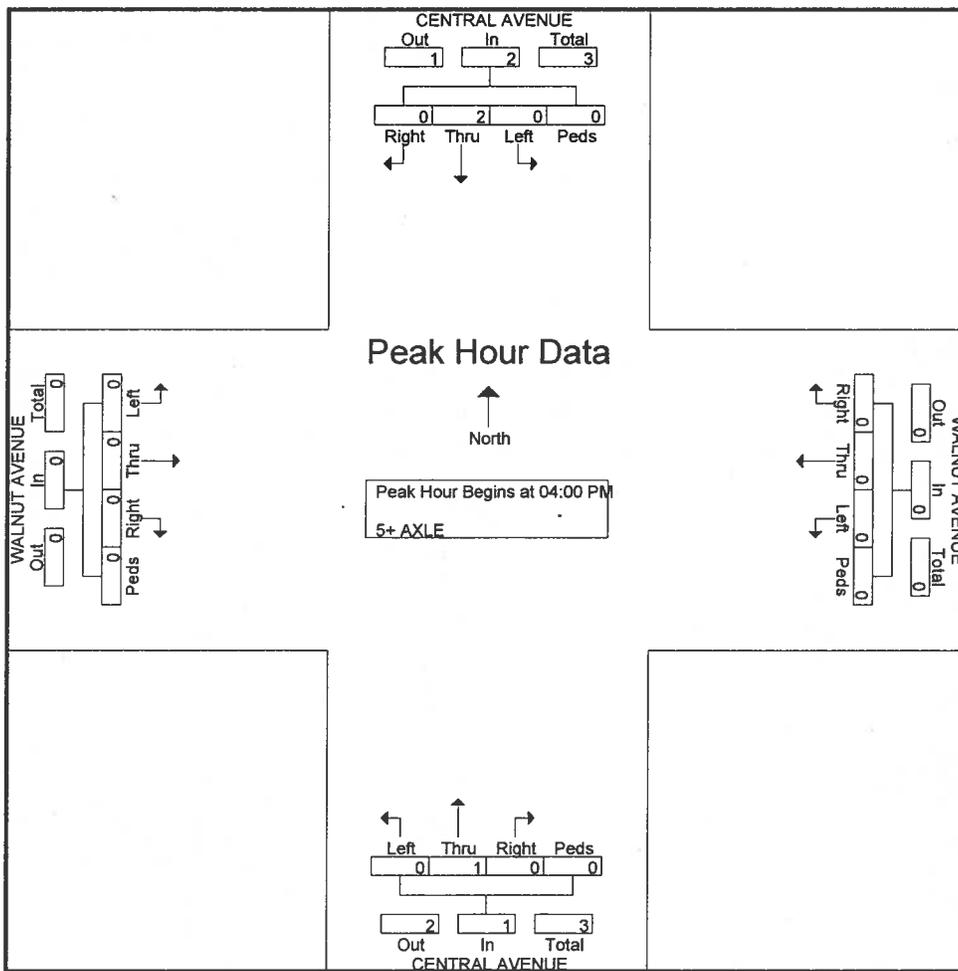
Start Time	CENTRAL AVENUE Southbound					WALNUT AVENUE Westbound					CENTRAL AVENUE Northbound					WALNUT AVENUE Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:00 AM																						
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: WALNUT AVENUE

File Name : H11050673
 Site Code : 00004637
 Start Date : 5/19/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound					WALNUT AVENUE Westbound					CENTRAL AVENUE Northbound					WALNUT AVENUE Eastbound					Int. Total	
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
% App. Total	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	



City: CHINO
 N-S Direction: CENTRAL AVENUE
 V Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 1

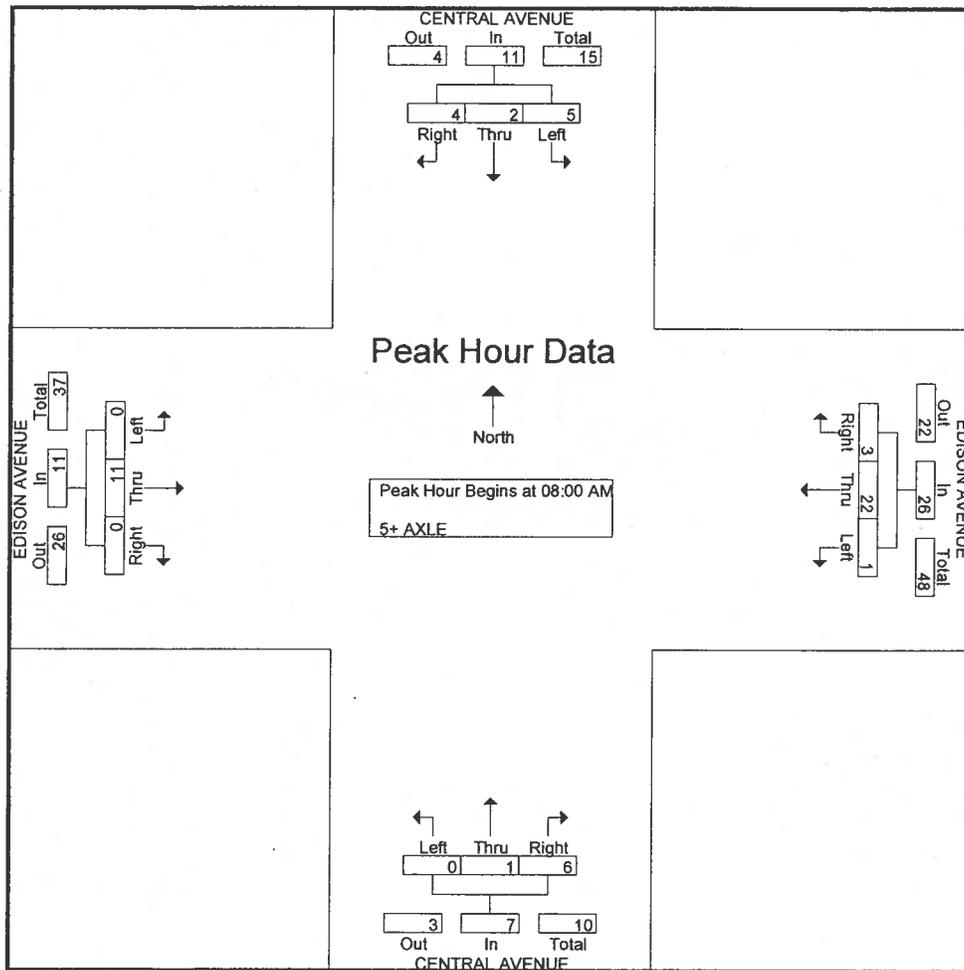
Groups Printed- 5+ AXLE

Start Time	CENTRAL AVENUE Southbound			EDISON AVENUE Westbound			CENTRAL AVENUE Northbound			EDISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	1	1	1	0	3	0	2	0	0	0	2	0	10
07:15 AM	2	0	0	0	2	3	0	1	0	0	3	0	11
07:30 AM	3	0	0	0	5	0	0	1	0	0	3	0	12
07:45 AM	4	0	0	0	3	0	0	0	0	0	3	0	10
Total	10	1	1	0	13	3	2	2	0	0	11	0	43
08:00 AM	2	1	1	1	6	1	1	0	0	0	3	0	16
08:15 AM	2	0	0	0	4	0	3	0	0	0	1	0	10
08:30 AM	0	0	2	0	5	0	1	0	0	0	4	0	12
08:45 AM	0	1	2	2	7	0	1	1	0	0	3	0	17
Total	4	2	5	3	22	1	6	1	0	0	11	0	55
*** BREAK ***													
04:00 PM	1	1	2	0	1	0	1	1	0	0	3	0	10
04:15 PM	3	0	2	0	8	2	2	0	0	0	6	0	23
04:30 PM	1	0	3	1	5	1	3	1	0	0	4	0	19
04:45 PM	2	0	2	2	8	1	1	1	0	1	3	1	22
Total	7	1	9	3	22	4	7	3	0	1	16	1	74
05:00 PM	3	0	2	2	4	0	1	0	0	0	4	0	16
05:15 PM	3	0	2	1	7	3	1	0	0	0	4	0	21
05:30 PM	0	0	2	0	5	2	1	0	0	0	7	0	17
05:45 PM	0	0	2	1	9	1	2	0	0	0	3	0	18
Total	6	0	8	4	25	6	5	0	0	0	18	0	72
Grand Total	27	4	23	10	82	14	20	6	0	1	56	1	244
Apprch %	50	7.4	42.6	9.4	77.4	13.2	76.9	23.1	0	1.7	96.6	1.7	
Total %	11.1	1.6	9.4	4.1	33.6	5.7	8.2	2.5	0	0.4	23	0.4	

City: CHINO
 N-S Direction: CENTRAL AVENUE
 E-W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 2

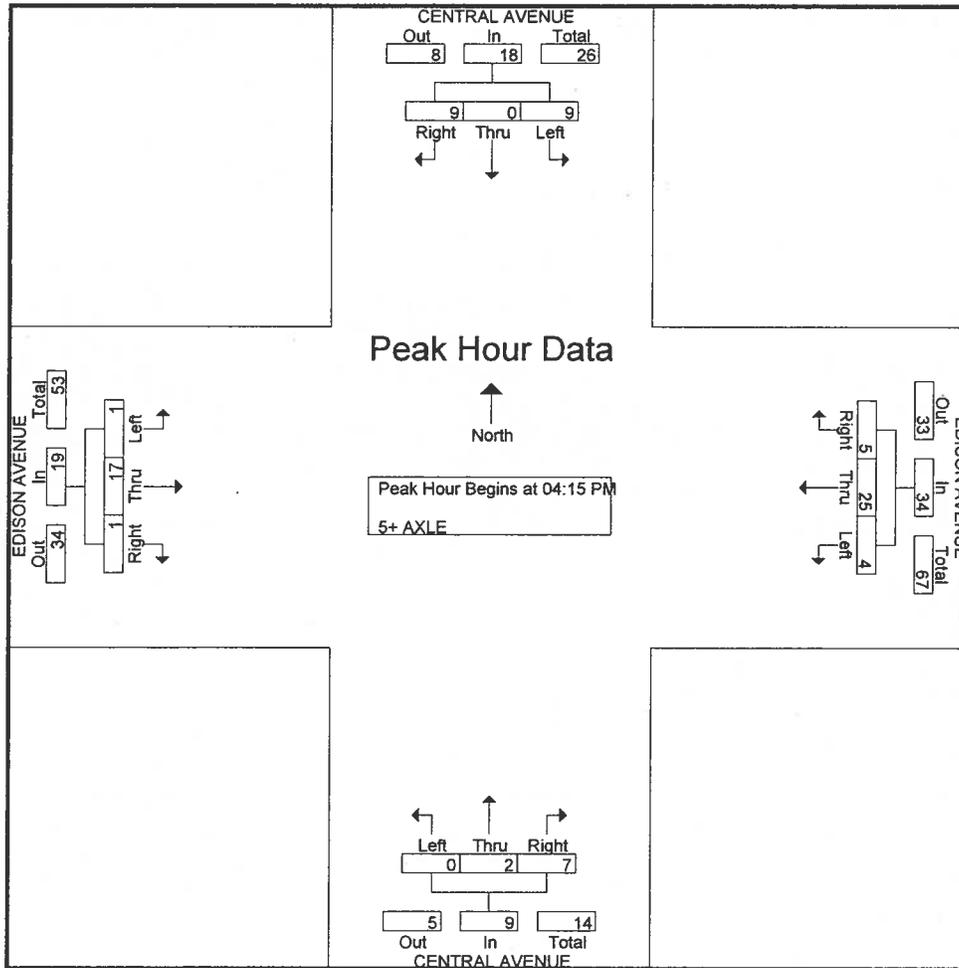
Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	1	1	4	1	6	1	8	1	0	0	1	0	3	0	3	16
08:15 AM	2	0	0	2	0	4	0	4	3	0	0	3	0	1	0	1	10
08:30 AM	0	0	2	2	0	5	0	5	1	0	0	1	0	4	0	4	12
08:45 AM	0	1	2	3	2	7	0	9	1	1	0	2	0	3	0	3	17
Total Volume	4	2	5	11	3	22	1	26	6	1	0	7	0	11	0	11	55
% App. Total	36.4	18.2	45.5		11.5	84.6	3.8		85.7	14.3	0		0	100	0		
PHF	.500	.500	.625	.688	.375	.786	.250	.722	.500	.250	.000	.583	.000	.688	.000	.688	.809



City: CHINO
 N-S Direction: CENTRAL AVENUE
 W Direction: EDISON AVENUE

File Name : H11050663
 Site Code : 00004637
 Start Date : 5/18/2011
 Page No : 3

Start Time	CENTRAL AVENUE Southbound				EDISON AVENUE Westbound				CENTRAL AVENUE Northbound				EDISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. 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	3	0	2	5	0	8	2	10	2	0	0	2	0	6	0	6	23
04:30 PM	1	0	3	4	1	5	1	7	3	1	0	4	0	4	0	4	19
04:45 PM	2	0	2	4	2	8	1	11	1	1	0	2	1	3	1	5	22
05:00 PM	3	0	2	5	2	4	0	6	1	0	0	1	0	4	0	4	16
Total Volume	9	0	9	18	5	25	4	34	7	2	0	9	1	17	1	19	80
% App. Total	50	0	50		14.7	73.5	11.8		77.8	22.2	0		5.3	89.5	5.3		
PHF	.750	.000	.750	.900	.625	.781	.500	.773	.583	.500	.000	.563	.250	.708	.250	.792	.870



WEBSTER

Webster Based Signal Timing Evaluation Routine

For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing

Central Avenue & Chino Hills Parkway

City of Chino

AM Peak Hour

Input

Movement Times	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	*L*	T	R	*L*	*T*	R	L	T	R
Movement 1: 20 secs	X	X	X									
Movement 2: 20 secs				X	X	X						
Movement 3: 18 secs							X			X		
Movement 4: 35 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	2	1	1	1	1	1	1	2	1	1	2	1
Unadjusted Volume	306	56	106	6	4	7	209	847	34	65	502	150
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)												
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Parameter Values (using default set 'SANBAG (Existing)')

	Other	Default
Duration of Peak Period (min)		15
Lost Time (sec)		2
Min. Time (Left Turns, sec)		10
Min/Ped Time (Thru Lanes, sec)		20
Sat Flow (1 Left lane, vphg)	1700	1800
Sat Flow (2 Left lanes, vphg)	3200	3500
Sat Flow (1 Thru lane, vphg)	1800	1900
Sat Flow (1 Right lane, vphg)		1800
Vehicle Length (feet)		20

Output

	***			***			***		***			
Pk. Hr. Vol. (vph)	322	59	112	10	10	10	220	892	36	68	528	158
Saturation Flow (vph)	3200	1800	1800	1700	1800	1800	1700	3600	1800	1700	3600	1800
X or V/C	0.52	0.17	0.32	0.03	0.03	0.03	0.75	0.70	0.06	0.23	0.41	0.25
Effective green (sec)	18	18	18	18	18	18	16	33	33	16	33	33
Split Time (sec)	20	20	20	20	20	20	18	35	35	18	35	35
Min. Time or Ped. Time (sec)	10	20	20	10	20	20	10	20	20	10	20	20
Delay - 15 min pk (sec/veh)	37	32	35	31	31	31	53	29	20	35	24	22
Level of Service (LOS)	D+	C-	C-	C-	C-	C-	D-	C	B	D+	C+	C+
Average 'Q' (veh/ln)	3	1	2	1	1	1	5	7	1	1	4	3
Design 'Q'- ft/ln	100	40	60	40	40	40	160	220	40	40	120	100
Do Vehicles Clear?	YES											

Summary

Whole Intersection		Weighted Avg Delay (sec) =	31
		Level of Service - LOS =	C-
Critical Movements		Weighted Avg Delay (sec) =	34
		Level of Service - LOS =	C-
		Intersection Capacity Utilization - ICU =	0.53
Required Cycle Length is 93 sec			
Min./Ped. Times Satisfied			

WEBSTER

Webster Based Signal Timing Evaluation Routine

For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing

Central Avenue & Edison Avenue

City of Chino

AM Peak Hour

Input

Movement Times	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	*L*	*T*	R	L	T	*R*	*L*	T	R
Movement 1: 11 secs	X			X								
Movement 2: 20 secs		X	X		X	X						
Movement 3: 10 secs							X			X		
Movement 4: 25 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	1	2	S	2	2	1	1	2	1	1	2	1
Unadjusted Volume	98	311	37	285	604	98	55	691	469	67	550	96
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)			Shrd									
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Parameter Values (using default set 'SANBAG (Existing)')

	Other	Default
Duration of Peak Period (min)		15
Lost Time (sec)		2
Min. Time (Left Turns, sec)		10
Min/Ped Time (Thru Lanes, sec)		20
Sat Flow (1 Left lane, vphg)	1700	1800
Sat Flow (2 Left lanes, vphg)	3200	3500
Sat Flow (1 Thru lane, vphg)	1800	1900
Sat Flow (1 Right lane, vphg)		1800
Vehicle Length (feet)		20

Output

Pk. Hr. Vol. (vph)	103	327	39	300	636	103	58	727	494	71	579	101
Saturation Flow (vph)	1700	3600	Shrd	3200	3600	1800	1700	3600	1800	1700	3600	1800
X or V/C	0.44	0.37	-	0.69	0.65	0.21	0.28	0.58	0.79	0.34	0.46	0.16
Effective green (sec)	9	18	-	9	18	18	8	23	23	8	23	23
Split Time (sec)	11	20	-	11	20	20	10	25	25	10	25	25
Min. Time or Ped. Time (sec)	10	20	-	10	20	20	10	20	20	10	20	20
Delay - 15 min pk (sec/veh)	32	21	-	36	25	19	30	20	29	31	18	15
Level of Service (LOS)	C-	C+	-	D+	C+	B	C	B	C	C-	B	B
Average 'Q' (veh/in)	2	2	-	2	4	1	1	4	6	1	3	1
Design 'Q'- ft/in	60	60	-	60	120	40	40	120	180	40	100	40
Do Vehicles Clear?	YES	YES	-	YES								

Summary

Whole Intersection		Weighted Avg Delay (sec) =	24
		Level of Service - LOS =	C+
Critical Movements		Weighted Avg Delay (sec) =	29
		Level of Service - LOS =	C
		Intersection Capacity Utilization - ICU =	0.67
Required Cycle Length is 66 sec			
Min./Ped. Times Satisfied			

WEBSTER

Webster Based Signal Timing Evaluation Routine

For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing

Central Avenue & Walnut Avenue

City of Chino

AM Peak Hour

Input

Movement Times	Eastbound			Westbound			Northbound			Southbound		
	L	*T*	R	L	T	R	L	T	R	*L*	*T*	R
Movement 1: 16 secs	X			X								
Movement 2: 20 secs		X	X		X	X						
Movement 3: 10 secs						X	X			X		
Movement 4: 29 secs							X	X		X	X	
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	1	2	S	1	2	1	1	3	S	2	3	1
Unadjusted Volume	239	206	132	63	229	192	76	771	101	148	1323	176
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)			Shrd						Shrd			
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	-	1.00	1.00	1.00

Parameter Values (using default set 'SANBAG (Existing)')

	Other	Default
Duration of Peak Period (min)		15
Lost Time (sec)		2
Min. Time (Left Turns, sec)		10
Min/Ped Time (Thru Lanes, sec)		20
Sat Flow (1 Left lane, vphg)	1700	1800
Sat Flow (2 Left lanes, vphg)	3200	3500
Sat Flow (1 Thru lane, vphg)	1800	1900
Sat Flow (1 Right lane, vphg)		1800
Vehicle Length (feet)		20

Output

	***	***								***	***	
Pk. Hr. Vol. (vph)	252	217	139	66	241	202	80	812	106	156	1393	185
Saturation Flow (vph)	1700	3600	Shrd	1700	3600	1800	1700	5400	Shrd	3200	5400	1800
X or V/C	0.79	0.41	-	0.21	0.28	0.30	0.44	0.47	-	0.46	0.72	0.29
Effective green (sec)	14	18	-	14	18	28	8	27	-	8	27	27
Split Time (sec)	16	20	-	16	20	30	10	29	-	10	29	29
Min. Time or Ped. Time (sec)	10	20	-	10	20	20	10	20	-	10	20	20
Delay - 15 min pk (sec/veh)	47	25	-	27	24	18	39	19	-	36	23	18
Level of Service (LOS)	D	C	-	C	C+	B	D+	B	-	D+	C+	B
Average 'Q' (veh/ln)	5	3	-	1	2	3	2	4	-	1	6	2
Design 'Q'- ft/ln	160	100	-	40	60	100	60	120	-	40	180	60
Do Vehicles Clear?	YES	YES	-	YES	YES	YES	YES	YES	-	YES	YES	YES

Summary

Whole Intersection		Weighted Avg Delay (sec) =	24
		Level of Service - LOS =	C+
Critical Movements		Weighted Avg Delay (sec) =	27
		Level of Service - LOS =	C
		Intersection Capacity Utilization - ICU =	0.62
Required Cycle Length is 75 sec			
Min./Ped. Times Satisfied			

WEBSTER

Webster Based Signal Timing Evaluation Routine

For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing

Central Avenue & Chino Hills Parkway

City of Chino

PM Peak Hour

Input

Movement Times	Eastbound			Westbound			Northbound			Southbound		
	L	T	*R*	L	T	*R*	*L*	T	R	L	*T*	R
Movement 1: 40 secs	X	X	X									
Movement 2: 8 secs				X	X	X						
Movement 3: 19 secs							X			X		
Movement 4: 53 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	2	1	1	1	1	1	1	2	1	1	2	1
Unadjusted Volume	310	2	267	13	26	45	108	676	2	9	711	206
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)												
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Parameter Values (using default set 'SANBAG (Existing)')

	Other	Default
Duration of Peak Period (min)		15
Lost Time (sec)		2
Min. Time (Left Turns, sec)		10
Min/Ped Time (Thru Lanes, sec)		20
Sat Flow (1 Left lane, vphg)	1700	1800
Sat Flow (2 Left lanes, vphg)	3200	3500
Sat Flow (1 Thru lane, vphg)	1800	1900
Sat Flow (1 Right lane, vphg)		1800
Vehicle Length (feet)		20

Output

Pk. Hr. Vol. (vph)	326	10	281	14	27	47	114	712	10	10	748	217
Saturation Flow (vph)	3200	1800	1800	1700	1800	1800	1700	3600	1800	1700	3600	1800
X or V/C	0.32	0.02	0.49	0.16	0.30	0.52	0.47	0.47	0.01	0.04	0.49	0.28
Effective green (sec)	38	38	38	6	6	6	17	51	51	17	51	51
Split Time (sec)	40	40	40	8	8	8	19	53	53	19	53	53
Min. Time or Ped. Time (sec)	10	20	20	10	20	20	10	20	20	10	20	20
Delay - 15 min pk (sec/veh)	32	28	36	59	63	76	54	26	20	45	26	23
Level of Service (LOS)	C-	C	D+	E+	E	E-	D-	C	B	D	C	C+
Average 'Q' (veh/ln)	4	1	6	1	1	2	3	7	1	1	7	4
Design 'Q'- ft/ln	120	40	180	40	40	60	100	220	40	40	220	120
Do Vehicles Clear?	YES											

Summary

Whole Intersection		Weighted Avg Delay (sec) =	31
		Level of Service - LOS =	C-
Critical Movements		Weighted Avg Delay (sec) =	33
		Level of Service - LOS =	C-
		Intersection Capacity Utilization - ICU =	0.49
Predetermined Cycle Length is 120 sec			
Min./Ped. Times May Not Be Satisfied			

WEBSTER

Webster Based Signal Timing Evaluation Routine

For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing

Central Avenue & Edison Avenue

City of Chino

PM Peak Hour

Input

Movement Times	Eastbound			Westbound			Northbound			Southbound		
	L	*T*	R	*L*	T	R	L	T	*R*	*L*	T	R
Movement 1: 10 secs	X			X								
Movement 2: 20 secs		X	X		X	X						
Movement 3: 10 secs							X			X		
Movement 4: 29 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	1	2	S	2	2	1	1	2	1	1	2	1
Unadjusted Volume	124	604	47	242	557	64	34	660	563	104	538	193
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)			Shrd									
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Parameter Values (using default set 'SANBAG (Existing)')

	Other	Default
Duration of Peak Period (min)		15
Lost Time (sec)		2
Min. Time (Left Turns, sec)		10
Min/Ped Time (Thru Lanes, sec)		20
Sat Flow (1 Left lane, vphg)	1700	1800
Sat Flow (2 Left lanes, vphg)	3200	3500
Sat Flow (1 Thru lane, vphg)	1800	1900
Sat Flow (1 Right lane, vphg)		1800
Vehicle Length (feet)		20

Output

Pk. Hr. Vol. (vph)	131	636	49	255	586	67	36	695	593	109	566	203
Saturation Flow (vph)	1700	3600	Shrd	3200	3600	1800	1700	3600	1800	1700	3600	1800
X or V/C	0.66	0.73	-	0.69	0.62	0.14	0.18	0.49	0.84	0.55	0.40	0.29
Effective green (sec)	8	18	-	8	18	18	8	27	27	8	27	27
Split Time (sec)	10	20	-	10	20	20	10	29	29	10	29	29
Min. Time or Ped. Time (sec)	10	20	-	10	20	20	10	20	20	10	20	20
Delay - 15 min pk (sec/veh)	46	28	-	39	26	20	30	17	31	40	16	15
Level of Service (LOS)	D	C	-	D+	C	C+	C	B	C-	D+	B	B
Average 'Q' (veh/in)	2	5	-	2	4	1	1	4	7	2	3	2
Design 'Q'- ft/in	60	160	-	60	120	40	40	120	220	60	100	60
Do Vehicles Clear?	YES	YES	-	YES	YES	YES	YES	YES	YES	YES	YES	YES

Summary

Whole Intersection		Weighted Avg Delay (sec) =	25
		Level of Service - LOS =	C
Critical Movements		Weighted Avg Delay (sec) =	32
		Level of Service - LOS =	C-
		Intersection Capacity Utilization - ICU =	0.75
Required Cycle Length is 69 sec			
Min./Ped. Times Satisfied			

WEBSTER

Webster Based Signal Timing Evaluation Routine

For Capacity and Level of Service Analysis Using HCM 2000 Control Delay

Existing

Central Avenue & Walnut Avenue

City of Chino

PM Peak Hour

Input

Movement Times	Eastbound			Westbound			Northbound			Southbound		
	L	*T*	R	L	T	R	*L*	*T*	R	L	T	R
Movement 1: 16 secs	X			X								
Movement 2: 20 secs		X	X		X	X						
Movement 3: 11 secs							X			X		
Movement 4: 29 secs								X	X		X	X
Movement 5: 0 secs												
Movement 6: 0 secs												
# of Lanes (#, S, P)	1	2	S	1	2	1	1	3	S	2	3	1
Unadjusted Volume	255	284	83	101	263	190	157	1335	98	225	1131	159
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (%)												
Project Trip Volume (vph)												
Sat. Flow Override (vph)			Shrd						Shrd			
Min. Time or Ped. Time	10	20	20	10	20	20	10	20	20	10	20	20
Permissive Veh/Cycle												
Progression Adj. Factor (PAF)	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	-	1.00	1.00	1.00

Parameter Values (using default set 'SANBAG (Existing)')

	Other	Default
Duration of Peak Period (min)		15
Lost Time (sec)		2
Min. Time (Left Turns, sec)		10
Min/Ped Time (Thru Lanes, sec)		20
Sat Flow (1 Left lane, vphg)	1700	1800
Sat Flow (2 Left lanes, vphg)	3200	3500
Sat Flow (1 Thru lane, vphg)	1800	1900
Sat Flow (1 Right lane, vphg)		1800
Vehicle Length (feet)		20

Output

	***	***		***	***		***	***		***	***	
Pk. Hr. Vol. (vph)	268	299	87	106	277	200	165	1405	103	237	1191	167
Saturation Flow (vph)	1700	3600	Shrd	1700	3600	1800	1700	5400	Shrd	3200	5400	1800
X or V/C	0.86	0.45	-	0.34	0.32	0.29	0.82	0.79	-	0.63	0.62	0.26
Effective green (sec)	14	18	-	14	18	29	9	27	-	9	27	27
Split Time (sec)	16	20	-	16	20	31	11	29	-	11	29	29
Min. Time or Ped. Time (sec)	10	20	-	10	20	20	10	20	-	10	20	20
Delay - 15 min pk (sec/veh)	55	27	-	30	25	17	62	25	-	39	22	18
Level of Service (LOS)	D-	C	-	C	C+	B	E	C	-	D+	C+	B
Average 'Q' (veh/ln)	5	3	-	2	2	3	3	7	-	2	5	2
Design 'Q'- ft/ln	160	100	-	60	60	100	100	220	-	60	160	60
Do Vehicles Clear?	YES	YES	-	YES	YES	YES	YES	YES	-	YES	YES	YES

Summary

Whole Intersection		Weighted Avg Delay (sec) =	28
		Level of Service - LOS =	C
Critical Movements		Weighted Avg Delay (sec) =	31
		Level of Service - LOS =	C-
		Intersection Capacity Utilization - ICU =	0.72
Required Cycle Length is 76 sec			
Min./Ped. Times Satisfied			

A.M.
 Passenger Car Equivalent (PCE) Calculations

Central Avenue at Chino Hills Parkway													
Movements	Passenger Cars			Large 2-Axle Trucks			3-Axle Trucks			4 & 5+ Axle Trucks			Total
	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	
NB LFT	200	1	200	2	1.5	3	0	2	0	2	3	6	209
NB THRU	823	1	823	8	1.5	12	0	2	0	4	3	12	847
NB RT	34	1	34	0	1.5	0	0	2	0	0	3	0	34
SB LFT	65	1	65	0	1.5	0	0	2	0	0	3	0	65
SB THRU	459	1	459	12	1.5	18	5	2	10	5	3	15	502
SB RT	147	1	147	2	1.5	3	0	2	0	0	3	0	150
EB LFT	289	1	289	4	1.5	6	1	2	2	3	3	9	306
EB THRU	56	1	56	0	1.5	0	0	2	0	0	3	0	56
EB RT	95	1	95	4	1.5	6	1	2	2	1	3	3	106
WB LFT	6	1	6	0	1.5	0	0	2	0	0	3	0	6
WB THRU	4	1	4	0	1.5	0	0	2	0	0	3	0	4
WB RT	7	1	7	0	1.5	0	0	2	0	0	3	0	7

2292

Central Avenue at Edison Avenue													
Movements	Passenger Cars			Large 2-Axle Trucks			3-Axle Trucks			4 & 5+ Axle Trucks			Total
	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	
NB LFT	55	1	55	0	1.5	0	0	2	0	0	3	0	55
NB THRU	685	1	685	2	1.5	3	0	2	0	1	3	3	691
NB RT	447	1	447	1	1.5	2	1	2	2	6	3	18	469
SB LFT	40	1	40	0	1.5	0	0	2	0	9	3	27	67
SB THRU	528	1	528	4	1.5	6	5	2	10	2	3	6	550
SB RT	82	1	82	1	1.5	2	0	2	0	4	3	12	96
EB LFT	93	1	93	3	1.5	5	0	2	0	0	3	0	98
EB THRU	246	1	246	2	1.5	3	7	2	14	16	3	48	311
EB RT	35	1	35	1	1.5	2	0	2	0	0	3	0	37
WB LFT	271	1	271	2	1.5	3	4	2	8	1	3	3	285
WB THRU	501	1	501	6	1.5	9	2	2	4	30	3	90	604
WB RT	64	1	64	1	1.5	2	7	2	14	6	3	18	98

3361

A.M.

Passenger Car Equivalent (PCE) Calculations

Central Avenue at Walnut Avenue													
Movements	Passenger Cars			Large 2-Axle Trucks			3-Axle Trucks			4 & 5+ Axle Trucks			Total
	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	
NB LFT	74	1	74	1	1.5	2	0	2	0	0	3	0	76
NB THRU	764	1	764	2	1.5	3	2	2	4	0	3	0	771
NB RT	93	1	93	5	1.5	8	0	2	0	0	3	0	101
SB LFT	146	1	146	1	1.5	2	0	2	0	0	3	0	148
SB THRU	1310	1	1310	1	1.5	2	4	2	8	1	3	3	1323
SB RT	168	1	168	3	1.5	5	0	2	0	1	3	3	176
EB LFT	239	1	239	0	1.5	0	0	2	0	0	3	0	239
EB THRU	182	1	182	16	1.5	24	0	2	0	0	3	0	206
EB RT	129	1	129	2	1.5	3	0	2	0	0	3	0	132
WB LFT	63	1	63	0	1.5	0	0	2	0	0	3	0	63
WB THRU	200	1	200	19	1.5	29	0	2	0	0	3	0	229
WB RT	190	1	190	0	1.5	0	1	2	2	0	3	0	192

3656

P.M.

Passenger Car Equivalent (PCE) Calculations

Central Avenue at Chino Hills Parkway													
Movements	Passenger Cars			Large 2-Axle Trucks			3-Axle Trucks			4 & 5+ Axle Trucks			Total
	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	
NB LFT	101	1	101	1	1.5	2	1	2	2	1	3	3	108
NB THRU	622	1	622	8	1.5	12	6	2	12	10	3	30	676
NB RT	2	1	2	0	1.5	0	0	2	0	0	3	0	2
SB LFT	9	1	9	0	1.5	0	0	2	0	0	3	0	9
SB THRU	687	1	687	4	1.5	6	3	2	6	4	3	12	711
SB RT	197	1	197	2	1.5	3	0	2	0	2	3	6	206
EB LFT	308	1	308	0	1.5	0	1	2	2	0	3	0	310
EB THRU	2	1	2	0	1.5	0	0	2	0	0	3	0	2
EB RT	244	1	244	0	1.5	0	1	2	2	7	3	21	267
WB LFT	13	1	13	0	1.5	0	0	2	0	0	3	0	13
WB THRU	26	1	26	0	1.5	0	0	2	0	0	3	0	26
WB RT	45	1	45	0	1.5	0	0	2	0	0	3	0	45

2375

Central Avenue at Edison Avenue													
Movements	Passenger Cars			Large 2-Axle Trucks			3-Axle Trucks			4 & 5+ Axle Trucks			Total
	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	
NB LFT	29	1	29	3	1.5	5	0	2	0	0	3	0	34
NB THRU	641	1	641	6	1.5	9	2	2	4	2	3	6	660
NB RT	526	1	526	3	1.5	5	4	2	8	8	3	24	563
SB LFT	66	1	66	0	1.5	0	1	2	2	12	3	36	104
SB THRU	529	1	529	0	1.5	0	3	2	6	1	3	3	538
SB RT	149	1	149	3	1.5	5	0	2	0	13	3	39	193
EB LFT	116	1	116	3	1.5	5	0	2	0	1	3	3	124
EB THRU	529	1	529	4	1.5	6	3	2	6	21	3	63	604
EB RT	42	1	42	1	1.5	2	0	2	0	1	3	3	47
WB LFT	219	1	219	4	1.5	6	1	2	2	5	3	15	242
WB THRU	438	1	438	3	1.5	5	9	2	18	32	3	96	557
WB RT	43	1	43	0	1.5	0	0	2	0	7	3	21	64

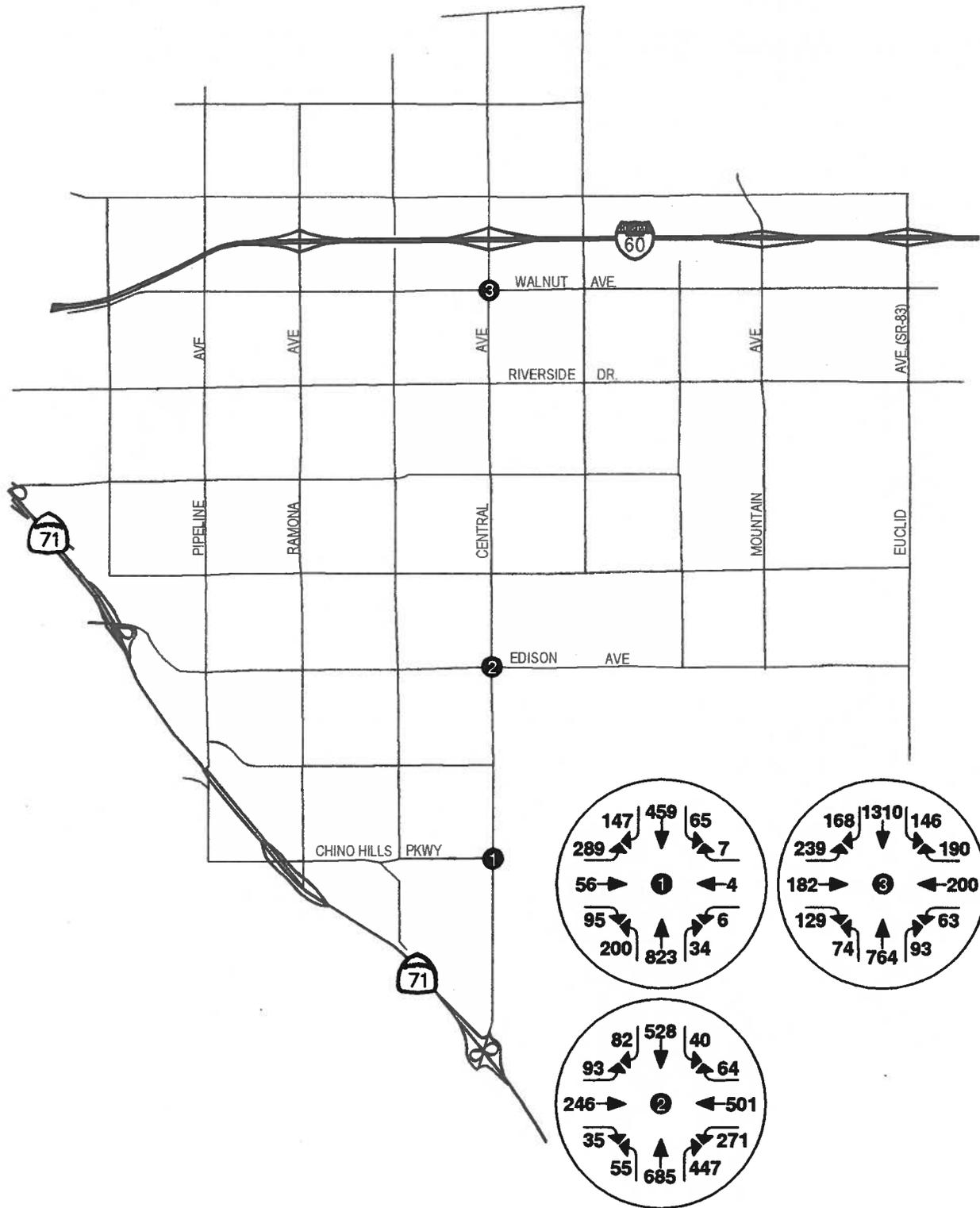
3730

P.M.

Passenger Car Equivalent (PCE) Calculations

Central Avenue at Walnut Avenue													
Movements	Passenger Cars			Large 2-Axle Trucks			3-Axle Trucks			4 & 5+ Axle Trucks			Total
	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	Volume	Factor	P.C.E.	
NB LFT	152	1	152	3	1.5	5	0	2	0	0	3	0	157
NB THRU	1326	1	1326	1	1.5	2	2	2	4	1	3	3	1335
NB RT	96	1	96	1	1.5	2	0	2	0	0	3	0	98
SB LFT	222	1	222	2	1.5	3	0	2	0	0	3	0	225
SB THRU	1118	1	1118	0	1.5	0	2	2	4	3	3	9	1131
SB RT	157	1	157	1	1.5	2	0	2	0	0	3	0	159
EB LFT	253	1	253	1	1.5	2	0	2	0	0	3	0	255
EB THRU	260	1	260	16	1.5	24	0	2	0	0	3	0	284
EB RT	83	1	83	0	1.5	0	0	2	0	0	3	0	83
WB LFT	98	1	98	2	1.5	3	0	2	0	0	3	0	101
WB THRU	233	1	233	20	1.5	30	0	2	0	0	3	0	263
WB RT	190	1	190	0	1.5	0	0	2	0	0	3	0	190

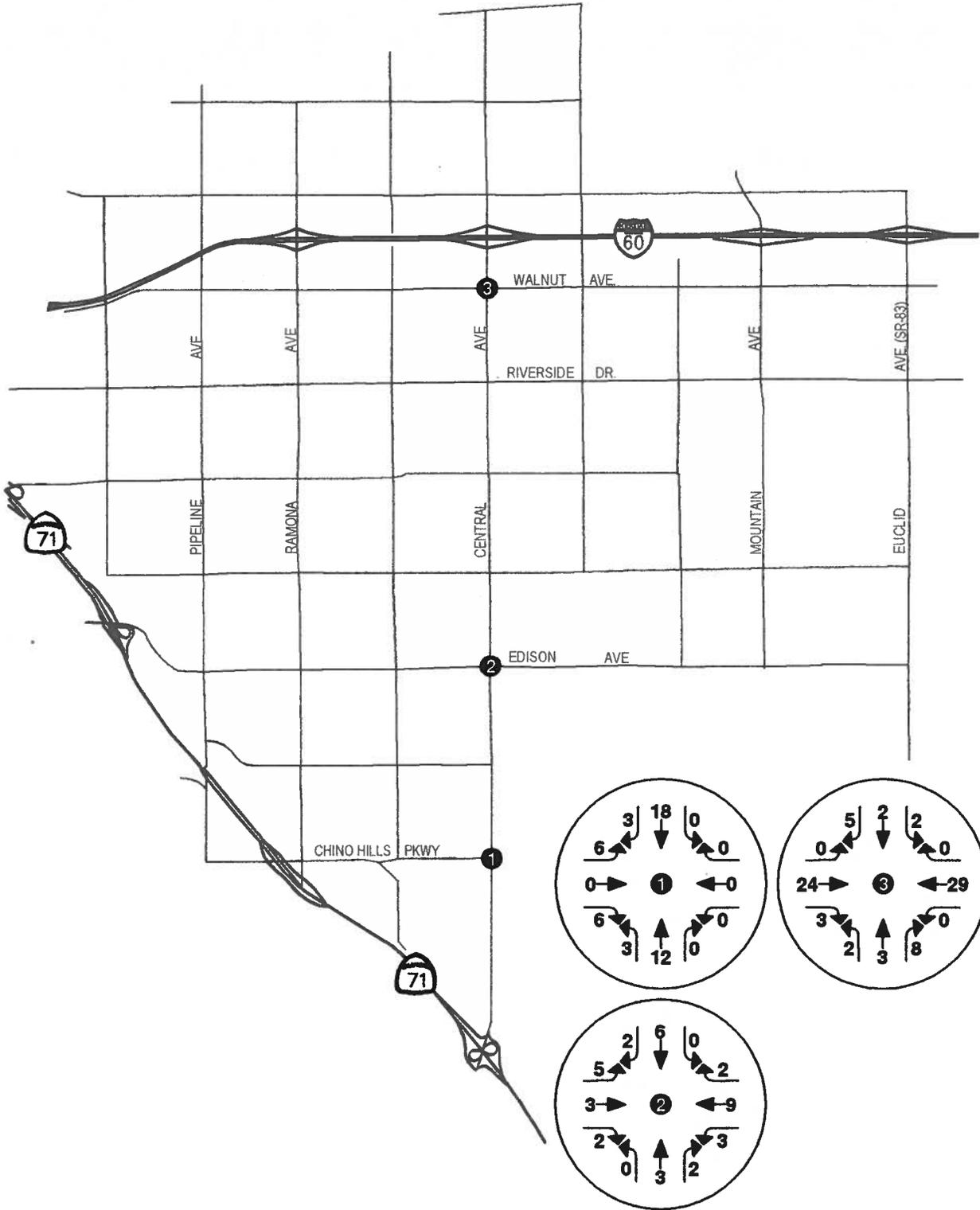
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LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

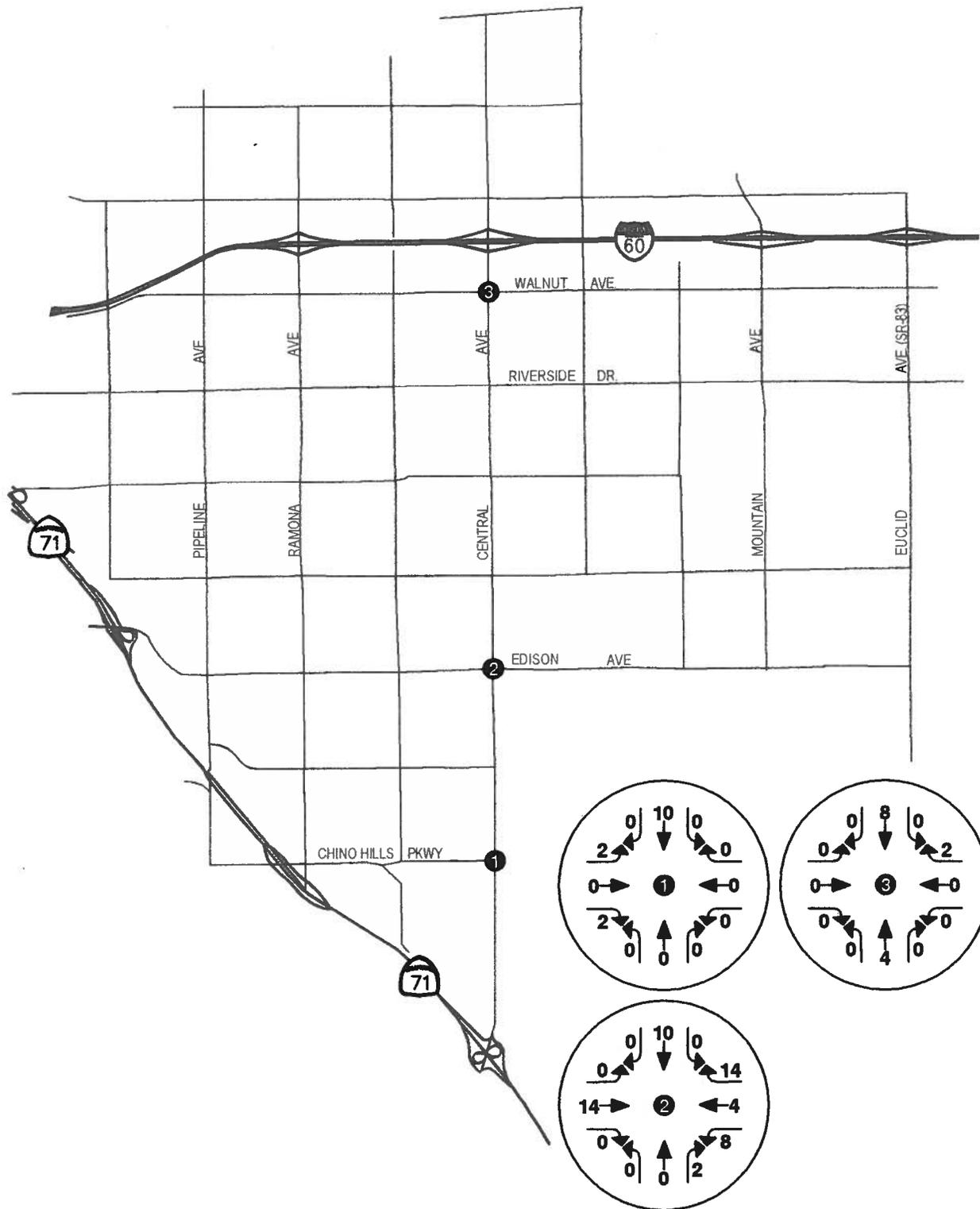
Chino CMP Monitoring Analysis - 2011
Figure A1
Existing Traffic Volume
2-Axle Passenger Cars - AM Peak Hour



LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011
Figure A2
Existing Traffic Volume
Large 2-Axle Trucks - AM Peak Hour

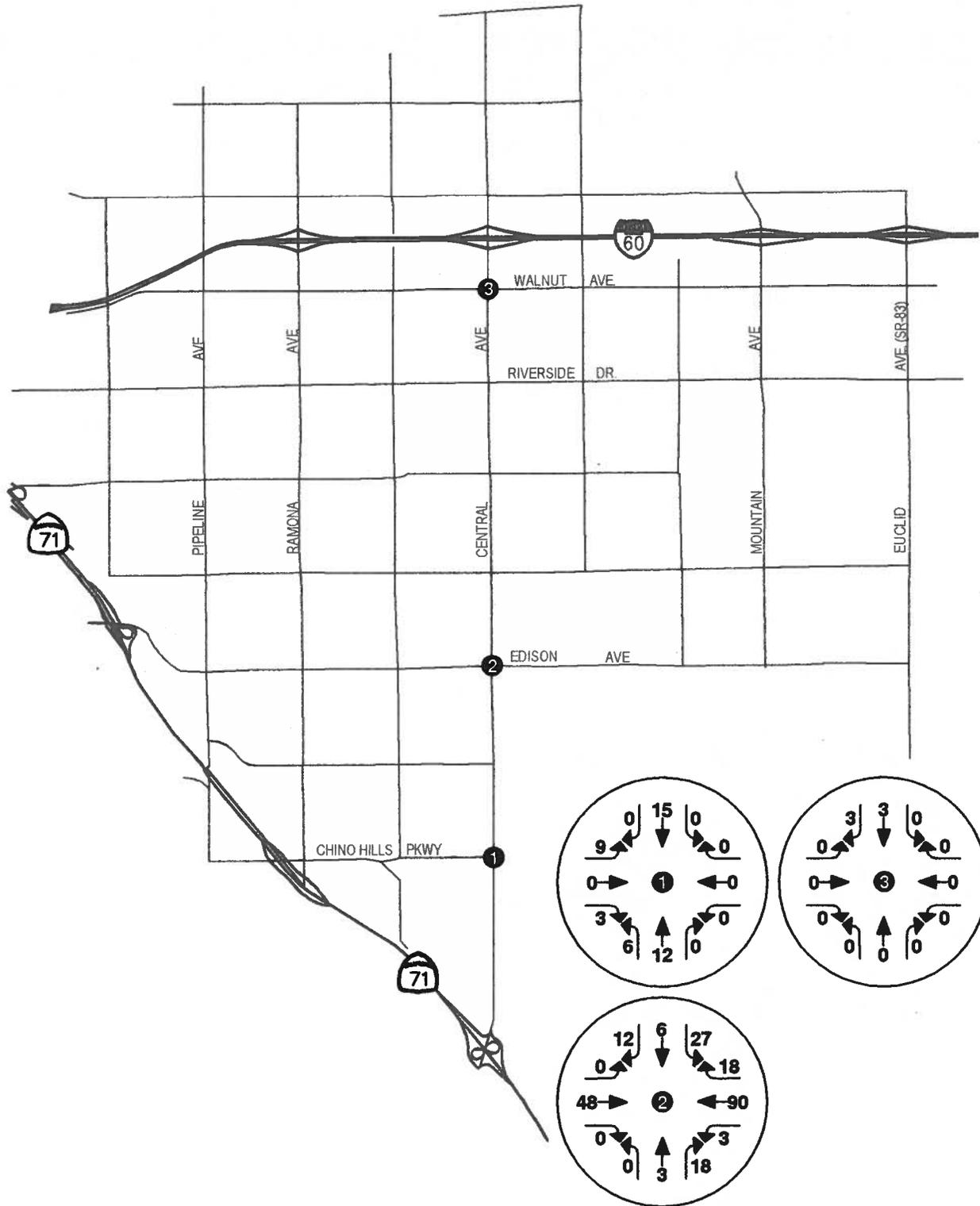


LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011

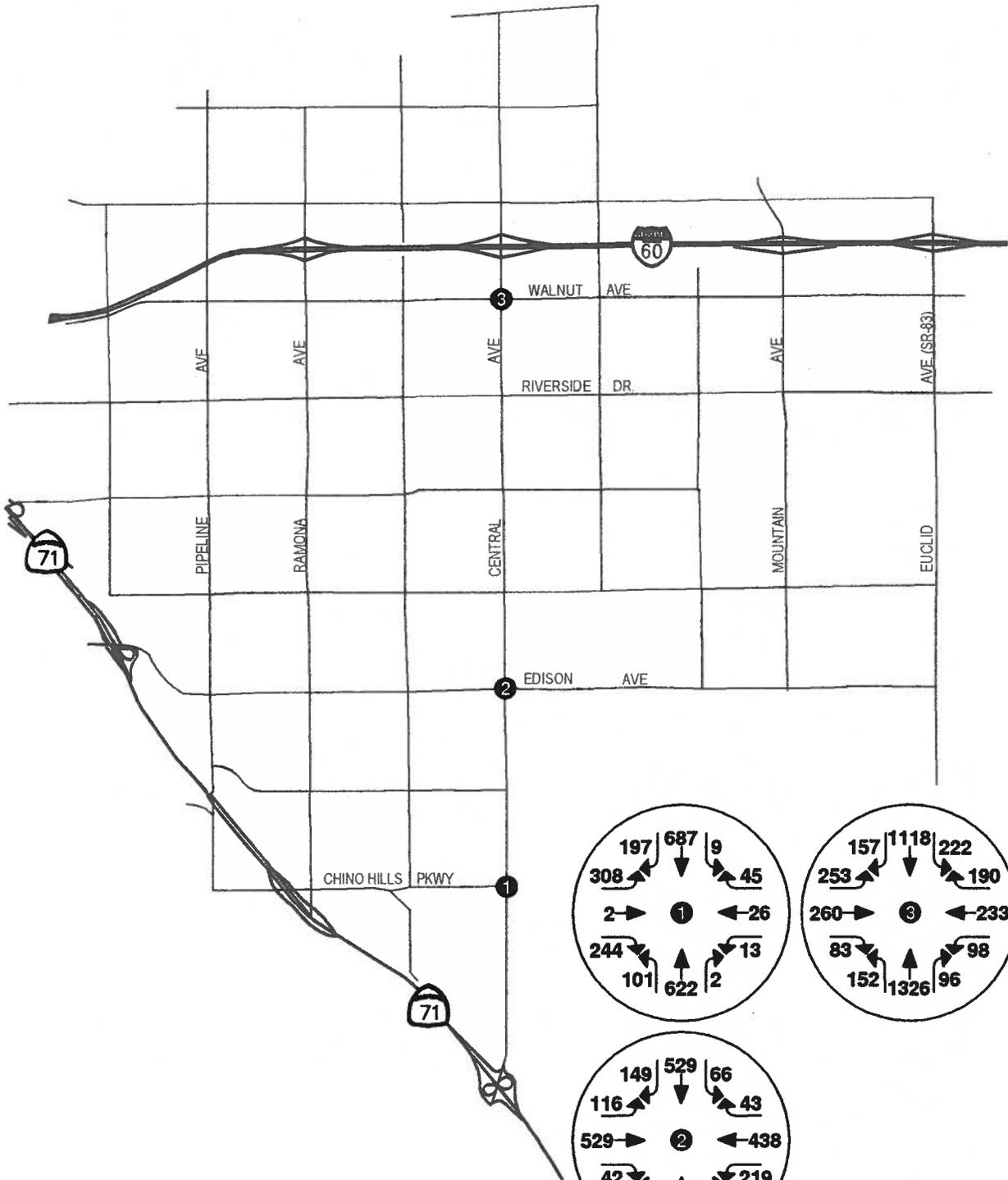
Figure A3
Existing Traffic Volume
3-Axle Trucks - AM Peak Hour



LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

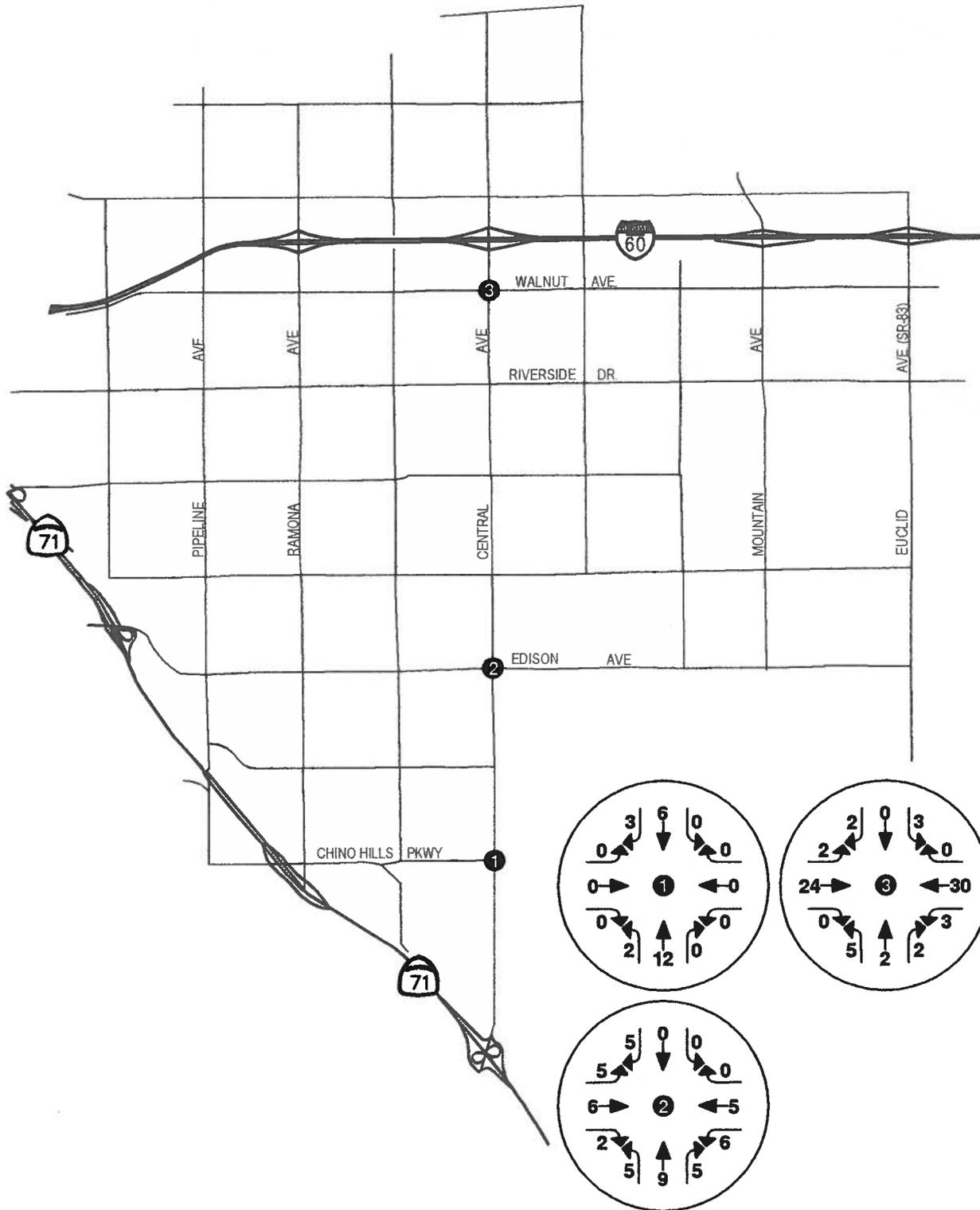
Chino CMP Monitoring Analysis - 2011
Figure A4
Existing Traffic Volume
4 & 5+ Axle Trucks - AM Peak Hour



LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

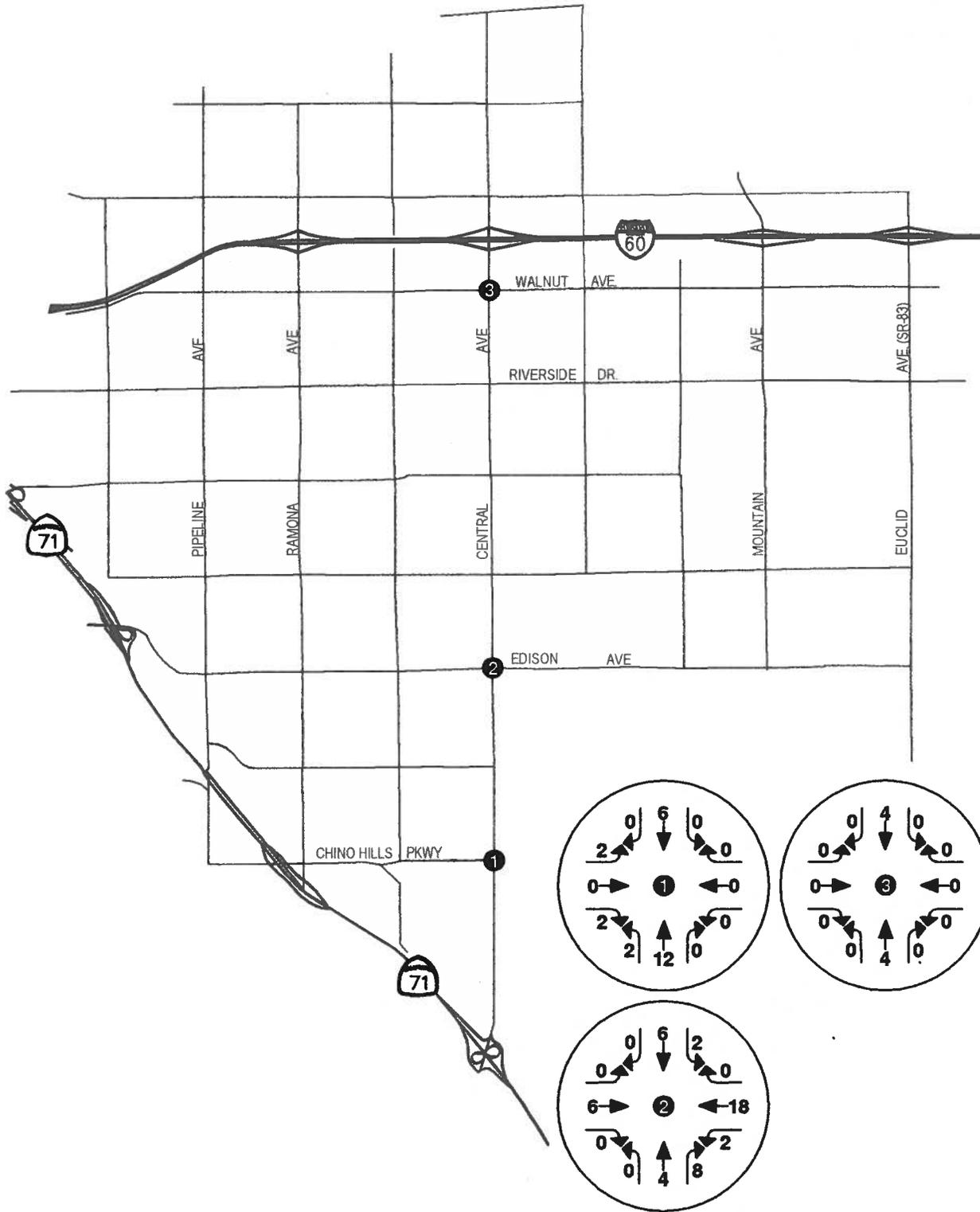
Chino CMP Monitoring Analysis - 2011
Figure A5
Existing Traffic Volume
2-Axle Passenger Cars - PM Peak Hour



LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011
Figure A6
Existing Traffic Volume
Large 2-Axle Trucks - PM Peak Hour

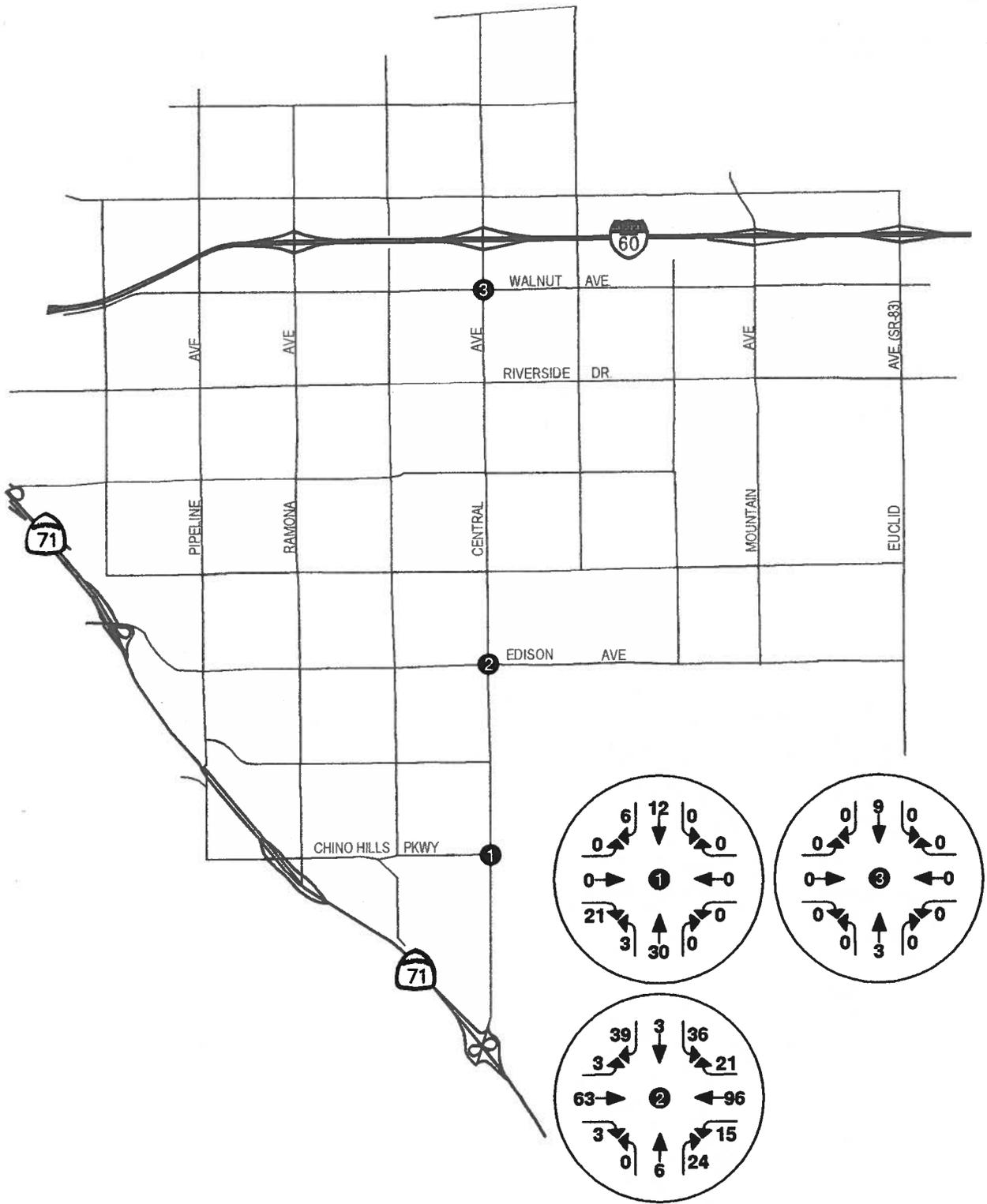


LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011

Figure A7
Existing Traffic Volume
3-Axle Trucks - PM Peak Hour



LEGEND

- Study Intersection
- XX↗ Intersection Turn Volume

Chino CMP Monitoring Analysis - 2011

**Figure A8
Existing Traffic Volume
4 & 5+ Axle Trucks - PM Peak Hour**